July 3, 1923. 1,460,613

C. A. SILL

WATER SUPPLY SYSTEM FOR DWELLINGS AND THE LIKE

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Fig. 1

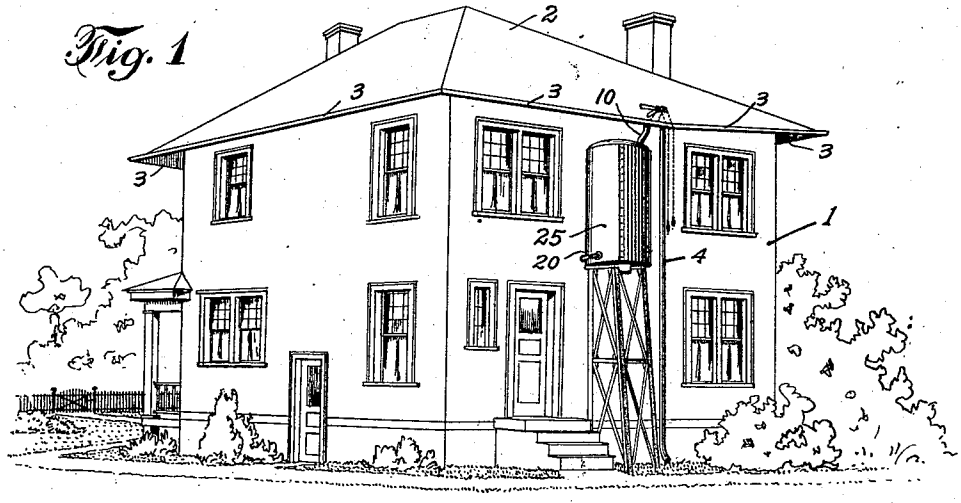
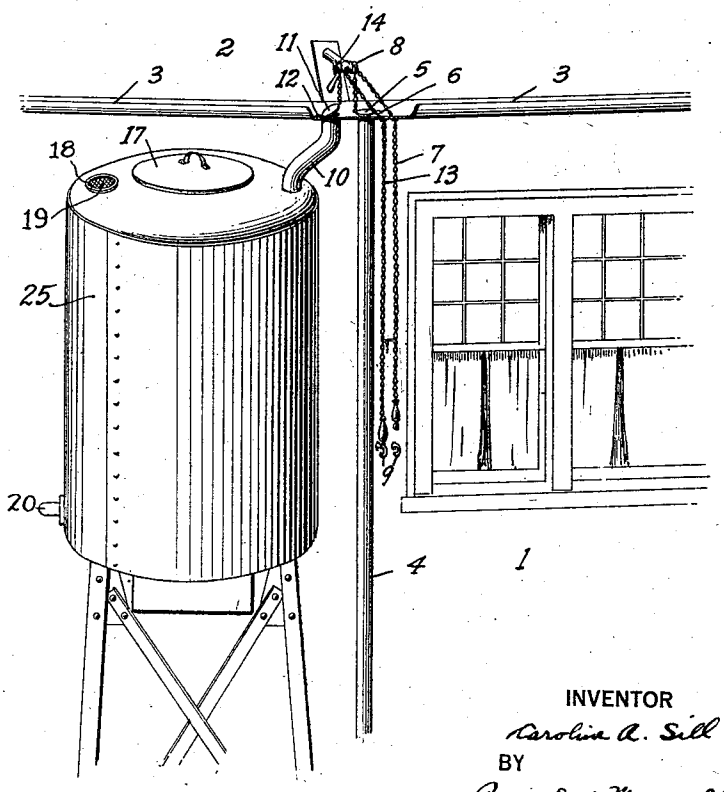


Fig. 2



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Fig. 3.

