

BUILDING PLANS FOR FARMS

New Series Prepared by College of Agriculture Staff, Co-operating With the British Columbia Government.

SEPTIC TANKS

THE septic tank is regarded in general as the most satisfactory of the various means employed for disposing of farm-house sewage. The principle of the system is, briefly, to discharge the sewage into a water-tight tank—the septic tank—buried below frost-level, where it is acted on and purified by bacteria, and out of which it flows through a drain which allows it to soak away into the earth. The details of the system will be described more fully in describing the tank shown herein.

A septic tank is intended primarily for use where water is piped in the house to all the sanitary fixtures, such as the bath, toilets, basins, and sinks; although it can be used to take the drainage from only a sink. In any case, whenever one is built, it should be made large enough for future as well as present needs. As far as a water-supply is concerned, it is nearly always practicable to pump it by engine or windmill to an elevated tank, from which it can be delivered to the house and to the barns. The expense is repaid many times over in the greater convenience, saving of labor, and increased protection against fire.

Tanks like the one shown in Fig. 28 are in actual use in the Prairie Provinces to-day, and have been found to give excellent satisfaction. There are two water-tight chambers, separated by a wall. (Sometimes single-chamber tanks are used, but two are much better.) If the tank is to receive, as it should, all the house sewage—baths, toilets, and sinks—each chamber should have a capacity of about 60 gallons, or 10 cubic feet (1 cubic foot equals 6.23 imperial gallons), per person in the family. Thus for a family of six persons each chamber should

beds, and the outlet is equipped with automatic valve siphons, which operate only when the chamber fills to a certain height. The advantages of this are that the liquid discharges intermittently, which gives the earth a rest; and it has a volume sufficient to fill the tile drain, so that it is distributed evenly the whole length. The disadvantages are that the valves add to the cost, and when they get out of order, as they sometimes do, it is not easy or pleasant to fix them.

The outlet tile drain should be laid in a trench, with a very slight fall, about 1 inch in 50 feet, and the pipes surrounded by 8 to 12 inches of broken stone or gravel. The distance should run from the tank will vary with the nature of the soil and the lay of the land. If plenty of fall in the shape of a side-hill or slope near by is available, the tank need be only a few feet in from the slope, where the drain will emerge and the effluent will seep away. In level land the drain will have to be a blind one, and should then be from 50 feet on a porous soil to 150 feet in a compact soil. It is a good plan in either case to lay several smaller branch or lateral drains from each side of the main drain to thoroughly distribute the sewage.

The construction of the tank is explained by the drawings and by the bill of material which follows. It is advisable to use a naturally durable wood, such as Western Red Cedar, or else creosoted wood though it is a well-known fact that sound wood of any kind, when buried in the ground or immersed in water, so that air is entirely excluded, will last indefinitely.

Note—When Answering Ads Mention The Saturday Press & Prairie Farm

BILL OF MATERIAL FOR SEPTIC TANK

- 32 pieces 2" x 4" x 4' for ledges.
 - 8 pieces 1" x 2" x 4" for bearers under iron trays.
 - 900 feet, board measure, 2" T. and G. plank for sides to both chambers and bottom to first chamber.
 - 50 feet, board measure, 1" matched boarding for 2 covers to first chamber.
 - 1 glazed cover to second chamber; outside size 4' 6" x 5'.
 - 2 galvanized-iron trays crimped or corrugated as shown on plans; outside size 3' 11 1/2" x 3' 11 1/2".
 - 25 lb. 4" common nails.
 - 5 lb. 2 1/2" common nails.
 - 1 cubic yard broken brick, stone, or gravel for filter-bed.
- NOTE.—The quantity of pipes necessary will vary in each case, and must therefore be estimated individually. The drain from the house may be iron, or glazed stoneware, with cemented joints, or machine-banded wood-stave pipe. The pipes in the tank itself, including the inlet, ventilator, overflow, and outlet, should be of iron. The drain leading from the tank should be of agricultural tile. A diameter of 4 inches is suitable for all the pipes in a tank of this size.

measure, below its inlet, about 4 feet each way, or 64 cubic feet.

