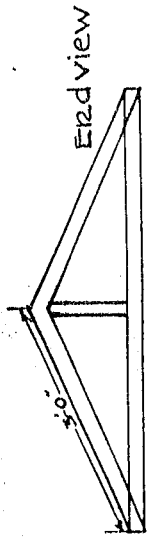
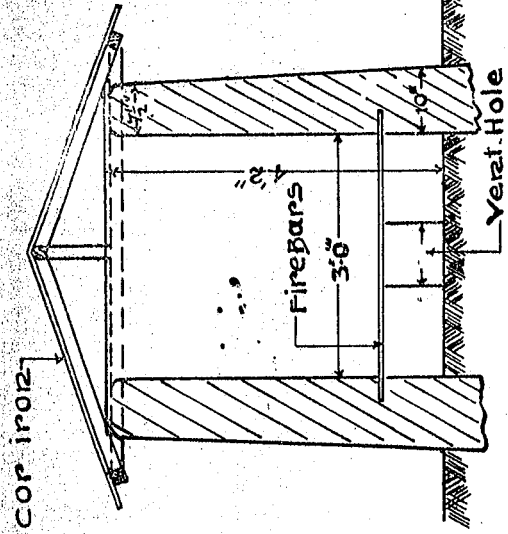
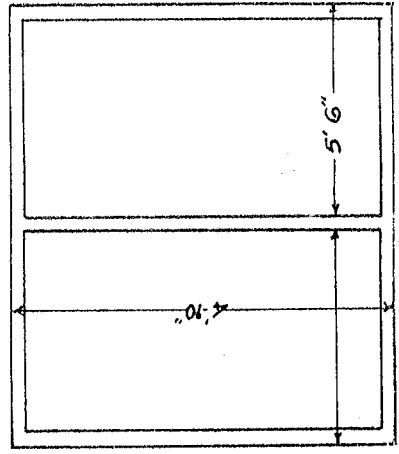


CIRCULAR INCINERATOR
 MADE OF SWISH
 SCALE: HALF INCH TO ONE FOOT

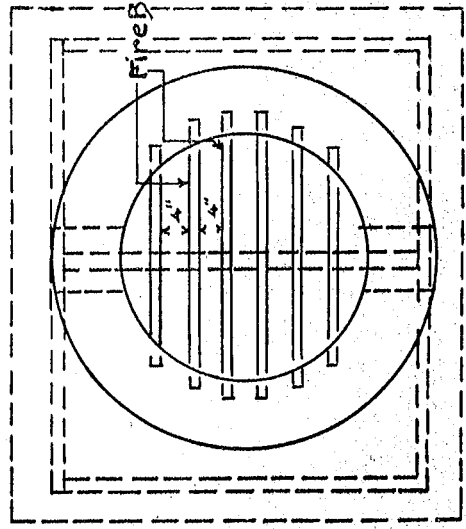


section

ROOF FRAMING



PLAN



PLAN

12

4

CIRCULAR INCENERATOR & DRYING SHED
PERSPECTIVE SKETCH



Village Sanitation—West Africa Conservancy.

BY G. J. PIRIE, M.B., CH.B., D.P.H.

The cesspit, or in the language of the Hausa speaking peoples, the salga, is a cheap and simple substitute in villages for the more costly pail latrine of the larger coastal towns. The illustrations given of a single salga suitable for a family compound and of the multiple salga suitable for say a market or for public use give all the details of measurements required. These measurements are not absolute and may be varied to suit local requirements and custom. The depth of the salga will depend on the nature of the soil. In rocky country it would be quite impossible to dig salgas and, again, it would be unwise to introduce salgas where the ground water comes so near the surface as to cause flooding of the salga. The diameter of the single salga and the width of the trench for the multiple salga is shown as 3 feet. This provides sufficient room for a man to work in when digging. The depth is given as 12 to 15 feet. A depth of 8 feet or 9 feet but not less would be permissible. The top of the salga should be covered first with strong bush sticks leaving the necessary opening or openings each 12" x 6". If tar is procurable the sticks should be tarred before laying and then covered with ant clay which should be beaten hard. When dry, the clay should be tarred on the surface. The opening or openings into the salga may be round instead of 12" x 6", but care must be taken to see that whatever opening is made it is not so large as to permit a child to fall in.

