March 20, 1951 T. E. BART 2,545,911

ANTIFREEZING SANITARY HYDRANT ASSEMBLY

Filed Aug. 16, 1946 2 Sheets-Sheet 1

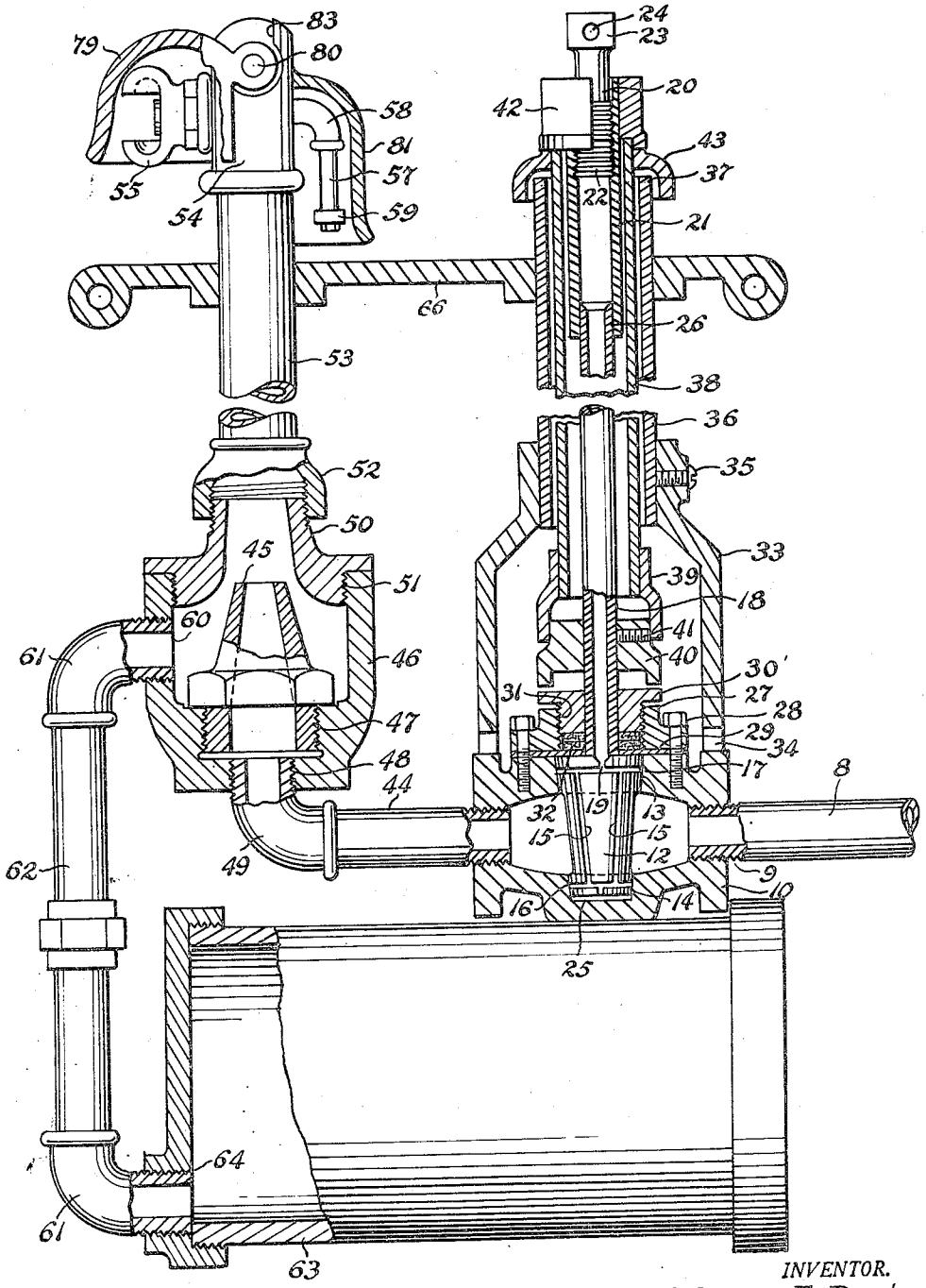


Fig. 1.

