

the furnace, that is to say, from the area of the hot air ducts, than is represented by the hot air flues within the furnace, notwithstanding that the combined area of the hot air ducts should never equal more than 60 per cent. of the area of the hot air flues in the furnace. This latter practice reserves a certain percentage of hot air in the top casing of the furnace. It is a point which the majority of furnace men overlook or of which they are densely ignorant. When this percentage of heated air is retained in the furnace, the fresh air supply may be increased and a greater velocity of the heated air obtained in the ducts, with the result that it is possible to heat rooms at a considerable distance from the furnace, which otherwise it would be impossible to keep warm.

CESSPOOLS AND THEIR CONSTRUCTION.

The use of cesspools should cease when the country place becomes the town and the houses are built within 100 feet of each other.

When the locality has reached this position a sewerage system should be installed, not only for convenience but for the health of everybody concerned. No greater risk can be taken with regard to one's health than the placing of the cesspool in the wrong location, and if a cistern or well furnishes the water supply, so much more is the risk increased.

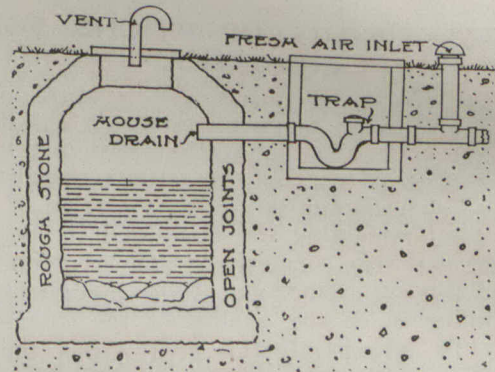
Where there is not a regular sewerage system, the cesspool, of course, must be used, as there is no other known low cost method of sewerage disposal. If a well furnishes the water supply, the cesspool should be located at a lower grade than the well, and there should be at least 75 feet distance between them. But however the water supply may be secured, the cesspool should always be located at the lowest possible grade of the property convenient to the house, and kept as near the surface as possible.

Our illustration, type "A," shows the leeching cesspool, so-called because of its being built of dry stone or brick, without cement jointings. By omitting the cement and placing the stone or brick dry, face to face, sufficient space is given between each stone or brick to allow for the leeching of the liquids and the retaining of solid matter inside the cesspool.

The leeching cesspool should never be used unless it is to be located where the soil is of a sandy nature, because if the seams, which are intended to carry off

No. 1) and have a pipe overflow (type "B" shows this arrangement) which connects with a leeching cesspool marked No. 2. The leeching cesspool under this arrangement receives practically only the liquids and the sediment or solid matter is retained in the first or solid masonry cesspool. The piping from one cesspool to the other should be of cast iron pipe and the house drain be trapped before entering the first cesspool. This house drain should also be provided at the second or leeching cesspool, as indicated.

The inside of the first cesspool should be lined with

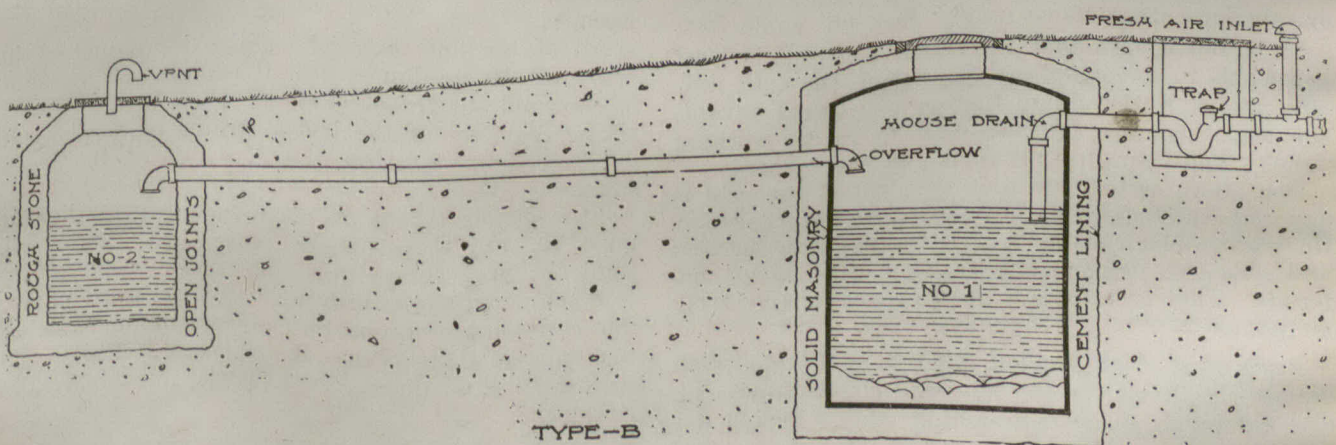


TYPE-A

cement at least an inch and a half in thickness, and an air-tight cap or cover be placed at its dome at the grade level. This also holds good for the cover of the leeching cesspool.

The size of the cesspool, of course, will vary according to the number of fixtures it will have to take care of, but the tight cesspool for the use of the usual number of fixtures in the ordinary house (several sinks, a set of wash trays, wash basin, bathtub and several toilets) should not be less than 70 inches in diameter and 100 inches in depth. This is the inside measurement. The leeching cesspool should be about one-half the size of the tight cesspool, and the nearer the surface the leeching cesspool is kept the better chance it will have to do its complete duty.

The nature of sandy soil makes it a natural filtering medium. Proper filtration depends upon certain bacteria, which cannot exist without air, and in the lighter soil, such as sand, they exist in great numbers, consequently the nearer the surface the leeching



TYPE-B

the liquids, should become filled from the exterior and solid matter should fill the joints from the interior, it will be seen that in a very short while the leeching cesspool will be anything but effective. Another argument against the use of the leeching cesspool is that in the passing of the liquids through the crevices and into the ground, more or less solid matter is also carried off, and when this occurs the real purpose of the cesspool (it really being a filterer) is partially or wholly destroyed.

The most effective manner of arranging the drainage is to have two cesspools; the first one, which receives the entire contents of the house drain, should be built of solid masonry (in our drawing marked

cesspool is located the better the opportunity for the natural filtration of the liquids.—Shoppell's.

TECHNICAL EDUCATION FOR HALIFAX.

The City Council of Halifax has agreed to donate a free site to the Government for the Technical Education College Building. The Technical Education Bill has passed the House of Assembly, and is now before the Legislative Council. A clause will be added in the Council, incorporating in the bill the fact that Halifax shall give a free site. With that amendment it will come back to the House of Assembly for concurrence.