

possessed by the first named class. This must guide us in the selection of disinfectants. Sulphurous Acid and Carbolic Acid extensively used as disinfectants are quite impotent for the destruction of spores. This being the case, it is advisable, in practical disinfection, always to use an agent that has the power of destroying spores, in those cases in which the exact nature of the disease germ has not been demonstrated.

Disinfection, then, consists in killing the germ, extinguishing the spark which may light up an epidemic in the presence of a supply of combustible material, filth. How is this to be accomplished?

The Committee on Disinfectants of the American Health Association recommend two lists, viz :

1st. Disinfectants which have the power of destroying spores, viz.:—Fire; steam under pressure, (25 lbs.); boiling water; chloride of lime, (in solution); liquor. sodæ chlorinatæ; mercuric chloride, (in sol.)

2nd. Disinfectants which are effective in the absence of spores, viz.:—Dry heat, 230°, for two hours; sulphur dioxide; carbolic acid; sulphate of copper, (in solution); chloride of lime, (in solution.)

We will go back now and take up our case of Diphtheria, which we left convalescing, and prepare to disinfect the rooms, bedding, clothing, carpets, mats, &c., and we find that fire, liquor. sodæ chlorinatæ, and sulphur dioxide are our most convenient disinfectants. As a rule, articles of little value which have been soiled with infectious material had better be burned, and this is especially true of all material which may have become stained with blood, old clothing and bedding, pillows and articles of that class. All cottons, linens, sheets, towels, blankets, spreads, and every article of that description, should be soaked in liquor. sodæ chlorinatæ, (Labanaque's solution.) This is a solution of the hypo-chlorite of soda, and for purposes of this kind can be made in the following manner. Take two casks that will hold 40 gallons each, half fill them with water, put 5 lbs. chloride of lime in one, and 10 lbs. Bicarb. of soda in the other. Stir until they dissolve, then pour the solution of chloride of lime into the solution of the Bicarb. of soda, allow it to settle and it is ready for use.

The walls, ceilings, floors, and windows should be washed with this solution, and finally after everything else is put through the solution the mats should get a dip, after which the remainder may be emptied where the slops are deposited. All remaining articles, such as wearing apparel, hats, bonnets, &c., must be treated with the sulphur dioxide. Fumigation with burning sulphur has long been a favorite method of disinfection. The experience of Sanitarians is in favor of its use in Small-Pox, Scarlet Fever, Diphtheria, and other diseases in which there is reason to believe that the infectious material does not contain spores. To carry this process out satisfactorily you must select a good, tight room, place lines or poles across upon which to suspend the articles to be fumigated. Carpets, curtains, &c., can in this way be

thoroughly fumigated. After everything is suspended, place a tub containing about two inches of water, a couple of bricks, and an old coal scuttle or tin pan, with 3 lbs. Sulphur and  $\frac{1}{2}$  oz. Nitrate of Potash for every 1000 cubic feet of air space. I find it better to have the tub near a window so as to be able to see that combustion is going on, and also that there is no danger of fire. Every hole and crack should be sealed tight and allowed to remain so for 12 hours, after which the windows and doors may be opened and the room ventilated. Sometimes it may be necessary to do this over and over again. The process is inexpensive and the old saying that "what is worth doing at all is worth doing well," applies with especial force to the use of disinfectants. Excessive precautions can do no harm, but the inefficient use of disinfecting agents, which results from indifference, or from ignorance of the precise value of the agents relied upon, may be disastrous.

The home and persons of the inmates having been disinfected, they may now be relieved from quarantine, but if there are any children attending school or other public meetings, they should be excluded therefrom for a period of 40 days.

The methods described have been employed by me in dealing with this disease, for ten years, and not in one single instance have I known them to fail. Houses infected with Small-Pox or Scarlet Fever can be disinfected in the same way; the same principles will apply.

Steam under pressure is the tidiest, cheapest and best method known for disinfecting clothing, but unfortunately it is seldom we can avail ourselves of its use. At 20 lbs. pressure the most resistant spores are destroyed in twenty minutes, and at 25 lbs. steam is effective almost immediately. In the absence of spores, Bacteria are quickly killed at a temperature considerably below the boiling point of water. And according to the report of the Committee on Disinfectants of the American Health Association, boiling for half an hour will destroy all known disease germs, including the spores of Anthrax.

It must be remembered that the destruction of spores is the most difficult test of disinfecting power known, and one which excludes the use of carbolic acid, sulphur dioxide, and other agents which enjoy the confidence of Sanitarians. But according to Sterneburg of U. S. A., one of the greatest living authorities on disinfectants, there is good reason for believing that dry heat and sulphurous acid gas may be safely substituted for steam for the disinfection of the clothing of patients with Cholera, Yellow Fever and Small-Pox, and probably in several other infectious diseases, Puerperal Fever, Erysipelas, Diphtheria and Scarlet Fever. So much for this kind of work.

I will now call your attention to Sec. 35 of the Public Health Act, which says: "It shall be the duty of the owner of every house within any Municipality to provide for the occupants of the same, a sufficient supply of wholesome drinking water, &c." See — Act.

This will, no doubt, lead to appeals being made to