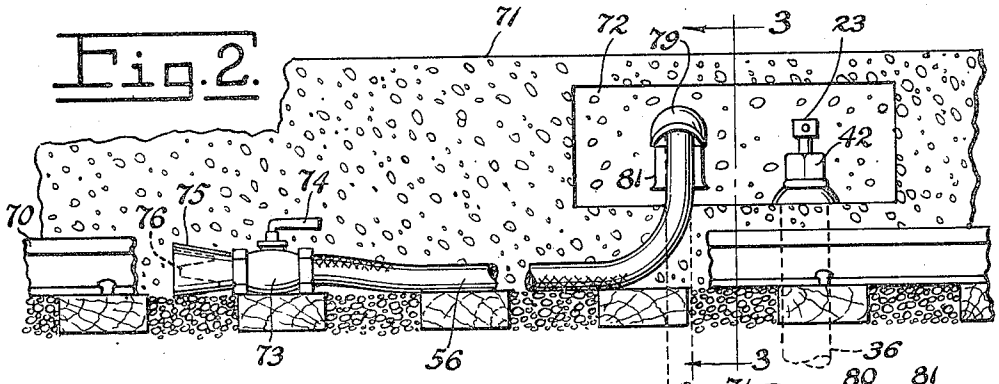
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Filed Aug. 16, 1946 2 Sheets-Sheet 2

Fig. 2.



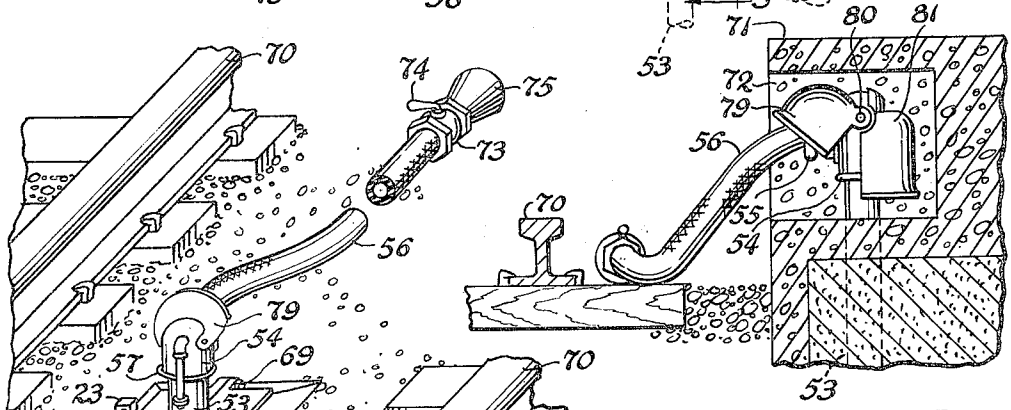


Fig. 3.

Fig. 4.

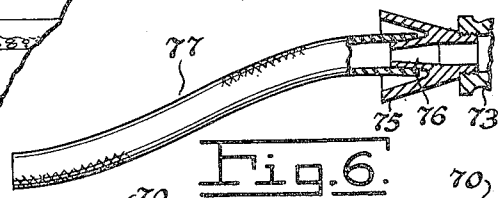


Fig. 6.

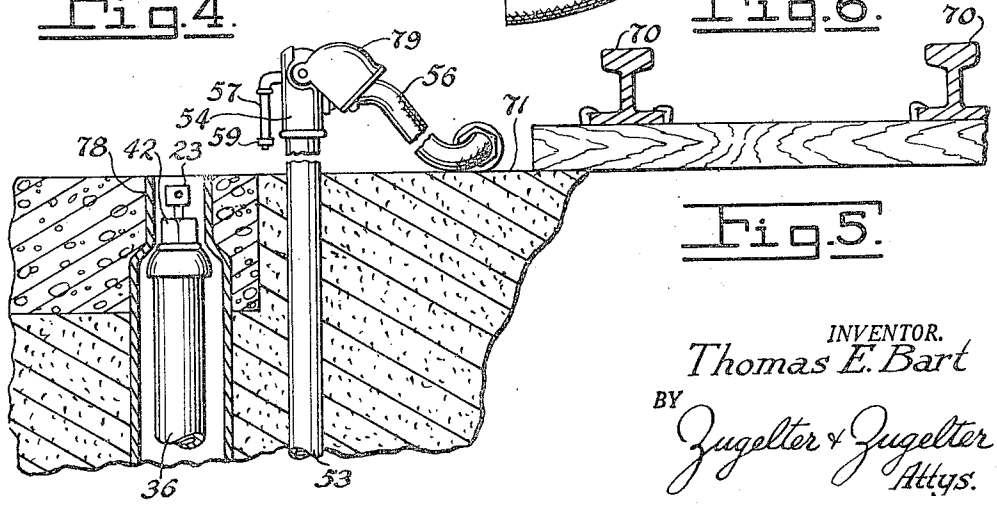


Fig. 5.