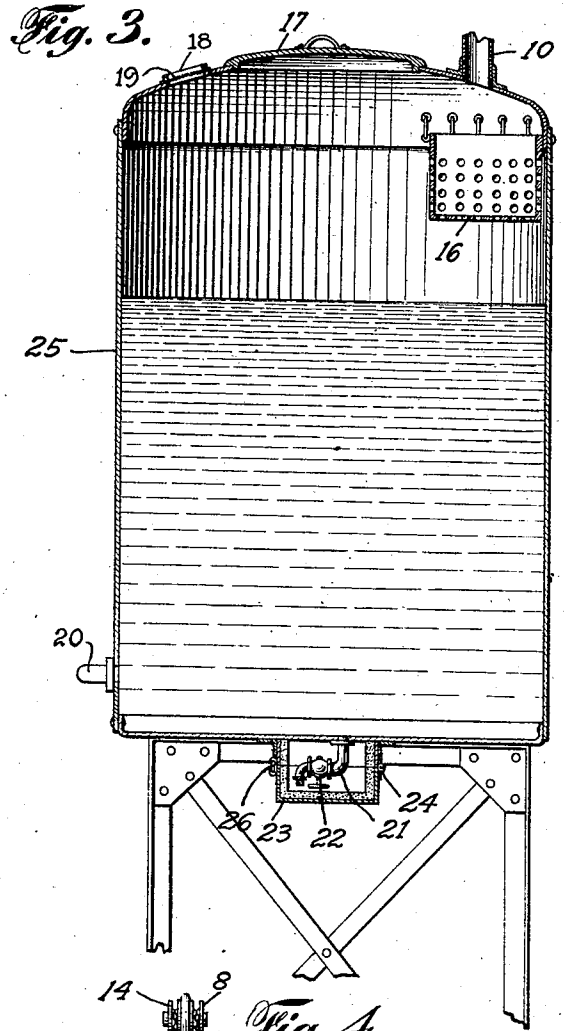
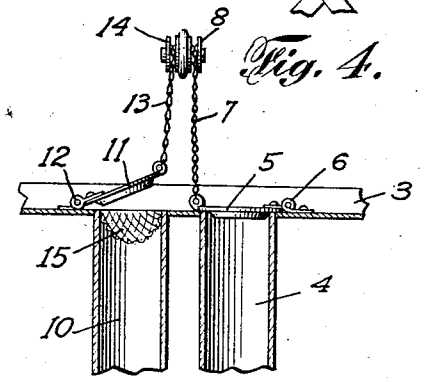


Fig. 4.



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UNITED STATES PATENT OFFICE.

CAROLINE A. SILL, OF OKLAHOMA, OKLAHOMA.

WATER-SUPPLY SYSTEM FOR DWELLINGS AND THE LIKE.

Application filed February 20, 1922. Serial No. 537,685.

To all whom it may concern:

Be it known that I, CAROLINE A. SILL, residing at Oklahoma city, in the county of Oklahoma, State of Oklahoma, have invented certain new and useful Improvements in Water-Supply Systems for Dwellings and the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an organization of means for supplying to the plumbing system of a house pure soft water obtained from rain fall on the roof and eaves. The organization includes an elevated storage tank located in proximity to the eaves-trough or gutter from which it receives its supply. The tank is connected up to the plumbing system and is in communication with the outer atmosphere by means of a brass wire screened opening in its upper part, whereby the tank and the water contained therein are freely ventilated and aerated. The tank is provided with a manhole closed by a removable cover so that it may be entered for cleaning and repairs, and is also provided with a cleaning aperture in its bottom, which is made available for the attachment of a discharge pipe provided with a cock, and screw threaded at its lower end for the attachment of a garden hose, or the like, should any part of the water stored in the tank be required for irrigating, or similar useful purposes.

The eaves-trough or gutter is provided with the usual down-take conductor, and a valve is located in the eaves-trough directly above the down-take conductor, this valve being manually operable, in the sense that on the occurrence of a rain fall the valve may be opened to permit the discharge of the initial body of rain water to waste together with whatever impurities are washed down from the roof into the eaves-trough, and so that on closing said valve and opening a corresponding valve governing the supply to the tank, the tank will receive the secondary supply of rain water uncontaminated by said impurities. In the preferred form of the invention, both of the valves referred to are normally closed and are provided with spring hinges for that purpose, each valve being adapted to be opened by a chain, or the like, passing over a pulley and extending down to convenient proximity to one of the windows of the house, or some other suitable convenient location.

In order to protect the water in the pipe leading from the tank to the plumbing system of the house from freezing, the pipe, in climates where such precaution is necessary, is preferably provided with a suitable jacket of asbestos, or the like, and for similar reasons, the cleaning or draining pipe leading from the bottom of the tank is preferably enclosed in an asbestos lined or covered box or casing; as will hereinafter be more fully described.

In order to intercept the passage into the tank from the eaves-trough, of leaves, or similar obstructions, the valve pipe leading from the eaves-trough into the tank is provided with a removable catch basket, in which such obstructions will be caught and from which they may be removed, by taking out the catch basket from time to time. So also, at the bottom of the pipe referred to and within the tank there is suspended a removal screen or filter which may suitably take the form of a cylindrical cup-like receptacle of galvanized iron, having fine perforations in its sides and bottom, whereby such finer solid matter as may pass the catch basket will be intercepted. This filter or screen is preferably hung on hooks, or the like, so that when cleaning the tank the filter screen may be removed, cleaned out and restored.

In the accompanying drawings is illustrated the preferred embodiments of my invention.

Fig. 1 represents (in perspective) the system in its relation to the roof and eaves-trough of the house whose plumbing system it is designed to supply.

Figs. 2, 3 and 4 represent sectional views of details of the construction.

Similar numerals of reference indicate similar parts throughout the several views.