A small wooden or plaited grass cover should be provided for each opening and an attempt made to get the user to replace the cover after use of the salga. As a rule it is very difficult to ensure the replacement of covers by the users, particularly in the public multiple salgas.

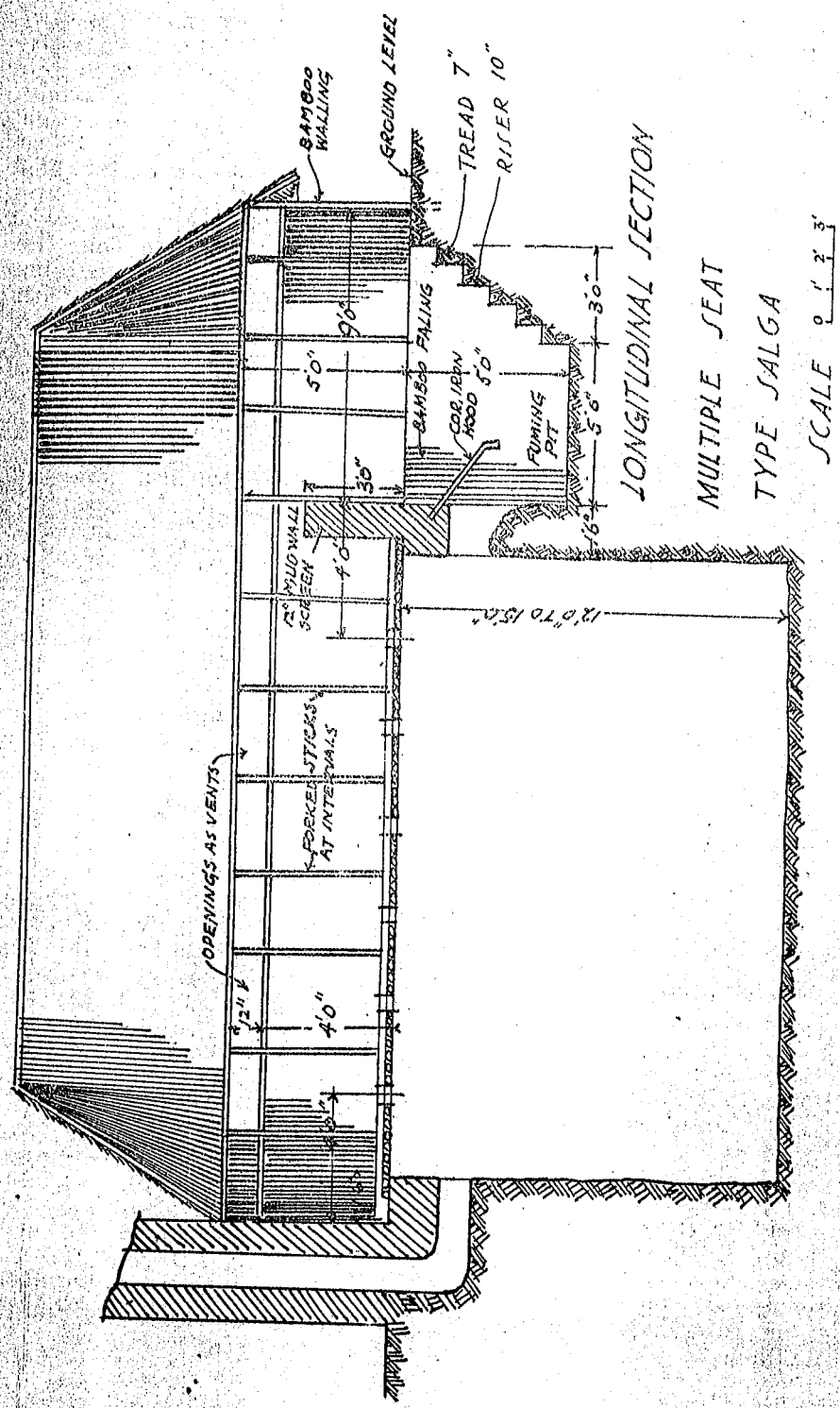
Hanging mats make excellent doors for salgas. It will be seen, if reference be made to the Plan of the multiple salga, that the openings (squatting places) are situated towards one side of the building. This arrangement permits of grass or bamboo partitions being fixed up between each squatting place, with a passage-way the length of the building in front. Each cubicle thus divided off can be closed with a hanging mat. The chief nuisance arising from salgas is fly breeding.