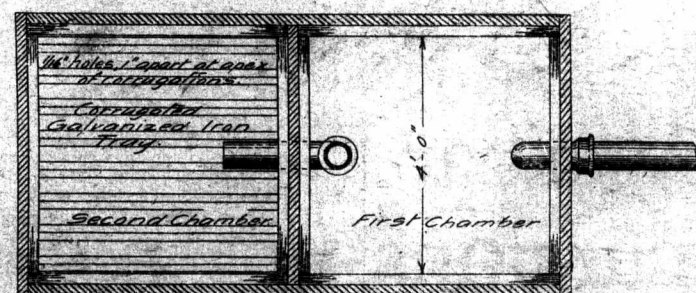
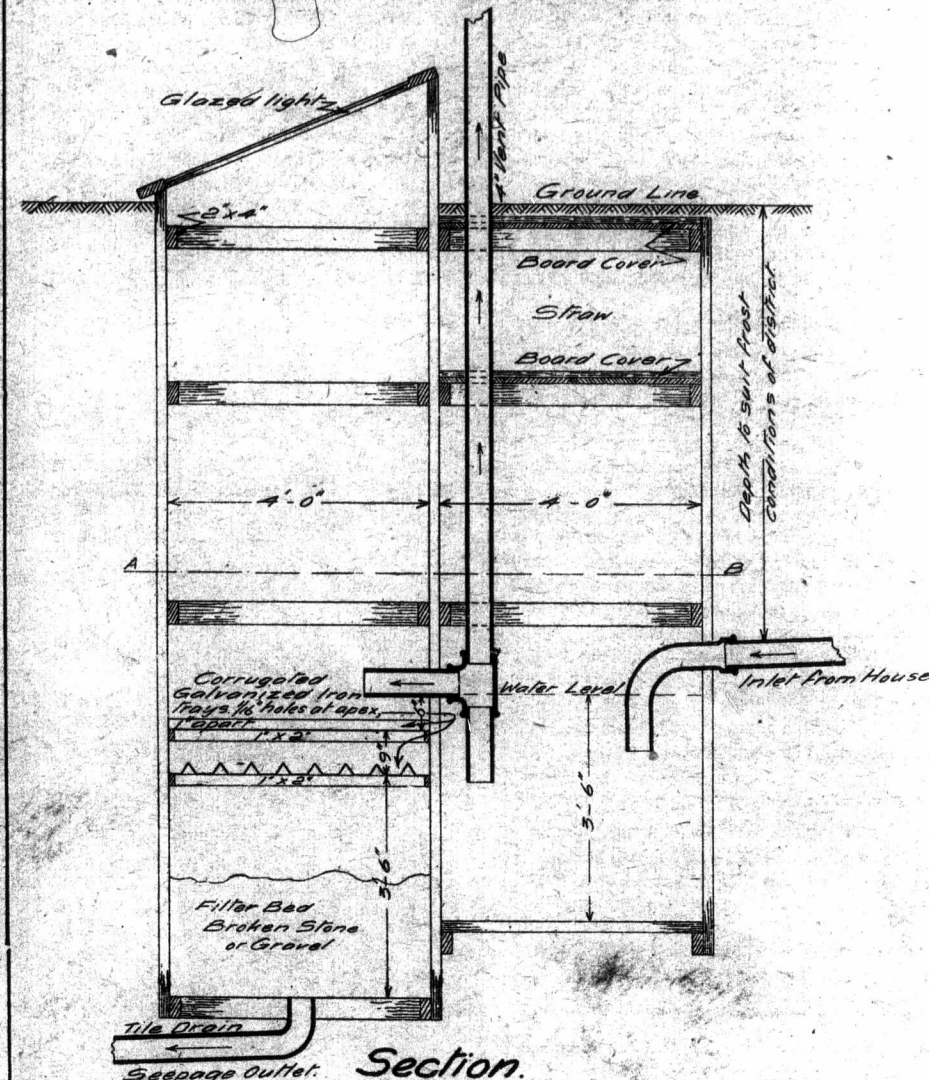
The sewage is carried from the house through a water-tight drain into the first chamber. The solid matter settles to the bottom, where it is gradually broken down and liquefied by bacterial action. The liquids pass through the overflow-pipe—which has a ventilator attached—into the second chamber. Both the inlet and the overflow pipes of the first chamber are provided with elbows, so that they are under the surface of the liquid. This is to prevent breaking or disturbance of the thick scum which forms on the surface, and which protects the bacteria from the air.

In the second chamber are two trays made of corrugated iron with a rim or frame of wood, and placed one above the other, with the corrugations of one running at right angles to the other. At the top of the corrugations small holes are punched at intervals of an inch; each tray will thus hold liquid up to the level of the holes, giving an opportunity for bacteria and the air to further purify it. The bottom part of the second chamber is filled with a filter-bed of broken brick, stone, clinker or gravel, and under this is the outlet leading into a drain of agricultural tile pipe.

The liquid coming through the overflow pipe from the first chamber falls on to the upper tray, drips through to the lower one, thence to the filter-bed, and through it into the tile drain, from which it soaks away into the earth.

In some forms of septic tanks the second chamber has no trays and filter-

Septic Tank. Wood Construction.



Plan on A.B.



PRINCIPAL STREETS IN BUCHAREST.—This Place du Theater, one of the principal streets of Bucharest, the capital of Roumania, is now in the hands of the invading German Army.

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