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UNITED STATES PATENT OFFICE

2,545,911

ANTIFREEZING SANITARY HYDRANT ASSEMBLY

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Application August 16, 1946, Serial No. 691,138

4 Claims. (Cl. 137—13)

1

The present invention relates to an anti-freezing sanitary hydrant assembly, which is designed particularly to overcome all objections and meet all the requirements of public health bureaus and officials charged with the duty of condemning service fixtures which might permit pollution of potable water distribution systems. It is currently well known that the water service facilities of railroad yards present the most vexatious problems in avoiding pollution of public water distribution systems through back-siphonage conditions and cross-connections with sewers or drainage pits, due to the fact that such yards generally are located in the valleys or upon low-lying grounds where drainage is poor and the surroundings are more or less dirty and unsanitary. Usually, the problem of pollution elimination is complicated also by the frequent occurrence of flash floods, which invariably contaminate the potable water supply through anti-freeze type service fixtures as heretofore constructed.

Accordingly, one of the primary objects of the present invention is to provide an anti-freezing hydrant assembly which is not pollutable under even the most adverse conditions of usage above mentioned, and which may be successfully installed also in other circumstances and environments which present somewhat similar anti-pollution problems.

Another object is to provide a device of the character referred to which is simple, relatively inexpensive, and thoroughly reliable in its functions of eliminating freezing and pollution of the potable water supply.

A further object is to simplify and reduce the expense of installation and maintenance of a sanitary anti-freezing type of water service fixture, with elimination of the usual trenching or sumps, and the pumps customarily associated therewith.

Another object of the invention is the elimination of protective boxes and lids which constitute obstructions on the station platform, to interfere with proper movement of passengers and freight, and which sometimes become broken or distorted and thereby become hazardous to persons using the station platform.

Another object is to provide for an improved installation of the service fixture or hydrant assembly, which results in a substantial added convenience as to yard attendants in replenishing the supply of potable water upon coaches, dining cars, and other passenger vehicles of the transportation system; this being accomplished without sacrificing the anti-freezing and anti-pollution qualities of the service device.

The foregoing and other objects are attained by the means described herein and illustrated upon the accompanying drawings, in which:

Fig. 1 is a longitudinal vertical cross-sectional view of the improved anti-freezing sanitary hydrant assembly embodying the present invention.

2

Fig. 2 is a side elevational view of a railway station platform and track showing an improved installation of the device illustrated by Fig. 1.

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a perspective view, partly in cross section, showing the device of the invention installed between adjacent tracks of a railway road bed.

Fig. 5 is a cross-sectional view showing a modified installation alongside a railway track.

Fig. 6 is a detail elevational view showing partly in cross section, an improved nozzle structure for a service hose.

Extensive investigation and many years of experience in the production of anti-freezing non-pollutable hydrants and water service fixtures, has revealed that no fixture of the type referred to has yet been offered or proposed, which would meet the objections and requirements of public health agencies charged with the duty of eliminating pollution of public water distribution systems. The problem of avoiding pollution through anti-freezing water service fixtures has never been solved heretofore. It is a well known fact that pollution of potable water systems has on various occasions brought disease and death to persons drinking supposedly clean water, from fixtures located at great distances from the source of pollution, with the result that great difficulty was experienced in locating and condemning the particular fixture at which the contamination entered the public distribution system. In most instances of the kind referred to, the pollution eventually was traced to an anti-freezing hydrant or water service fixture which was not necessarily faulty, but simply incapable of preventing entry or contaminating substances under various natural conditions. In some instances the pollution of the water distribution system resulted from flash floods, in which vital parts of the fixture were submerged. In other instances leaky valves were to blame, while in still others there were found sewage cross-connections either direct or indirect in character, due to overloaded sumps or drainage beds, or to an excess of ground water in the vicinity of the fixture.

Pollution of water distribution systems has often resulted from breaks in the water mains, and the attendant creation of a vacuum in one or more sections of the system. In such cases, an open fixture or a leaky valve therein provided a most frequent source of pollution. As above stated, conditions such as have been referred to in the foregoing explanation, have so contaminated the potable water supply as to bring disease and death to persons drinking from other fixtures

located not only in the immediate vicinity of the pollution source, but also at remote locations where pollution was entirely unexpected.