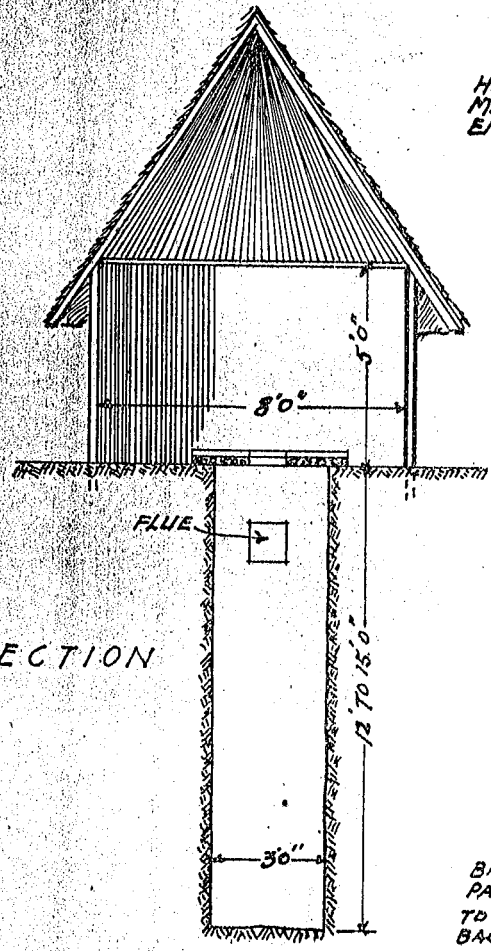
The regular replacement of the covers helps to reduce this. In multiple-type salgas an attempt may be made to reduce fly breeding by adding the fuming pit as illustrated. By this means smoke is drawn through the salga pit. A very small smouldering smoke-producing fire is all that is required, the smoke being guided into the opening leading to the salga pit by the sheet of corrugated iron which overhangs the fire. The fuming pit is not a necessary adjunct to a multiple salga. A Medical Officer who is keen however will find that if a fuming pit be added to a public salga, fly breeding will be greatly reduced.

In many villages the supply of drinking water is obtained from wells in compounds. Salgas if made near wells invariably lead to pollution of the wells. It should be remembered that human beings will never go far to obey the calls of nature but will go some distance to obtain drinking water. It is therefore always more satisfactory to have salgas in compounds and provide wells for water supply about 200 yards outside the periphery of the village.

After all a salga is a cesspit and a very primitive form of night soil disposal, totally unsuitable to the denser communities which are concentrating round centres of European trade and transport in the larger towns. On the other hand, in the simple agricultural hamlet, the salga if properly made is a big step in advance of the bush which is the common place of disposal of the village night soil.

