J. O. & W. D. GRAY.

WATER SUPPLY SYSTEM.

APPLICATION FILED JAN. 2, 1912.

1,070,246. Patented Aug. 12, 1913.

Fig. 2

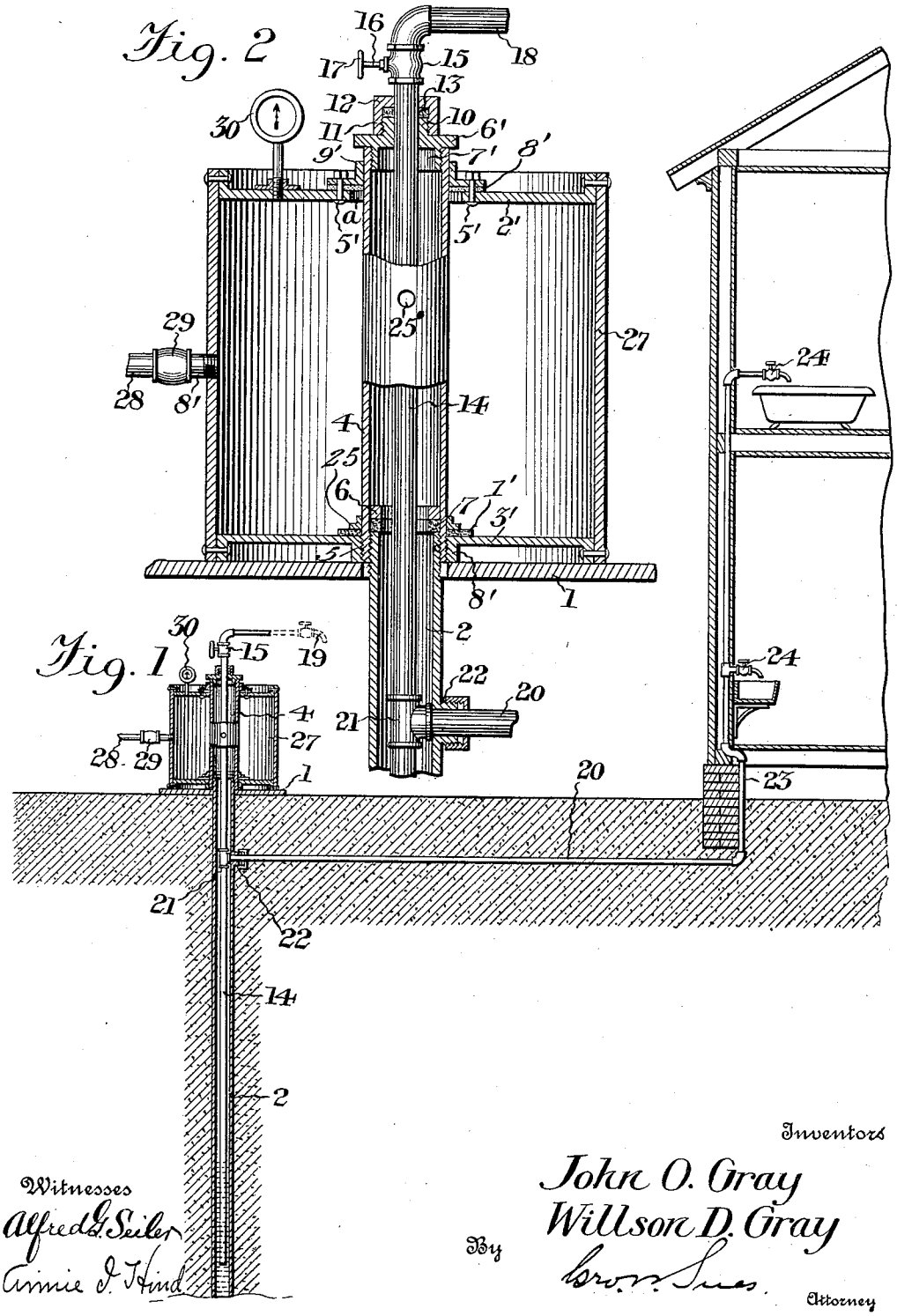


Fig. 1

Witnesses

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WATER-SUPPLY SYSTEM.

1,070,246. Specification of Letters Patent. Patented Aug. 12, 1913.

Application filed January 2, 1912. Serial No. 668,819.

To all whom it may concern:

Be it known that we, JOHN O. GRAY and WILLSON D. GRAY, citizens of the United States, and residents of Pretty Prairie, in the county of Reno and State of Kansas, have invented certain new and useful Improvements in Water-Supply Systems, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to water supply systems for residences and aims primarily to provide a novel system for supplying water to a residence from a well or like source of water supply located exterior to the residence.

More particularly the invention relates to a system of this class in which the water is forced from the well through the supply pipe or pipes through the medium of compressed air. Ordinarily, in the use of such a system, it is necessary to operate a pump located within the dwelling each time a quantity of water is needed, but the present invention contemplates the provision of a supply system so constructed that it will only be necessary to operate the air compressing means at intervals of several days.

Further the invention aims to provide a system of this class which will operate to supply fresh water from a point near the bottom of the well and thereby overcome the disadvantages arising from the employment of a storage tank.

A still further object of the invention is to so construct the system that water may be drawn at the well as well as within the dwelling to be supplied.

