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SERVICE WATER PIPE SILT DEFLECTOR AND FILTER.

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1,355,306.

Patented Oct. 12, 1920.

Fig. 1.

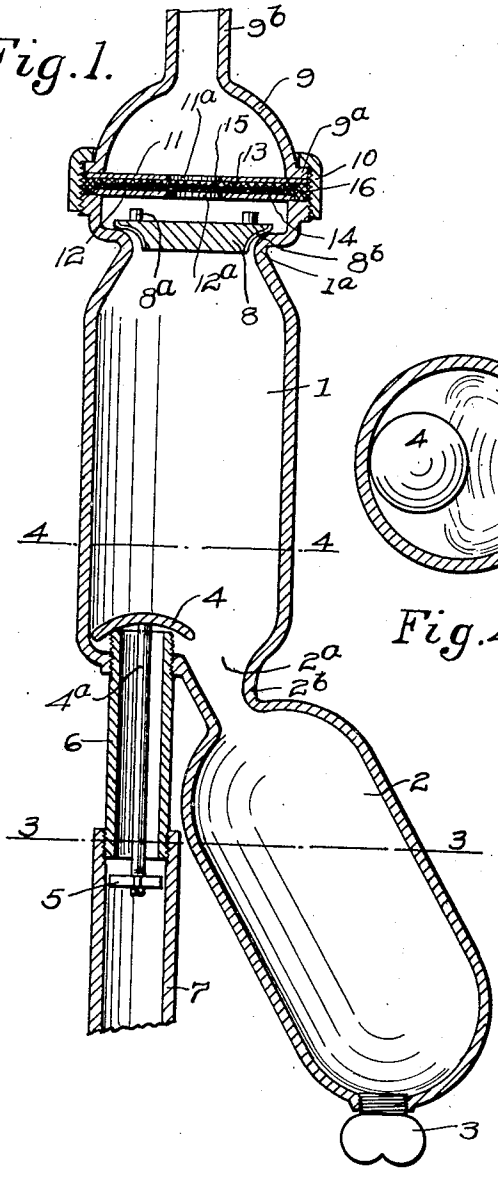


Fig. 4.

Fig. 2.

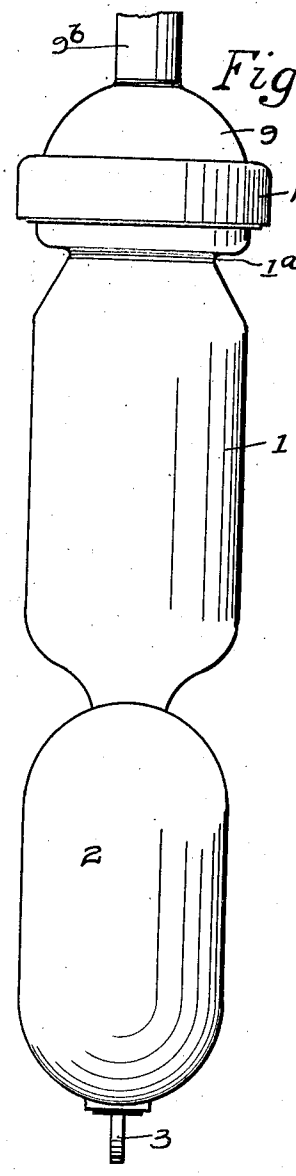
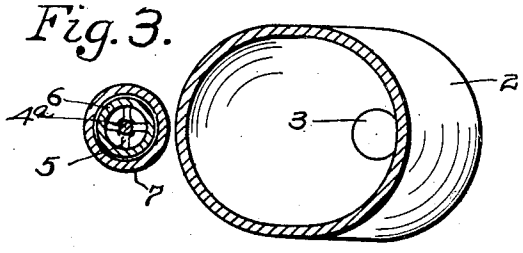


Fig. 3.



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SERVICE-WATER-PIPE SILT-DEFLECTOR AND FILTER.