One of the principal objectives of the present invention is that of obviating to the maximum extent, the causes of pollution of potable water distribution systems under all circumstances, including even those extenuating circumstances which prevail in most railroad yards, where the topography is particularly unfavorable to pollution elimination. The invention contemplates eliminating all possibility of cross connection, and also the commonly ineffective use of ditches, trenches, sumps and pumps that cannot be depended upon under all weather and climatic conditions. With the improved device herein disclosed, there is no drainage provided to the ground or to a sewer, and for that reason no direct or indirect cross connection to sewage or contaminated drainage is possible. The use of a lubricated plug type valve in the fixture eliminates the need for a box housing, thereby removing the many objections to the box type of fixture in which rubbish and dirt invariably accumulated, with the resultant threat of contamination. Elimination of the box obviates also the need for trenching to carry away surface water, and provides various other advantages which have been noted previously herein. The use of the lubricated plug type valve is a highly important feature of the invention, as it eliminates all possibility of pollution through leakage at the valve caused by abuse or excessive wear. This type of valve in combination with means to store unused clean water from the fixture riser, with evacuation of the clean stored water by means of an ejector, renders the fixture absolutely unpollutable while at the same time non-freezing in character.

With reference to the accompanying drawings, 8 indicates the fresh water supply pipe conveying potable water from a main of the public water distribution system. The supply pipe is securely connected by means of a threaded joint or the like indicated at 9, to the inlet port of a lubricated plug type valve whose body is indicated at 10. The valve employed may be of the general type disclosed in the patent of S. J. Nordstrom No. 1,781,821 dated November 18, 1930. The many advantages of such a valve are specified in the patent aforesaid, and in various other patents of the same inventor.

Briefly stated, the lubricated plug type valve comprises the body 10 having inlet and outlet ports between which a lubricated plug 12 is rotationally mounted in upper and lower bearings 13 and 14. The plug is tapered as shown, and may be provided with a number of longitudinal lubricant channels or grooves 15 establishing a connection between the lower circumferential lubricant channel 16 and a similar upper channel 17. These channels cooperate with smooth seating areas within the tapered recess of the valve body, for confining a heavy immiscible lubricant or grease fed to the upper annular channel 17 through a central tube 18 having a constricted port at the location 19. Lubricant filling the central tube may be forced under high pressure to the several channels of the valve plug in any suitable manner, as by means of a screw 20 located at the upper end of the tube and having threaded engagement with an extension 21 of the tube, as indicated at 22. The head 23 of the screw preferably is made angular for the reception of a suitable wrench, and if desired it may be drilled as at 24 to receive a common nail or similar implement affording the necessary leverage to force lubricant through the several channels of the valve plug. In the preferred form of the valve, a chamber 25 is provided beneath the plug 12, in which a substantial pressure of lubricant may be generated to prevent binding of the plug upon its seating surfaces in the valve body.

As will readily be understood, the connection at 26, made between the tube 18 and its extension part 21, is tight and leakproof, and the lower end of the tube may be fixed to or integral with the plug 12. The plug may be held upon its seat in any suitable manner, as by means of a bonnet 27 held to the valve body by means of screws 28, with a gasket 29 interposed between the bonnet and the valve body. A packing nut or gland 30 threadedly engaging the interior of the bonnet at 31, prevents leakage of water and lubricant past the packing indicated at 32.

A protective casing for the operating parts of the valve is indicated at 33, and may be integral with the valve body 10. The casing preferably is vented at 34 to release any water or condensation that might accumulate about the bonnet of the valve. By means of a screw 35 or otherwise, the protective casing may be attached to an upright tubular housing 36 of any desired length, the upper end 37 thereof being preferably above ground level, while the extreme lower portion of the valve may be located below the frost line. The protective casing 36 is stationary by reason of its attachment to the housing 33.

Within the protective parts 33 and 36 there is disposed an operating member 38 which may be in the form of a rigid tube rotatably associated therewith, the tube providing support for the extension member 21 which carries the lubricating material. At its lower end, the operating tube 38 carries a fixed coupling member 39 which engages a collar 40 that is fixed to lubricant tube in any suitable manner, as by means of the set screw 41. The coupling member 39 frictionally or otherwise engages the collar 40, so that upon rotation of the operating tube 38 effected by applying a wrench or other implement to the headed end 42 thereof, the lubricant tube and the plug 12 therewith associated are rotated relatively to the valve body, to open or close the valve with each quarter turn of the plug. A hood or baffle 43 may be fixed relative to the operating tube 38 and to the headed end 42 thereof, the hood or baffle serving to overlie the upper margin of housing member 36 in such a manner as to substantially preclude entry of water, dirt, or other foreign materials into the space between the tubular member 36 and the operating tube 38. It will be appreciated, of course, that any small amount of foreign material which might possibly enter beneath the hood or baffle, will simply be deposited within the confines of housing 33, and may escape therefrom through the vents 34. Such foreign material obviously cannot enter the supply pipe or the interior of the valve, to induce contamination or pollution of the water supply.