With these and other objects in view the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and finally pointed out in the appended claims, it being further understood that changes in the specific structure shown and described may be made within the scope of the claim, without departing from the spirit of the invention.

In the accompanying drawings forming a part of this specification and in which like numerals of reference indicate similar parts in the several views: Figure 1 is a view illustrating the application of the system to a well and dwelling. Fig. 2, is a vertical sectional view in detail through the tank.

In the drawings, the tank base is indicated by the numeral 1, and the well tubing by the numeral 2. The upper end of the tubing 2, projects through the base, which latter is in this instance illustrated as in the nature of a platform, and the said tubing is exteriorly threaded at its upper end, as shown. A cap pipe 4 is interiorly threaded as at 5, and is fitted onto the upper end of the well tubing 2, in the manner shown in Fig. 2 of the drawings. The cap pipe 4 is provided interiorly with a ring 6, located immediately above the threads 5, and a packing gasket 7, is fitted between this ring, which forms a stop shoulder and the upper edge of the well tubing 2, as shown in the said Fig. 2, of the drawings. In this manner, an air tight joint is formed between the well tubing and the cap pipe.

At its upper end, the pipe 4 is closed by means of the cap 6′, having the threaded collar 7′ and the threaded collar 10, which is exteriorly threaded as at 11. A stuffing box 12, is threaded upon this neck and within the box is arranged a packing 13. A pipe 14 is fitted through the stuffing box and the neck of the cap 4 and this cap projects at its upper end a slight distance above the cap 4, and terminates at its lower end considerably below the water level within the well tube 2. In fact, it is preferable that the lower end of the pipe 14 be located but a short distance above the bottom of the well so that a fresh supply of water will at all times be insured. A valve 15 is fitted to the upper end of the pipe 14 and the stem of this valve is indicated by the numeral 16, and is provided with a handle 17, by means of which it may be turned to open or close the valve. A pipe 18, leads from the casing of the valve 15, and may extend to a trough or to any other desired point, preferably exterior to the dwelling to be supplied with water. If desired, this pipe may be relatively short and terminate in a faucet 19, such as shown in dotted lines in Fig. 1 of the drawings. In any event, it will be understood that the valve 15, is designed to control the flow of water through the pipe 14, by way of its upper end.

As a means for conducting water from the pipe 14 to the dwelling to be supplied, there is provided a supply main which is indicated by the numeral 20, and is connected by means of a union 21, with the said pipe 14. This supply main is preferably connected with the pipe 14, below the surface level and extends therefore through the

ground to the dwelling or to some point adjacent thereto. In this manner, freezing of the water in the supply main is to a certain extent prevented. This supply main leads through the well tube 2, as indicated at 22, a stuffing box being preferably provided at this point. It will be understood that any number of branches may lead from the supply main, and for this reason but one of the branches has been shown in the drawings and this is indicated by the numeral 23, and is provided at its end with a faucet 24, which may be located at any desired place in the dwelling in connection with which the system is used.

Surrounding the cap pipe 14, is the storage tank 27, at the bottom 3′ of which is a threaded sleeve 8′ into which is secured the lower end of the cap pipe 4. This cap pipe is provided with the ring 25, forming an exterior flange and held between the flange 25 and the bottom 3′ of the tank is the gasket 1′ insuring an air tight connection.

The top 2′ has the opening *a* of a size so that the flange 25 will readily pass into the compressed air tank 27. The top 2′ has suitable bolt openings containing the bolts 5′ working through the flange 9′, connected to the upper end of the pipe 14. The gasket 8′ is held between the top 2′ and the flange 9′ as shown in Fig. 2. As disclosed, the pipe 4 has an opening 25′ so that the compressed air within the tank 27 can escape into the pipe 2. The compressed air storage tank 27 may be located either within the dwelling or exterior thereto, as desired. The capacity of this tank 27, of course depends upon the extent of the system. The tank is supplied with air under pressure through a pipe 28, which leads from an air compressing device of any suitable type, such for example, as a hand or motor operated air compressing pump (not shown). A check valve 29, is located at the point of communication of the pipe 28, with the tank 27, and serves to retain the air under pressure within the tank. A suitable gage 30, is arranged upon the tank and indicates the degree of pressure to which the air within the tank is subjected.

From the foregoing it will be readily understood that the tank 27, being properly filled with air under pressure, it is only necessary to open the faucet 24, to obtain a supply of water. It will be further understood that it will only be necessary to supply compressed air to the tank 27 at intervals of several days if it is of the proper dimensions. It will also be noted that the entire system with the possible exception of the supply main 23, may be readily applied to any ordinary well tube now in use without any considerable expense.

Having thus described our said invention, what we claim as new and desire to secure by United States Letters Patent is:

In combination a tank having a bottom with an interiorly threaded collar, the top of said tank having a suitable opening, of a cap pipe extending through said tank, having its lower end threaded in to said collar, a flange secured to the upper end of said cap pipe, means to bolt said flange to the top of said tank, a cap closing said pipe, a supply pipe passing through said cap pipe, a stuffing box at the upper end of said cap and surrounding said supply pipe, and a flange secured interiorly near the lower end of said cap pipe, said cap pipe being interiorly threaded at its lower end below said flange, as and for the purpose set forth.

In testimony whereof we affix our signatures, in presence of two witnesses.

JOHN O. GRAY.
WILLSON D. GRAY.

Witnesses:
J. C. HAUES,
H. A. HENDRIXSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."