1,355,306. Specification of Letters Patent. Patented Oct. 12, 1920.

Application filed December 30, 1918. Serial No. 268,948.

To all whom it may concern:

Be it known that I, JOSEPH W. BRENKERT, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Service-Water-Pipe Silt-Deflectors and Filters, of which the following is a specification.

My invention relates to a combined silt conserver, deflector and filter for use in connection with the ordinary water service pipe and the objects of my invention are, first, to provide a device of this class by the use of which the silt, sand and other particles in the water will be deflected into a separate reservoir which may be emptied as desired and conserved; second, to provide means for filtering and further cleaning the water of all of the impurities and depositing them in said reservoir to be emptied as desired; third, to provide in connection therewith a settling tank or reservoir in which the flow of water is retarded to permit the heavier materials to settle which also will settle into said silt reservoir, to be removed as desired; fourth, to provide means for thoroughly screening and filtering the water after the silt and heavier material has been deflected therefrom and after the heavier materials have been allowed to settle; fifth, to provide means for adjusting the deflecting means; sixth, to provide a device of this class which may be readily connected to the ordinary service pipe to a dwelling, laundry or other place of business and, seventh, to provide a device of this class which is simple and economical of construction, durable, easy to operate, easy to install, easy to repair, easy to adjust, easy to clean and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a longitudinal sectional view of the device complete, Fig. 2 is a side elevational view at a right angle thereto, Fig. 3 is a sectional view through 3—3 of Fig. 1 and Fig. 4 is a sectional view through 4—4 of Fig. 1.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

The settling tank 1, silt reservoir 2, plug 3, deflector 4, spider 5, pipe 6, service pipe 7, retarding plunger 8, head 9, coupling nut 10, plates 11 and 12, screens 13 and 14, cloth 15 and gasket 16 constitute the principal parts and portions of my combination silt deflector, conserver and filter.

The settling tank 1 is preferably shaped as shown best in Figs. 1 and 2 of the drawings, cylindrical in form and provided near its upper end with a contracted portion 1^a which is adapted to serve as a support and retarding medium for the retarding plunger 8. It is threaded at its upper end adapted for the coupling nut 10 to screw thereon. This coupling nut engages a flange 9^a on the head 9 which is dome shaped and provided with a central outlet pipe 9^b which is adapted to connect with the ordinary service pipe. Mounted between the flange 9^a and the upper end of the settling tank 1 is a combined filter and retarding device consisting of the annular plates 11 and 12 the one of which is slightly larger than the other and they are each provided with a central hole 11^a and 12^a which are adapted for the passage of the water and mounted between these plates are suitable screens 13 and 14 and between the screens 13 and 14 is a fine texture cloth. These plates 11 and 12, screens 13 and 14 and cloth 15 are rigidly secured together by means of screws extending from one plate to the other. It will be noted that between the outer edges of the screens 13 and 14, cloth 15 and plate 12 and the inner surface of the nut 10 is a gasket 16 which is adapted to form a tight joint between the tank 1 and head 9 and the outer edges of the screens, cloth and plate 12 so that the water must pass through the openings 11^a and 12^a and screens and cloth to the service pipe. The plunger 8 serves as an additional retarding means and must be forced upwardly to permit the water to pass around the same thus forming a deflector for substances other than water and this substance is permitted to settle in the settling tank below this retarding plunger 8. It will be here noted that the plunger 8 is provided with a plurality of upwardly extending lugs

