

WATER SYSTEMS FOR FARM HOUSES

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The tendency found nowadays nearly everywhere, among a certain class of people, to build for themselves homes beyond the confines of thickly populated districts, has accentuated the demand, which was already rapidly developing among the better class of farmers and other dwellers in rural locations, for

had to be made for carrying the sometimes enormous weight of water stored in large tanks.

All of these difficulties and disadvantages have been overcome by the use of what is known as the pneumatic water supply system which is coming into general use in some sections of the country, and is

might not hold sand and an ordinary boiler-maker has not the facilities for building tanks of the class required, the price at which they are sold would not warrant them in installing the necessary equipment, and the system would be unsatisfactory.

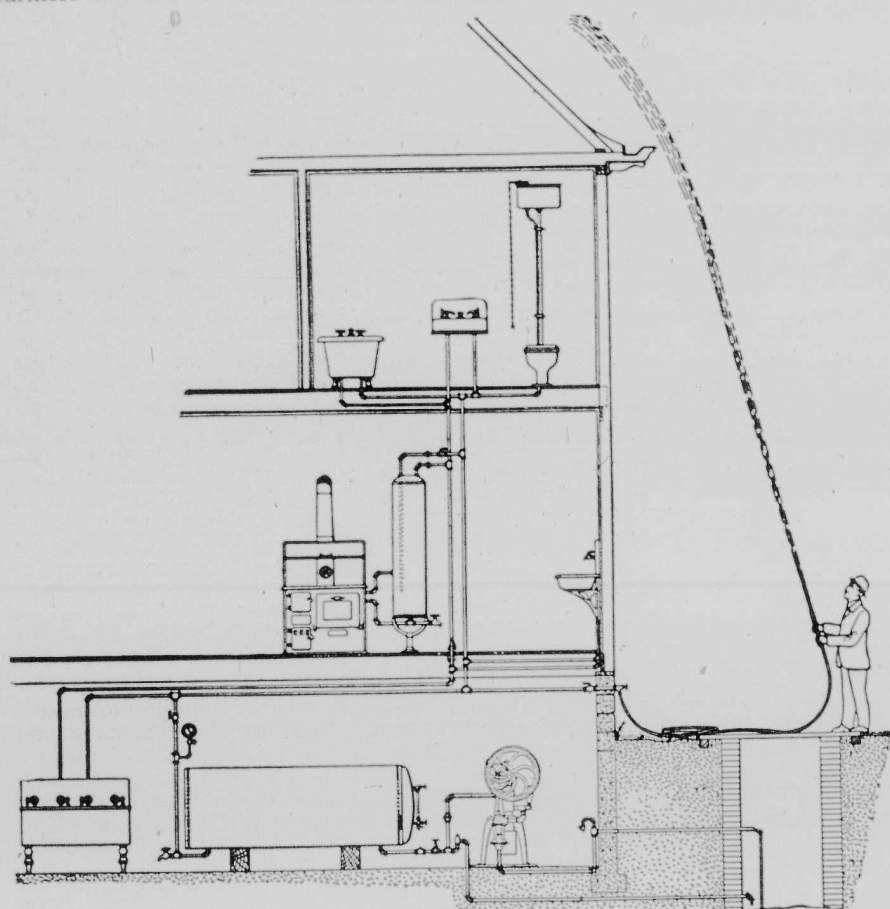


FIG. 1

SHOWING SUPPLY TANK INSTALLED IN THE BASEMENT AND SYSTEM OF PIPES TO THE VARIOUS ROOMS

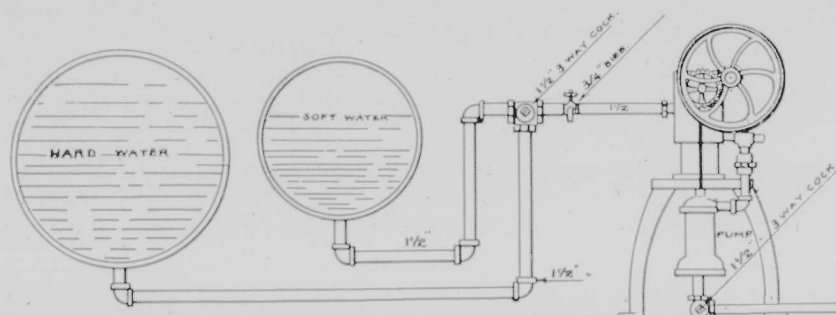


FIG. 2

ILLUSTRATING METHOD OF ARRANGING FOR A SUPPLY OF HARD OR SOFT WATER, SUPPLY TANKS BEING FILLED BY ONE PUMPING APPARATUS

simple and not too expensive means of supplying the ordinary comforts, such as good water supply, sewage disposal, artificial lighting, etc., which, until comparatively recent years, were to be found in large cities only.

To such an extent has success crowned the efforts of those who set about devising a method by which these very reasonable demands might be satisfied that it may be safely stated that, in these respects at least the rural resident may enjoy, at no great cost all of the advantages possessed by his city cousin.

Until very recent years, where any attempt at all was made to introduce waterworks in a building, where a regular water service was not available, it was the practice to erect a reservoir in the top of either the house or barn or else in the tower of a windmill, or a tower built for the purpose.

This method, however, has many inherent disadvantages, among which are the absence of a reasonable pressure, the effect of the atmospheric temperature during both winter and summer, the possibility—particularly where the tank was placed in the house or barn—of birds, bats, vermin, etc., being drowned and contaminating the supply, not to speak of the constant contact with dust bacteria and odors. Another important drawback was the liability to leakage and the consequent damage to plaster and decorations below. Then, again, special provision