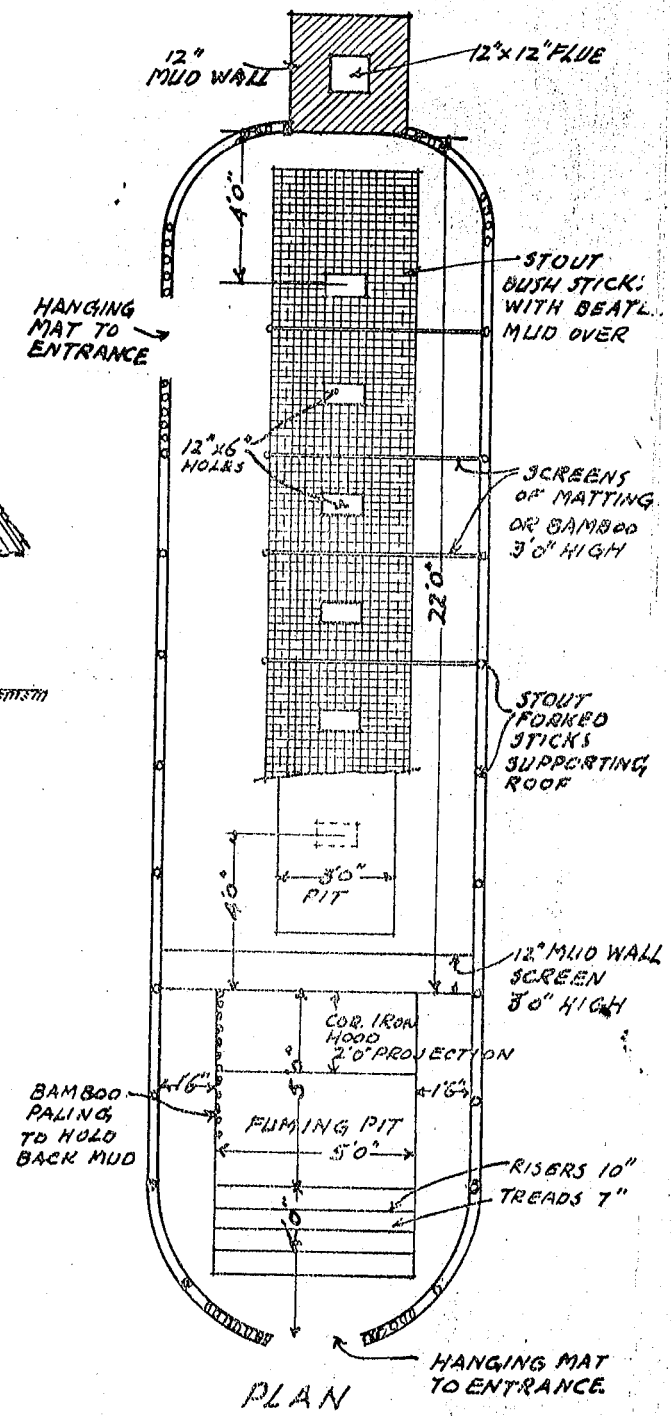
Mr. F. I. Tellery kindly supplied the drawings.

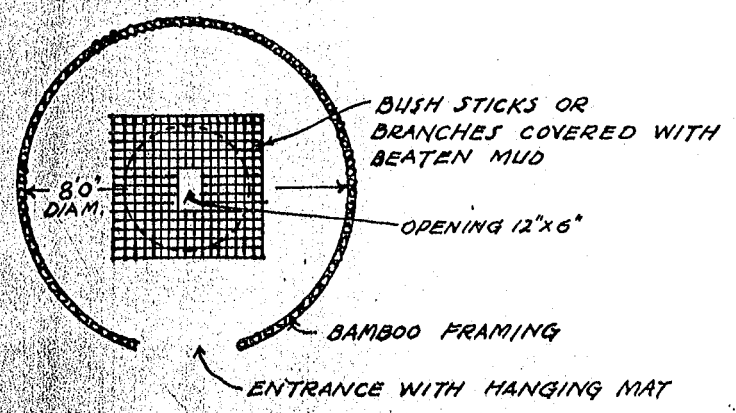




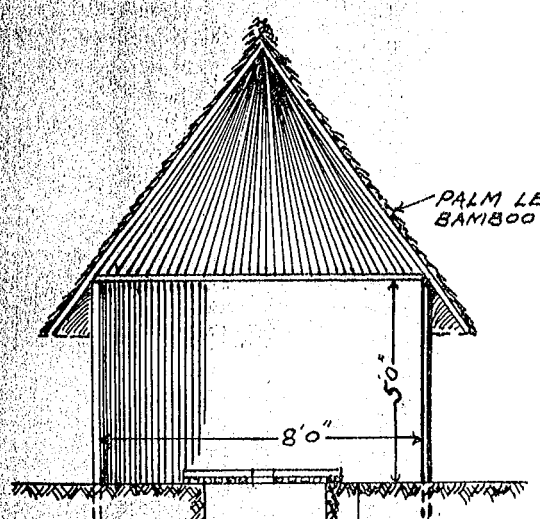
MULTIPLE SEAT
TYPE SALGA

SCALE 0 1 2 3'

