

that the well should be regularly cleaned out (how many are?). This is always more or less costly and is a job that is difficult of accomplishment if the well be deep.

7. Danger—The press informs us of various well accidents of varied kinds from various causes. We need not dilate on them.

8. Cost of Construction—Those who have not had the experience will fail to appreciate the outlay needed to secure (as the phrase goes) a good well. If a deep shaft be required that has to pass through unstable strata it soon reaches into the hundreds.

9. And when all is done it may be a dry well or the water unfit for potable purposes.

10. Frost in winter is a frequent source of annoyance.

11. Location — To avoid contamination it would require to be at a distance from residence and outbuildings, which means inconvenience at all times and especially in winter, unless where pipe connection is practicable, which is the exception.

12. Cellar Wells dispose of the latter two difficulties, but they are not to be thought of unless as will appear *infra*.

The Remedy.

In considering these conditions I trust the reader will excuse some details of a personal experience, as it may assist the solution of a difficult subject.

When assuming possession of my present residence, I found two wells—one for the house and one for the stable—and a third was put down for a cottage. I may say that they had an unexceptional and never-failing supply of good spring water from an underground source.

Experiencing the difficulties detailed *supra*, the question to solve was: Plenty of water a few feet deep; how may it be obtained? The well is one plant, can there not be a better one?

If we go back a few decades of the last century, engineering was largely devoted to the subject of wells of all kinds. Iron pipe costs but a few cents a foot, where well sinking costs dollars, so that it is preferable to put down a pipe from the surface to the water supply, and the drive well came into its own.

The history of the driven well is most

interesting, but here and now we may accept it as a fact, as it is an ordinary business proposition and that it can be used in every locality with every probability of success.

It eliminates *in toto* the twelve objections detailed, and we need only dwell on three. Cost nominal, as there is less labor and iron piping costs from 6 cents a foot up. A properly prepared pipe is easily and quickly driven into the ground. When deep enough, attach the pump and *factum est*.

If it be a dry well or water undesirable hoist the pipe and try it in another place; the only expense the small amount of labor needed in sinking the pipe and hoisting it up again.

It would be, of course, needful to do some experimenting as to location before going into much expense, but this question is generally solved by the well digger.

A Pure Supply.

Since air and water-tight pipe reaches from the pump to the water, there can be no seepage, and though it went through a bed of bacteria they could not enter. As they cannot live deep below the surface, and even did they gain admission accidentally, they could not live in the sterile waters in underground water basins.

In some limestone districts there is the possibility of tainted water sinking deeply, but it is exceptional and can be provided for.

The Cellar Well.

Hence the well can be driven in the cellar or inside the house walls with no fear of frost or contamination, and the kitchen pump and water supply placed where desired at comparatively little expense and in need of no supervision.

In my own case, after experience in the use of a pipe leading from the outside well to a pump in the kitchen, I decided on trying the driven well. The first one I put down in the conservatory over 25 years ago, and it has never received attention nor care except new leather valves and suction lining for the pump, and it is just as good in every way as when put down. Putting it down was but a forenoon's work for a couple of men, as we had not to go down more than 14 to 16 feet.

About 12 years ago I put down one in