capacity made especially for the purpose, are being extensively advertised by Canadian manufacturers.

The necessity for having an absolutely air-tight tank can scarcely be exaggerated because the smallest leak of air will eventually result in destroying the usefulness of the whole system. For example, if a tank loses one hundred or even ten cubic inches of air per day, it will be only a matter of a short time until all of the imprisoned air has escaped, and consequently the water in the tank will not be forced out. It must be borne in mind that a tank that will be found water-tight or steam-tight, may not be air tight, for the same reason that a waste basket that would hold potatoes

meeting with splendid success.

In Fig. 1 is shown one of these systems installed in the basement of a house and connected to the water piping of the same. It will be noted that in this case the water is drawn from a well and is delivered into the bottom of the tank, and the delivery pipe from the tank to the house is also taken from the underside of the former.

The first essential of this system is that the tank shall be absolutely airtight, and to that end tanks of all capacities ranging from 140 gallons to 18,000 gallons

The operation of the system is as follows: After the various connections are made, which include the connection of the suction pipe to the well, the delivery pipe from the pump to the tank and the connection between the tank and the house plumbing, the pump should be started and kept in operation until the required pressure, be it 30, 50, or 75 pounds, is obtained.

After obtaining the desired pressure on the gauge, it will be apparent that all of the air originally contained in the tank will be at the top and all of the water pumped into it will be at the bottom, and that the former will occupy a space decreasing in volume as the pressure increases, that is to say, the more water that is pumped into the tank the smaller will be the space into which the air will be crowded.

It will also be evident that when a faucet is opened at any of the plumbing fixtures, or to supply the hose outside, as illustrated, the compressed air will cause the expulsion of the water at a velocity depending upon the pressure registered on the gauge.

Among the advantages of the pneumatic system, are the facts that its capacity may at any time be increased by adding one or more tanks, while using the same pumping apparatus and connections; it provides any desired pressure especially useful in case of fire; it may be located in a cool place, insuring low temperature in the water supply, the water cannot be contaminated after it enters the tank, and the danger due to leakage is reduced to a minimum.