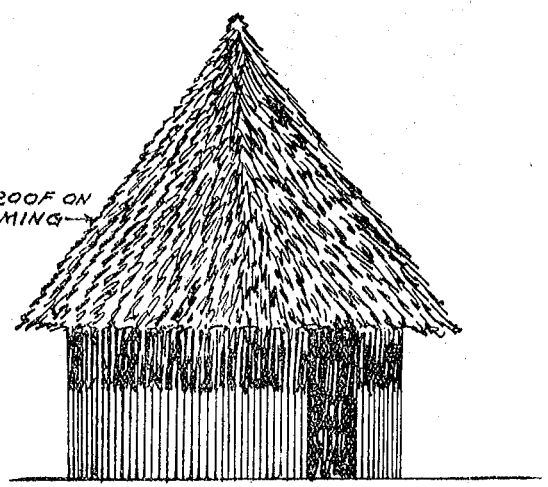




PLAN



SECTION



ELEVATION

SINGLE SEAT
 TYPE SALGA
 - SCALE 1/4" TO 1'

A Method of Night Soil Disposal in the Tropics which Prevents Fly Breeding.

G. J. PIRIE, M.B., CH.B., D.P.H.

This method of disposal which may be used as an alternative to trenching or incineration for the disposal of night soil where public and private pail latrines exist, was introduced by Major Otway, R.A.M.C., at Sekondi in the Gold Coast 1924-25. One of the chief nuisances arising out of the disposal of night soil is fly breeding. The method of disposal by incineration is an effective preventive, while it is almost impossible to prevent fly breeding where trenching is used. Major Otway in his method of disposal takes advantage of the attraction of light for flies, and states "that the newly hatched fly makes directly for the nearest point of light to get out and obtain food. This fact provided me with my line of attack on him." The method includes the digging of a large pit approximately 20 feet long by 14 feet deep by 3½ feet wide. The top of the pit is covered with bush timber cross sticks and mud beaten hard and tarred. Two openings are left, one at one end for the fly trap and the other, the filling orifice, near the other end. (see illustrations).

The whole pit is protected with a bush timber but divided into two compartments, one with low walls and well lighted in which the fly trap is placed, the other less well lighted for the filling orifice (see illustrations). This hut should extend 2 to 3 feet beyond the margins of the pit all round. If the pit is dug on sloping ground it will be necessary to dig a catch water drain a few yards away on the high side of the site to prevent flood water entering the pit. The fly trap is constructed as shown in the illustration. An ordinary 8-gallon wooden petrol case with the top taken off makes an excellent frame for the fly trap. In the centre of the bottom of the case a 6-inch circular hole is cut. A piece of copper gauze is fashioned into a cone 5 inches high somewhat like a lampshade. The bottom diameter of the cone should be 7 inches and the top diameter 3 inches. The cone so made is then fixed to the bottom of the wooden case with the broad end over the hole, the narrower conical end projecting up into the box. The broad end of the cone should be carefully tacked down so that no openings remain between the gauze and the wood. A piece of copper gauze is then stretched over the top of the box and closely fixed down to the wood all round. Two openings 9 inches by 6 inches and two openings 4 inches by 3 inches should be made in the sides and ends respectively of the wooden case for observation purposes. These openings must be covered with gauze carefully tacked down. It is important to remember not to let any gauze project beyond the edges of the hole in the bottom of the box to which the gauze trap is fixed otherwise flies get trapped on the under edge of the box and fail to reach the inside of the trap. It will be found that shaping the cone in paper first will greatly assist the correct cutting of the copper gauze. A simple way of fixing the overlapping edges of the gauze cone is by interweaving a piece of copper wire.

