

excuse for "side-stepping" it. In the largest and most modern establishments one finds an elaborate ventilation system in connection with the heating apparatus—proving that such stores are sparing no effort to find a satisfactory solution of this problem.

Open windows and draughts, as a rule, are inseparable. Yet open windows there must be, unless some better form of ventilation can be devised. One great aid to ventilation is the installation of exhaust fans at one or two points in the store for the purpose of sucking out the vitiated air. There ought, however, in addition, to be some provision for the admission of outside air in some part of the floor, where a draught will not cause inconvenience. Preferably, the air should be admitted through ducts connected with a large upright shaft which will permit of the taking in of the upper air, rather than of air which is impregnated with the dust and odors of the street.

Especially is some device of this character essential at the present time, when revolving doors or double sets of swinging doors are the rule. For such portals carefully guard against the admission of fresh outside air to the interior of the store.

The problem of ventilation on upper floors, of course, is much simpler than that affecting the main floor. On the other hand, the matter of ventilating basements is even more complicated than that of the street floor. Even in the basement, however, ducts and exhaust fans can be installed at a moderate cost, and the result will certainly be of material benefit.

Frequently the effect of the impure atmosphere is intensified by the high temperature which is allowed to prevail in the store. Most American stores are too warm during the winter. The management seem to forget that visitors or customers are clad in heavy wraps and have their heads covered. There is little excuse for having the temperature either so high as to be uncomfortable to customers or so low as to cause suffering to the clerks. A uniform temperature of about 68 degrees, with a due amount of ventilation, would make the place comfortable to all.

New Jersey Sewage Treatment.

The disposal of sewage is one of the most

interesting sanitary problems with which the average municipality has to contend.

In the prevention of stream pollution New Jersey is in the forefront. An account of what has been accomplished in this line in that State is interesting. The twenty-third annual report of the Board of Health of New Jersey, which has recently been issued, contains among other very interesting matter brief descriptions of all the sewage plants of any importance which were in operation or under construction in the State at the time the report was prepared. It shows that there were 63 public and semi-public purification plants in the State, with 14 additional plants then under construction, and nearing completion. The report states: "Purification works are being installed on various sewerage systems which are already in operation, and the Board has wisely refused to approve plans for new sewerage systems unless disposal plants are provided for therein. It is no vain boast that this State is far in advance of all others in this work of cleaning up its streams, the Passaic River, for which this Board is not responsible, being the exception."

The report contains a list of these plans. All but 12 of these employ septic tanks, and one of these 12 has what is called a "settling tank." Two plants, one at a factory in Burlington (The Thomas Devlin Manufacturing Company) and one at a sanatorium in Glen Gardner, have sprinkling filter installations. In the former Taylor's sprinkling nozzles are used, and in the latter splashing disks. Quite a percentage of the plants rely upon septic tanks alone for purifying the sewage sufficiently to permit its discharge into streams. Eighteen plants give the effluent a second treatment in contact beds, double contact being applied in several cases. Most of the others employ intermittent sand filtration or broad irrigation. Ten plants subject the sewage to a third treatment of sand filtration or to disinfection, in addition to septic tank treatment.

A most satisfactory decrease in typhoid death rates is shown by the records for the past thirty years, a part of the credit for which is probably due to the decreased pollution of the streams, part to increasing attention to purity of water supplies and part to general sanitation.