8[a] to prevent the plunger from rising too high and closing off the water and that the water must pass between the outer edge of this retarding plunger 8 and the inner surface of the settling tank 1 then to the center to pass through the holes 11[a] and 12[a] in the plates 11 and 12. However, there is provided a plurality of grooves 8[b] adapted to permit water in limited quantities to pass backwardly from the screens into said settling tank when the water is shut off. In the lower end of the settling tank at one side thereof is screwed a pipe 6 the upper end extending some distance above the bottom of the settling tank 1, and over the lower end of this pipe 6 is screwed the ordinary service pipe 7. Mounted in this pipe 6 is a stem 4[a] upon the upper end of which is secured a concavo-convex deflecting member 4 which serves the double purpose of deflecting substance in the water such as silt, sand and the like downwardly so that it enters the opening 2[a] to the silt reservoir 2 and also deflects any such substances which are settling in the settling tank 1 into said opening. Mounted on the lower end of the stem 4[a] is a spider 5 which is adapted to engage the lower end of the pipe 6 when the deflector member 4 is raised by the pressure of the incoming water. It will be noted that this spider 5 is screwed onto the lower end of the stem thus permitting its adjustment for regulating the movement of this plunger deflecting member 4. Secured to the lower end of the settling tank 1 and adjacent the pipe 6 is a narrow communicating member 2[b] provided with the opening 2[a] into the silt reservoir 2 which is an enlarged, elongated reservoir which receives the silt through said opening 2[a]. This silt reservoir 2 is provided in its lower extremity with a plug 3 which serves as an outlet for cleaning said reservoir. It will also be noted that by closing the main service valve and opening one of the fixture valves and removing the plug 3 that this device and part of the service branches by the backward action of the water will be cleaned.

Though I have shown and described a particular construction, combination and arrangement of parts and portions I do not wish to be limited to this particular construction, combination and arrangement but desire to include in the purview of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

It is obvious that with this construction there is provided a device which may be placed in the ordinary water service pipe which will deflect silt, sand and other substances from the water into a reservoir from which it may be removed as desired; that there is provided in connection therewith a settling tank in which substance in the water is permitted to settle which also will enter said reservoir; that there is provided in the upper portion of said settling tank a deflector and retarding means for substance in the water; that there is provided above said deflector and retarding means another retarding means and filtering means for filtering fine substance from the water; that the device as a whole is very simple, and economical of construction, efficient in its action, easy to install, repair and adjust.

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

1. In a device of the class described, a settling tank in communication with the conventional water service pipe, a silt reservoir communicating therewith and a pressure actuated, reciprocable deflecting member in said settling tank adapted to deflect substance from the water into said silt reservoir.

2. In a device of the class described, a settling tank in communication with the conventional water service pipe, a silt reservoir communicating therewith, a pressure actuated, reciprocable deflecting member in said settling tank adapted to deflect substance from the water into said silt reservoir, and means for readily removing the silt from said silt reservoir.

3. In a device of the class described, a settling tank in communication with the conventional water service pipe, a silt reservoir communicating therewith, a pressure actuated, reciprocable concavo-convex deflecting member in the lower portion of said settling tank adapted to deflect substance from the water into said silt reservoir, and a combined deflector and retarding means in the upper portion of said settling tank.

4. In a device of the class described, a settling tank in communication with the conventional water service pipe, a silt reservoir communicating with said settling tank, a pressure actuated reciprocable concavo-convex deflecting member mounted in the lower portion of said settling tank adapted to deflect substance from the water as it passes from said service pipe from below and settles in said settling tank from above into said silt reservoir, a combined deflector and retarding means in the upper portion of said settling tank and means positioned above said combined deflector and retarding means for filtering said water as it passes from said settling tank.

5. In a device of the class described, a settling tank in communication with the conventional water service pipe, a silt reservoir communicating with said settling tank, a pressure actuated reciprocable concavo-convex deflecting member mounted in the lower portion of said settling tank adapted to deflect substance from the water as it passes

from said service pipe from below and settles in said settling tank from above into said silt reservoir, means for adjusting the movement of said deflecting member a combined deflector and retarding means in the upper portion of said settling tank and means positioned above said combined deflector and retarding means for filtering said water as it passes from said settling tank.

In testimony whereof, I have hereunto set my hand at San Diego, California this 19th day of December 1918.

JOSEPH W. BRENKERT.