From the foregoing, it will be apparent that opening and closing movements of the lubricated plug of the valve may be effected by applying a wrench to the head 42 and rotating it a quarter turn in either direction. The pressure screw 20 for the lubricant will rotate with the head 42 and its associated parts 43, 38, 39, 40, 18, 21 and 12. When it is necessary or desirable to

force additional lubricant to the valve plug, the attendant need only rotate the screw 20 to advance it along the threads 22 in the direction of the valve plug. The interior of the tubes 21 and 18, of course, is kept completely filled with lubricant.

At the outlet port of the lubricated plug type valve is fixedly mounted a connecting pipe 44 whereby water passing through the valve is conveyed to the constricted nozzle 45 of an ejector. The ejector may be of any acceptable type, although in the example illustrated it comprises a body 46 internally bored and threaded as at 47 and 48 to retain the base of the nozzle and the threaded end of the pipe fitting 43, respectively. The head of the ejector, indicated at 50 may threadedly engage the body at 51, and will be properly shaped interiorly to assist the nozzle in performing the desired ejector action. By means of a suitable coupling 52, or otherwise, the discharge port of the ejector head may be connected to an upright pipe section 53 to be hereinafter referred to as a riser. The upper end of the riser carries a fitting 54 through which water from the riser may be discharged, the discharge port of the fitting being furnished with any suitable type of quick-acting hose coupling 55, for a flexible hose as indicated at 56 upon Figs. 2 to 5 of the drawings. Under certain circumstances, however, it may be desirable to affix a pipe or conduit to the head fitting 54 of the riser, in place of the coupling device 55.

The interior of the head fitting 54 may be open to atmosphere through the agency of a vent including a small tube 57 and an elbow 58, the discharge end of the vent being provided with a removable closure or cap 59. Further explanation concerning this vent will be advanced at an appropriate place in the description which follows.

It may be noted that the body of the ejector has an auxiliary port 60 through which may flow any water remaining in the riser 53 after water has been taken therefrom at the coupling 55. By means of the elbows 61 and an intermediate length of pipe 62, water drained from the riser is conveyed to a suitable tank or reservoir 63 which is tightly capped at its opposite ends so as to avoid all possibility of leakage of fluid either into or from the reservoir or tank, except through the port 64 thereof. Port 64 preferably is located at the lowest possible elevation of the tank interior, so that the ejector action which occurs about the nozzle 45 when the valve 12 is opened, will result in a withdrawal of substantially all water within the reservoir or tank. The capacity of the reservoir or tank 63 will exceed somewhat the capacity of the riser and connecting pipe 62, in order to compensate for the volume of air that may be entrapped in the upper portion of the tank as water enters through the port 64.

It is important to note at this stage of the description, that the interior of tank 63 is never exposed to water other than the clean and potable water which may drain from riser 53, wherefore it may accurately be stated that the tank or reservoir 63 forms part of the potable water supply line. Regardless of how often water may enter and leave the tank or reservoir 63, it will never carry contamination or pollution into the operating elements of the hydrant or the elements of the supply line. The tank or reservoir, the ejector, and the lubricated plug type valve, are generally to be buried in the earth below the frost line so as to prevent freezing during the winter season.

To produce a serviceable and durable structure omitting the objectionable features of a service box at platform level, a heavy plate in two parts 66—67 (Fig. 4) is arranged to support the riser 53 of the hydrant and the housing member 36 of the valve structure, in spaced relationship approximately at ground or platform level. For additional support, the valve body 10 may be welded or otherwise fixed to the top of the tank 63. The two parts of the plate 66—67 may be notched along the abutting edges 68 to accommodate the fixture parts 53 and 36, which, instead of being tightly clamped by the plates, are permitted a slight clearance allowing for expansion and contraction under varying climatic conditions. The plates may be bolted or otherwise fastened together as at 69, however, to keep the assembly intact. The support constituting the plates may rest upon the road bed as in Fig. 4, or may rest upon or be embedded in the paving material of a station platform. If desired, the plates may serve also as name plates.

