

In many country towns and villages there is sufficient garden space to enable the excretal manure to be utilized ; wherever this is not the case the removal and disposal of the excreta should be undertaken by the municipal authorities, and in all cases they should have an efficient system of inspection carried out.

LIQUID REFUSE.

In any of the proposed methods of dealing with solid excreta, the kitchen and chamber slops must on no account be mixed therewith.

Wherever practicable a system of pipe sewers should be devised for the purpose of disposing of these and should be connected with the house yards by properly arranged traps. The entrance to these pipes should be under cover, but should not be within the walls of the house. Since the volume of this concentrated sewage will in general be small, the pipes should be smaller and laid with steeper gradients than those used in connection with the water-carriage system. They should also be provided with flushing pipes at intervals, rising to the street surface so as to admit of periodical flushing by means of a hose to be connected with the street watering-cart. It may be advisable also, for the same purpose, to connect the sewer, at a few points, with the drains and gutters, which carry off the rainfall during storms, but great care must be taken to make the connection in such a manner as to prevent the entrance of mud and other street debris. The sewage should not, on any account, be allowed to flow into any open-jointed water-drains, since at particular points in these, and during some seasons of the year, the level of the sub-soil water may sink below the drain, in which case the sewage would soak out into the surrounding soil. Lamp-holes and man-holes, for the proper examination and removal of accidental obstructions, and ventilating-shafts should also be constructed at proper points. Any urinals on the premises should be connected with the sewer and not with the closet. It is almost unnecessary to remark that no sewerage system should be constructed without the superintendence of a competent engineer.

It may be incidentally pointed out here that the trenches in which the tight pipe sewers are laid act as blind drains to a great extent in carrying off the sub-soil water.

The disposal of the liquid sewage when it has reached the outlet of the sewer system presents many difficulties. It may be allowed to flow into large bodies of water, such as our inland lakes, or into large streams, the water of which is not used for drinking purposes, and in which it is so diluted as to be comparatively harmless. There are, however, many objections to the latter method of disposal. If, from the situation of the town or village, neither of these methods is practicable, it may be collected in a large tank, from which it is periodically removed, and used as liquid manure, for which, on account of its concentration, it is peculiarly adapted. This removal may be automatic or otherwise.

Intermittent Downward Filtration.

In some places where it has been found impracticable to use it as manure, the following method has been adopted: A small quantity of waste land is under-drained at a depth of from four to six feet ; the surface is then intersected with open ditches, which are so arranged that when the sewage is poured into them it flows only over a portion of the land at a time. By the action of the air contained in the soil and of the roots of