Referring to the drawings, 1 indicates a house whose plumbing system is to be sup-

plied, 2 the roof of the house, 3 the eaves-trough or gutter, provided with the usual down-take conductor 4, leading to waste, or to any other desired place of disposal. In the eaves-trough and immediately above the inlet opening of the down-take conductor 4, is located the valve 5 provided with a spring hinge 6, so that the valve normally closes the inlet from the eaves-trough into the down-take conductor. The chain 7 passing over a pulley 8, is attached to the valve 5 and terminates in a ring, or the like, whereby the valve 5 may be raised upon its hinge, and held in the raised position by engaging the ring with a hook 9, or the like. On the occurrence of a shower, the valve 5 will be raised and held in the raised or open position by engaging the ring of the chain 7 with the hook 9. Consequently the initial body of rain water will wash whatever impurities may have collected upon the roof and in the eaves-trough down into the down-take conductor, so that the water subsequently collected in the elevated tank 25 will not be contaminated by these impurities. The supply pipe 10 from the eaves-trough to the elevated tank is provided at its inlet end with a valve 11 similar to the valve 5 and having a similar spring hinge 12, operating chain 13 terminating in a ring and extending over a pulley 14. The valve 11 is normally closed, so that the initial body of rain water with its impurities will not enter the tank. After the rain fall has continued for a sufficient time to substantially clear the roof and eaves-trough from undesirable impurties, the chain 7 is released whereupon the valve 5 closes. Thereafter the valve 11 is raised, permitting the subsequent flow of water from the roof and eaves-trough to pass through the pipe 10 into the tank. The catch basket 15 intercepts any stray leaves, or the like, that may chance to enter the pipe 10, and the filter screen 16 intercepts minor impurities that may pass the catch basket, such as sand, or the like. As indicated, the filter screen may consist of a receptacle of cylindrical shape open at its top and provided with appropriate small perforations in its sides and bottom. It is adapted to be suspended from the top wall of the tank by means of hooks and eyes, as shown.

The man-hole cover 17 is removable so as to permit access to the tank for cleaning and repairs, and for the removal and restoring of the filter screen 16. The aerating and ventilating opening 18 in the top of the tank is covered with a suitable brass wire screen 19 to exclude the entrance of leaves and the like and to prevent small animals from falling into the tank's interior, while freely admitting air and light into the interior of the tank, correspondingly providing for the maintenance of the purity of the soft clear water admitted to the tank. The pipe 20, provided, if need be, with an asbestos jacket or cover, connects to the plumbing system of the house and is, therefore, adapted to supply the soft pure rain water collected in the tank to such locations throughout the house as taps or faucets for the table, bath and kitchen sinks.

The cleaning and draining pipe 21 is provided with a cock 22 and terminates in a screw threaded end whereby, if desired, a garden hose, or the like, may be attached, or whereby the water within the tank may be used for any other purpose than house supply, should the occasion so require. Where protection is necessary against freezing, the pipe 21 may be enclosed within an asbestos lined box or casing 23 made in two parts hinged together at 24 and adapted to be releasably closed by means of a catch 26 of any suitable kind.

It will be understood that the tank 25 may be supported in its elevated position, in any suitable manner, as, for instance, by a platform resting on posts embedded in the ground, or by brackets or like supports attached to the wall of the house, or in fact, in any other suitable and appropriate manner.

Having thus described my invention, what I claim is:

1. Means for supplying water to the plumbing system of a house, comprising an elevated tank connected to said plumbing system and located in proximity to the eaves-trough or gutter of the house, said eaves-trough being provided with the usual down-take conductor, a pipe leading from the eaves-trough to the tank, said pipe being provided with an inlet valve normally cutting off the passage of water therethrough to the tank, and a valve for the downtake conductor; whereby, on the occurrence of rainfall, the valve of the down-take conductor may be opened to permit the discharge of the initial body of rain water to waste together with the impurities which accompanying it from the roof and eaves-trough, and whereby on closing said valve and opening the valve governing the supply to the tank, the tank will receive the secondary supply of rain water uncontaminated by said impurities; substantially as described.

2. In the organization defined in claim 1, the feature of providing the valves with manually-operable pulley chains; substantially as described.

3. In the organization defined in the preceding claims, providing the manually-operable valves with spring-hinges and locating the valves in the eaves-trough directly over the inlet openings to the pipes which they control; substantially as described.

4. In the organization defined in the pre-

ceding claims, providing the tank with a screened opening in its upper portion affording communication with the outer air; substantially as described.

5. In the organization defined in the preceding claims, providing the pipe leading from the eaves-trough to the tank, with a removable catch-basket at its upper end so as to intercept leaves and the like, and with a removable filtering screen at its lower end; substantially as described.

In testimony whereof I affix my signature.

CAROLINE A. SILL.