By thusly eliminating boxes from the fixture, it is unnecessary to provide for drainage, and large savings in cost of installation and maintenance are thereby effected. Boxes as heretofore furnished upon service fixtures were dirt catchers and were highly unsanitary, and in addition they formed objectionable obstructions upon platforms, particularly upon becoming broken or damaged. With the elimination of drainage requirements as above stated, the need for trenches, ditches, sumps and sump pumps is obviated entirely, thereby greatly simplifying and expediting installation. The valve operating means 42 and the service fitting 54, or either of them, may be disposed at any elevation above the plate 66—67, as may be required. Figs. 2, 3, 4 and 5 illustrate typical installations, of which many variations are possible and sometimes necessary, depending upon the nature of the service demanded and the conditions attending installation.

Figs. 2 and 3 illustrate a novel and effective installation of the improved water service device in a railroad yard. The rail of a track resting upon ties in the customary manner is indicated at 70, and alongside the rail is shown the station platform 71, which may be of concrete or other suitable material. A recess 72 is formed in the side of the platform, and within the recess is disposed the assembly of Fig. 1, which may omit the reinforcing plate structure 66—67, if desired. In this form of installation, no parts of the fixture extend above the plane of the platform to furnish obstructions that might interfere with normal use of the platform on the part of pedestrians and freight handling equipment. The coupling 55 furnishes a tight leakproof connection between the fixture riser and the service hose 56, the latter normally lying alongside the rail in constant readiness for replenishing the supply of potable water to the reservoirs of passenger cars, cattle cars, or other rolling stock of the railroad system. The free end of the hose is equipped with a valve 73 of any suitable type, having a valve actuating handle 74. At the discharge end of the valve there is affixed a guard 75 for the tapered nozzle indicated at 76, all of which is clearly illustrated by Fig. 6. When the hose is to be used for replenishing the supply of potable water in cars as above mentioned, the attendant slips onto the tapered end of the

nozzle 76 an extension hose 77, which is preferably in the form of a short length of rubber or rubberized tubing that might easily be carried by the attendant from one service nozzle to another at various locations within the yard area. The nozzle extension hose 77 thereby may be maintained in a relatively clean and sanitary condition, since it is not permitted to remain upon the nozzle 76 when the service hose is not in use. Details concerning this nozzle structure are to be found in my copending application Serial No. 685,999 filed July 24, 1946, which has become abandoned wherein is illustrated also a protective receptacle to house the valve 73 and its guarded nozzle during periods of nonuse. It is intended that protective receptacles as disclosed in said copending application, shall be utilized in connection with all installations disclosed and suggested in the instant specification.

Fig. 4, as previously explained, illustrates an installation similar to that of Fig. 2, except that the installation is made rail high, rather than at an elevation above the level of the rails as illustrated by Fig. 2. It will be understood, of course, that the riser illustrated upon Fig. 4, and indicated at 53, may be extended to any desired elevation within the rules and regulations governing the location of water service fixtures upon railroad property. Likewise, the valve actuating means 42 might be suitably elevated when desirable or necessary.

In accordance with Fig. 5, there is suggested an installation wherein the riser 53 extends above the plane of the platform 71, whereas the operating means 42 for the valve of the fixture rests below the plane of the platform. In installations of this type, it will ordinarily be desirable to place a form or protective casing 78 about the valve casing to ensure easy access to the actuating means. By means of suitable keys or wrenches, the nut 42 readily may be rotated to open and close the lubricated valve, and when necessary a proper key or wrench may be applied to the head 23 of the pressure screw 20 in forcing lubricant to the valve plug as previously explained. The various types of installations herein disclosed will obviously suggest others to the mind skilled in engineering and installing such equipment, the type of installation ordinarily being dependent upon the peculiarities of conditions prevailing in the vicinity of the installation.

In all of the drawing views are shown suitable guards or baffles covering the coupling 55 or the vent 57, or both. In Fig. 3, for example, a hinged hood for normally covering the coupling 55 is illustrated at 79, said hood being pivoted at 80 upon a stud extending in opposite directions from the riser fitting 54. This is illustrated also upon Fig. 1 wherein the service hose is disconnected from the fixture. Swinging movement of the member 79 may be limited by any suitable form of abutment, as at 83, to avoid leaving the coupling exposed, it being understood that the abutment prevents swinging of the hood or member 79 upwardly to dead center, so that it will always tend to fall to the lowered position of Fig. 1.