In Fig. 2 is shown an arrangement by means of which a soft water and hard water tank may be filled

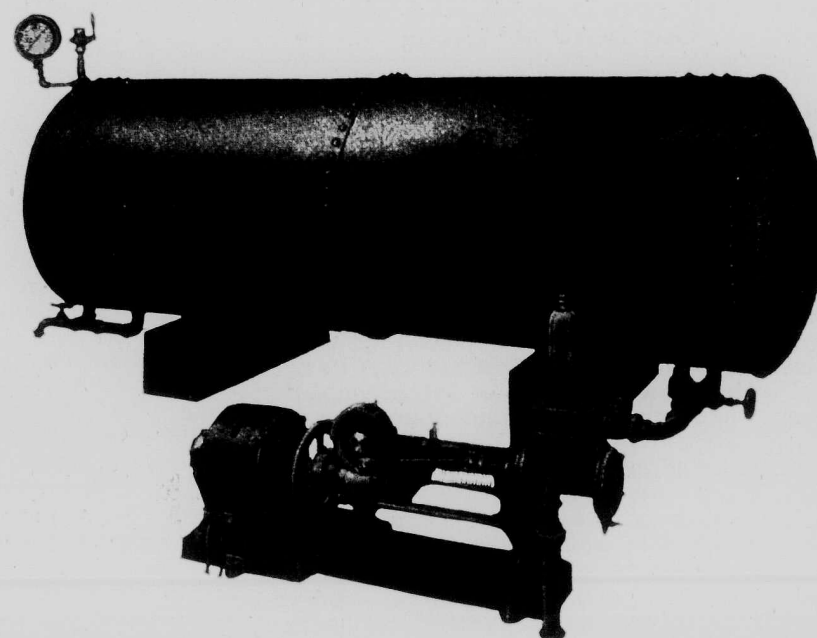


FIG. 4

AN ELECTRICALLY OPERATED PLANT

(OPERATION OF THE SYSTEM.)

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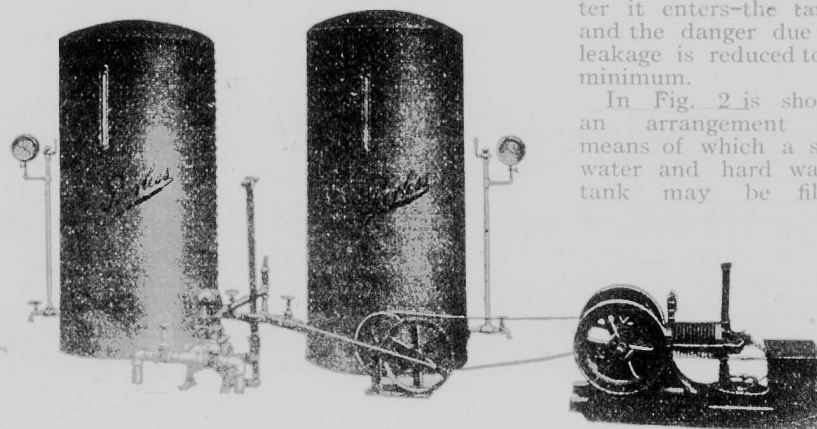


FIG. 3

DUPLICATE SYSTEM OPERATED BY A GASOLINE ENGINE

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alternately with the of this arrangement of pipe turn in the proper direction indicated in the diagram.

In Fig. 3 is shown a duplicate system operated by a pump, which may be necessary at any time.

This outfit, together with which is an electrically very popular because of and their high efficiency motor may be connected as the pressure in the constant pressure is maintained on the part of the oil the apparatus.

Aside from the economic benefit briefly described in such a system and the including that vitally important, viz., fire protection every comfort-loving architect.

Topics for

To afford an opportunity for ideas, and to provide a week at the head of the topics, which our readers are invited to contribute on it an articles contributed must be in our hands than the subject is selected columns.

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For the best article we will award a first and for the second the latter sum for subject received and Article should not

June 9.—What is a poultry house to rid surroundings healthy apply the wash.

June 16.—Should either local or distant made into butter to be is best? Tell of a poultry.

June 23. Would circumstances to ins hail? If not, what would

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Employing

Whether or not fact is forced upon each letter upon the

Probably there is success or failure of the manner in which employed. Many a to his neighbors on has made despite his handicaps, simply instinct for handling possible out of the been as great surprise though they have other advantages, getting work done at

The study of the of different systems such a nature are in thing more than an should cogitate upon the time of his men