

and they were the only cases in the neighborhood, which led us to suspect something was wrong.

"I had myself been subject to a chronic irritation in my throat, often amounting to soreness and serious trouble, and also to frequent attacks of diarrhoea, especially through the warm weather; but, for a year past, or since we ceased to use that water, I have had no trouble worth speaking of in either of these ways.

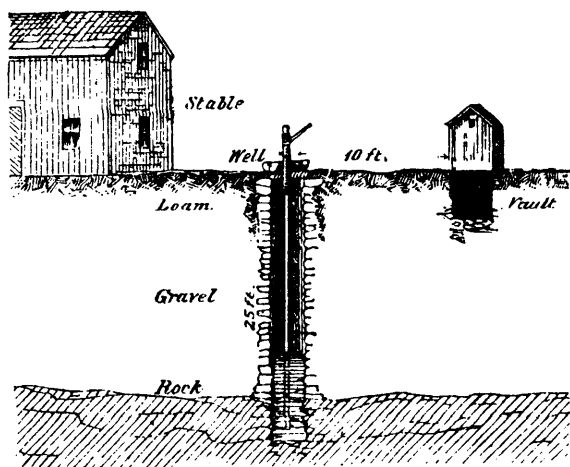
"The well is in the cellar, almost directly under the sink, 3 feet only to the right of it. The top of the well is 2½ feet from the cellar wall. The drain, originally of plank, was 16 feet long, so that the cesspool was within 17 or 18 feet of the well. But this was not the worst feature of the case. This plank drain, after a time, rotted away, so that the filthy water began to soak into the ground just outside the cellar wall, and within 6 or 8 feet of the well, and almost directly over it. The earth, when we removed it to lay a new tile drain, was good manure as deep down as we dug, and I know not how much deeper.

"The water looked clear, except just after heavy rains, and had no ill smell or ill taste about it. We now use cistern water and leave the well untouched."

This case shows what great danger to health may exist unsuspected, when the rules suggested above are not followed out. It is impossible to say that a well is safe at any ordinary distance from a source of constant pollution of the neighboring soil, like a privy, cesspool, barnyard, etc. Often the filth goes a long distance, sometimes not very far. There is always a risk; and, even if well marked sickness does not occur as narrated above, more obscure affections are probably not uncommon.

Dr. J. G. Pinkham, in his "Report on the Sanitary Condition of Lynn," published in the "Eighth Annual Report of the State Board of Health," reports the following two cases, the illustrations in which are most clear and convincing:

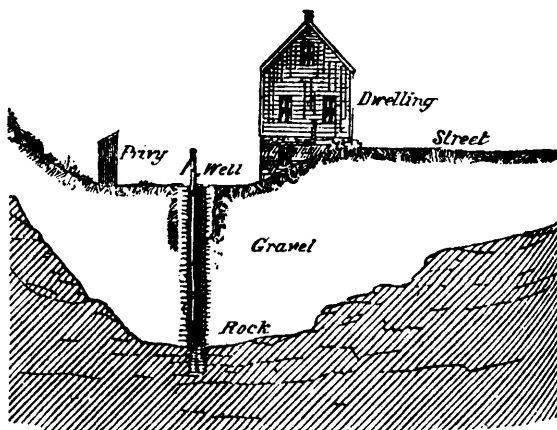
CASE NO. 1.—The diagram explains the position of the well, and shows the certainty of its pollution. The soil and subsoil are loose; contamination occurs both by surface drainage and from soakage. Five cases of typhoid fever occurred in 1875, in



the family living in the house, and seven more, with one death, among other persons using the well water. This house became the centre of infection for a whole neighborhood.

CASE NO. 2.—The well is 25 feet in depth, a portion of it being dug into the rock. The vault is 10 feet distant on the same level. There is a cesspool in the garden below, and a stable on the left. The buildings and well are on a side hill. The premises are kept clean, and the water, which is clear and of good taste, has been used for many years. The occurrence of typhoid fever in the family led the physician in attendance to suspect the water, which, upon chemical examination, proved to be very much contaminated. There were five cases of typhoid fever in the family, and several others, with one death, among neighboring persons using the water.

Where wells are not in use the corruption of the air from foul privies, and by the emanation from the soil of the products of decomposition of filth, becomes a prominent factor in the spread of such diseases as typhoid fever, dysentery, diarrhoea, diphtheria, etc. In towns, sources of filth on some premises may be more injurious to the health or more offensive to neighbors than to the occupants of the place itself. Different people are differently



susceptible to disease, too, so that the filthiest places are not always necessarily those where there is most sickness.

A marked illustration of disease due to polluted air, when the drinking water was pure, occurred in a school in this State, in 1864, where 51 out of 77 young ladies in the institution were attacked with typhoid fever, of whom 13 died; 3 servants also died of the fever. The vaults of the privies were shallow, filled to overflowing, and emitted a very offensive odor, which at times pervaded the whole building. The kitchen drain discharged its contents on the surface of the ground, and a few rods from the school there was a foul barnyard.

Where filth has accumulated, and it is necessary to use a disinfectant, or if for other reasons it is desirable to do so, earth, lime, or chloride of lime will serve a good purpose. If it is wanted in liquid form, it may be made by adding to a pailful of water three pounds of copperas (sulphate of iron), with a pint of Calvert's carbolic acid, one pound of chloride of lime, or one half pound of lime.

For use inside of houses, a solution of nitrate* of lead or chloride of zinc† (Burnett's disinfecting fluid) is recommended. Whitewashing in cellars, sheds, etc., is a most excellent means of purifying the air. Prevention of the accumulation of filth, however, is better than the use of disinfectants. "To chemically disinfect (in the true sense of that word) the filth of any neglected district, to follow the body and branchings of the filth with really effective chemical treatment, to thoroughly destroy or counteract it in muck-heaps and cesspools, and ash-pits and sewers and drains, and where soaking into wells, and where exhaling into houses, cannot be proposed as physically possible; and the utmost which disinfection can do in this sense is apparently not likely to be more than in a certain class of cases to contribute something collateral and supplementary to efforts which mainly must be of the other sort" (prevention of filth).

Directions for soil pipes, drains, etc., will be issued in a succeeding circular.

It is in the highest degree important that each town should have an independent board of health to devote their attention to these matters. It is desirable that at least two-thirds of such a board should be composed of persons not otherwise connected with the town government, and that there should be at least one physician on the board.—*Scientific American*.

* One part in one hundred of water. Cloth soaked in such a solution, and hung up in a foul air, quickly destroys bad odors.

† One part in two hundred of water for foul liquids, etc. This is used by order in the German navy for bilge water. Labarraque's disinfecting fluid (chlorinated soda), one part to four of water, may be used with soap.

A LOST PLANET.—Among the discovered asteroids, now numbering nearly two hundred, a few have already been lost, and not a few might well be spared. There is one, however, remarks Mr. R. A. Proctor in the *Newcastle Daily Chronicle*, which astronomers would regret to lose, viz., Hilda, which travels in a much wider orbit than any of the others. This planet could give more exact information respecting the mass of Jupiter than any other member of the solar system, coming much more fully at certain times under his influence. Unfortunately, Hilda has been searched for in vain at its first return to opposition, and astronomers begin to fear that the planet, is for the time being, lost.