A second hood or baffle indicated at 81 is stationarily mounted upon the riser fitting 54, and serves as a protective cover for the vent tube and cap 57—59. Sufficient space is provided beneath the hood or baffle 81 to enable an attendant to remove and replace cap 59 for reasons to be explained hereinafter. The hoods or baffles 79 and 81 protect the exposed parts of the fixture from danger of pollution due to their proximity with closet hoppers and other contaminated equipment and dirt existing in the vicinity of the platform and rails. Although the hood or baffle 81 has been omitted from the structures illustrated by Figs. 4 and 5, it will readily be appreciated that the vent tubes in these instances may be furnished with protective shields of any kind, such as 81 exemplifies.

The operation of the device is as follows:

Referring to Fig. 1, it may be assumed that the lubricant tube 21—18 is filled with an insoluble lubricant of high viscosity, such as a heavy grease, held under pressure by the screw 20. The plug 12 of the valve accordingly will be rendered absolutely leakproof, with the lubrication affording facility of rotation of the plug. By rotating the head 42 of the operating tube 38, the plug may be rotated a quarter turn to open the valve for permitting flow of potable water from the supply pipe 8 to the pipe 44, and thence into the ejector. Water from the ejector will fill the riser 53, the pipe 62 and the clean water chamber of the tank or reservoir 63. When water is drawn from the riser at the coupling 55, as by means of a hose such as 56 (Fig. 2), the flow is established from jet or nozzle 45 with delivery of water to the riser 53. If the hose is provided with a valve and nozzle arrangement such as Fig. 2 discloses, closing of the nozzle valve 73 will simply maintain pressure of water within the hose and the riser, so that the system remains in condition for a subsequent release of water from the free end of the hose. This method of operation is ideal under moderate weather conditions, or when freezing of the water within the fixture and the hose is unlikely. When the fixture is used as just explained, the cap or closure 59 will be applied to the vent tube 57 so that water may not escape from the fixture through said tube.

Under circumstances as above explained, the fixture and the fresh water supply line are fully protected against pollution, even in the event of a flash flood that might submerge the hose, the valve 73, or possibly also the entire water service device. With the entire service fixture including the hose 56 filled with water under pressure, no opportunity is afforded for the entry of pollutable substance into the fixture and its associated fresh water supply line. It will be appreciated, as heretofore explained, that there is no drainage provided for, either to the ground or to a sewer, wherefore no cross connection either direct or indirect is possible for carrying pollution from extraneous sources to the interior of the fixture and its source of water supply. The cap or closure 59 effectively precludes contamination of the system from outside sources.

A slightly different method of operation is resorted to in freezing weather, when it is necessary to drain those parts of the fixture which are above the frost line. Under such circumstances, the cap or closure 59 will be removed, so as to place the head of the riser in communication with the atmosphere. Since removal of the cap will permit leakage of water whenever the plug valve 12 is open, it is necessary under freezing weather conditions to control the flow of water at the lubricated valve 12, by manipulating the operating tube at the wrench head 42. The nozzle control valve 73, accordingly, remains in the open position.

When the fixture is to be used in freezing weather, the operator will rotate the operating head 42 to open the plug valve 12, whereupon

water will flow to the ejector nozzle 45, and proceed through the riser and into the hose 56, which may then be caused to replenish the potable water reservoirs of passenger and cattle cars, using the extension hose 77 as previously explained. With the initial ejector action at the jet or nozzle 45, the tank or reservoir 63 will be evacuated through the pipe 62, and the clean water from the tank or reservoir will enter the riser along with the water from the jet or nozzle 45. During the period within which water is thusly supplied, a slight leakage will occur at the open end of the vent tube 57, the amount of leakage being negligible due to the small size of the vent tube.

After the car or cars have been serviced, the attendant will close the plug valve 12 by rotating the head 42 a quarter turn, leaving the hose control valve 73 open; whereupon all potable water standing in the riser 53 will drain by way of port 60 of the ejector housing, into the tank or reservoir 63. Hose 56 may be permitted to drain through the open valve 73 thereof.

Under the circumstances above related, the open vent tube 57 serves as a vacuum breaker, admitting atmospheric air to the top fitting 54 of the riser to induce the desired drainage of clean water from the riser, but not from the hose, into the reservoir or tank 63. It should be emphasized at this point, that only clean potable water from the riser enters the tank or reservoir 63, so that upon the successive use of the fixture in servicing railroad cars, the drainage water stored within the tank or reservoir 63 may safely be ejected and conveyed along with water from the supply line 8, to the drinking water receptacles of the railroad cars.

