

to carry specific poison, as that of typhoid, and no filtration can be at all trusted to make it safe.

4. In case of any potable water of doubtful quality, as regards organic matter, the danger from its use is greatly lessened by its filtration through a good filter in good order.

5. A good charcoal filter, used for clean rain water, and not kept submerged over half or two-thirds of the time, but left with the filter-bed drained off a part of every day, will remain in good order for considerable time, and may be relied on for at least a year. Air is far better than the purest water to cleanse a good charcoal filter. The better the filter the more readily it is cleansed of organic matter by atmospheric oxidation. Due care of a filter requires that all suspended matters should be removed before the water reaches the filter-bed. This is well accomplished by the sponge, interposed between the reservoir of unfiltered water and the bed. Of course, water that is loaded with impurities (especially with dissolved impurities) will far sooner clog a filter-bed and make it worthless. It is only when supplied with approximately pure water that the slight organic residues can be removed by atmospheric oxidation, and the filter be considered an almost permanent means of purification.

6. Water should not be stored after it is filtered. Filtered water is like the manna of the Hebrews; it must be obtained fresh every day. Organic growths multiply in even pure water. These bodies are highly nitrogenous, perhaps taking nitrogen from the air, and they should be removed. Filtration does it.

The best filter-bed is bone charcoal. But, whatever the material, it should be so disposed that the water must all be subjected to capillary attraction as long as pos-

sible, in going through the bed. A good filter-bed must be fine and close enough, so that, at any given point, the liquid does not pass through faster than by drops.

#### WOMEN AS SANITARIANS.

President Gilman, in his address at the Smith College Commencement, remarked (*Plumber and Sanitary Engineer*): "That education must be secured through good living, obedience to the laws of health and recreation. The housewife should be educated so as to be able to prevent the ailments of those who dwell under the same roof with her. As every young man must expect to qualify himself to support a household, so must every young woman strive to render herself fit to manage the affairs of the house. The relations to each other of all the things which effect good living must be understood, food, air, water, exercise, etc., in order that all emergencies may be provided for. *All those things which we call modern improvements, gas, water service, furnaces, books, newspapers, magazines and other manifold accessories of the household must result in bad odors, noxious gases, headaches and a host of other ills unless their right use is understood and insisted on by the ever watchful housewife. All sanitary reforms must rest on the shoulders of the women of the country.*"

#### MORE BOARDS OF HEALTH.

Within the last few months the following States have each had a State Board of Health organized by the various State Governments, with a money appropriation for the use of each varying from \$5,000 to \$15,000: viz., New York, Iowa, Indiana, and, we believe, Ohio. Twenty-one or more other States had each established a Board pre-