Since flash floods do not ordinarily occur during the winter season, there is little likelihood that extraneous water will ever enter the vacuum breaker tube 57; however, in the event of any such occurrence, any such water that might enter the vacuum breaker tube will never reach the water supply line 8 due to the presence of the lubricated plug type valve which is absolutely leakproof, particularly when there is no substantial back-pressure tending to reverse the flow of water in the supply line 8. Should the fixture itself become contaminated under conditions as above related, it may be restored to service after introducing a germicide and flushing in the usual manner. Contaminating matter will not find its way into the supply line 8, however, this being of utmost importance to the health of all who draw water from other portions of the water supply system.

It will clearly be evident that during the winter season all surplus water in the riser drains completely from all parts of the hydrant which are subjected to freezing temperature. The tank or reservoir 63 is always a clean water chamber, and constitutes part of the water supply line that serves the fixture, thereby avoiding to a maximum extent the possibility of pollution of the water distribution system of which the supply line 8 is a part.

The device of the invention, as will now be appreciated, affords full protection against pollution of the water supply system under all circumstances of usage, and is effectively protected against injury by freezing during the winter season. The construction is foolproof, inexpensive, and easy to install and maintain, with a resultant substantial saving of expense. The device is sturdy and durable, and will resist public abuse to the utmost for year round service. Other advantages and desirable features of the device have been recited hereinbefore, and therefore need not be repeated in the summary.

It is to be understood that various modifications and changes in the structural details of the device may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed is:

1. A non-freezing water service fixture adapted to protect a potable water supply line against pollution, said fixture comprising in combination, a riser having an upper discharge end attachable to a valve-controlled delivery conduit, and a lower end for disposition to a non-freezing zone, an ejector including a nozzle for directing a stream of water upwardly into the lower end of the riser, a potable water storage tank in communication with the ejector and adapted to receive such water as may drain from the riser, a vacuum breaker in the form of a tube communicating with the upper end of the riser interior, said tube having a depending free end open to atmosphere exteriorly of the riser, a closure for selectively closing the open end of the tube, a hood depending from the upper end of the riser and disposed in protective relationship to the tube and the closure, said hood having an open bottom affording access to the closure, and means including a lubricated plug type valve for controlling flow of water between the ejector nozzle and the potable water supply line.

2. A non-freezing water service fixture adapted to protect a potable water supply line against pollution, said fixture comprising in combination, a riser having an upper end from which water may be drawn, and a lower end for disposition to a non-freezing zone, an ejector including a nozzle for directing a stream of water upwardly into the lower end of the riser, a potable water storage tank in communication with the ejector and adapted to receive such water as may drain from the riser, a ground plate mounted upon the riser intermediate the ends thereof, a vacuum breaker in the form of a short tube communicating with the upper end of the riser interior, said tube having a depending free end open to atmosphere and located above and in close proximity to the ground plate, a closure for selectively closing the open end of the tube, a hood on the upper end of the riser substantially enveloping the tube and the closure therefor, said hood having an open bottom affording access to the closure, and means including a valve for controlling flow of water between the ejector nozzle and the potable water supply line.

3. A railway water service installation comprising in combination, a platform disposed along the trackage of a railway system, said platform being elevated relative to the trackage and having a recess formed laterally therein beneath the surface of the platform, a service fixture including a riser terminating within the recess, a potable water supply line beneath the platform, a main valve for placing the supply line in fluid communicating relationship with the riser, a valve actuator having a head end terminating within the platform recess whereby the valve is rendered accessible for operation, a length of flexible service hose having one end in fluid communication with the terminus of the riser within said recess, and a control valve adjacent

to the opposite end of the hose exteriorly of the recess.

4. A railway water service installation comprising in combination, a platform disposed along the trackage of a railway system, said platform being elevated relative to the trackage and having a recess formed laterally therein beneath the surface of the platform, a service fixture including a riser terminating within the recess, a potable water supply line beneath the platform, a main valve for placing the supply line in fluid communicating relationship with the riser, a valve actuator having a head end terminating within the platform recess whereby the valve is rendered accessible for operation, a length of flexible service hose having one end in fluid communication with the terminus of the riser within said recess, a control valve adjacent to the opposite end of the hose exteriorly of the recess, a nozzle fixed to said hose control valve adapted to receive a removable nozzle extension, and a guard about the nozzle to preclude contact

of the nozzle with the ground adjacent to the trackage.

THOMAS E. BART.

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