The box with the fly trap in it is then fitted over the hole made for it on the top of the pit and well packed round with clay to fix it. The best arrangement for the filling orifice is to insert a dustbin the bottom of which has been knocked out. The metal lid of the dustbin acts as a cover. As it will be found that light gets access to the pit past this cover it is necessary to fix to the lid several layers of sacking which can be tarred. When the lid so reinforced is replaced, the sacking overhangs the top of the dustbin all round and effectively excludes light. The exclusion of light from the filling orifice when closed is essential otherwise

some of the flies which hatch out in the pit will make for this light point instead of the trap and escape when the orifice is opened. The filling orifice should never be less than 10 feet from the fly trap. In a properly constructed pit with a light proof cover on the filling orifice, the only light spot will be the fly trap and every fly that hatches out will make for the trap and once in remains there. It will be found that the filling orifice can be opened for at least 5 minutes before a single fly will appear. Five minutes give ample time for emptying 4 to 6 buckets. When the pails are emptied the cover should be immediately replaced.

When a pit of this description is put into use, it will be found that few flies will appear in the trap until after an interval of 5 or 6 days. The hatching out will then be continuous and thousands of flies will accumulate in the fly trap, every one of which has been hatched from eggs laid in the pails while still in the latrines.

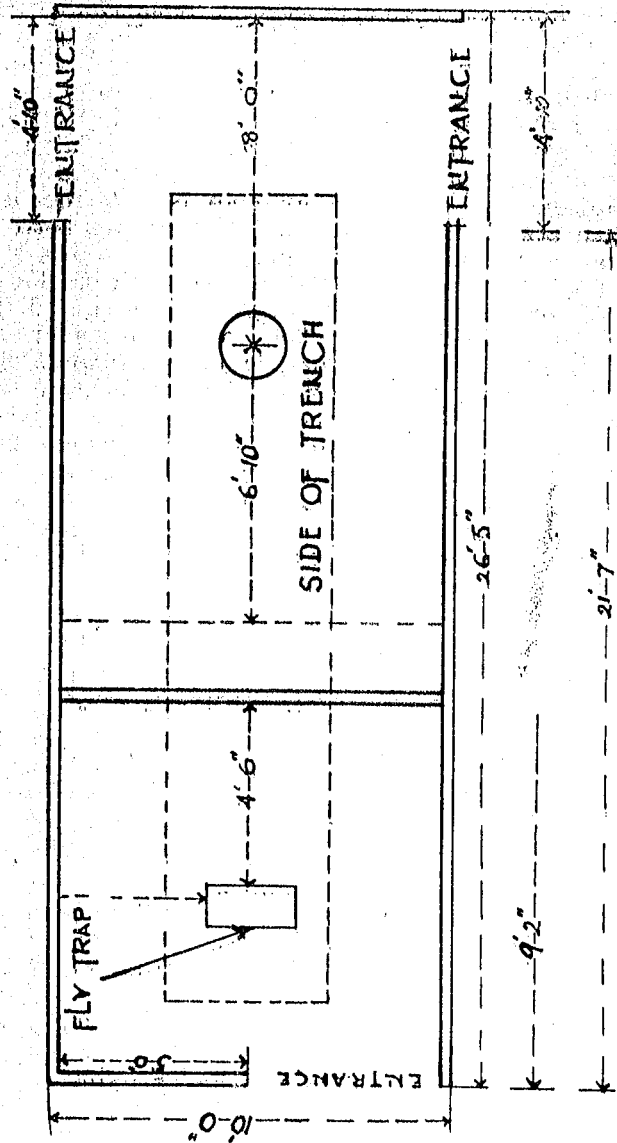
These pits when protected from flood water, give rise to no smell and therefore need not be very far removed from occupied areas.

Mr. F. I. Tellery kindly supplied the drawings.

PLAN OF "FLY-TRAPPED-PIT"

WITH FILLING ORIFICES.

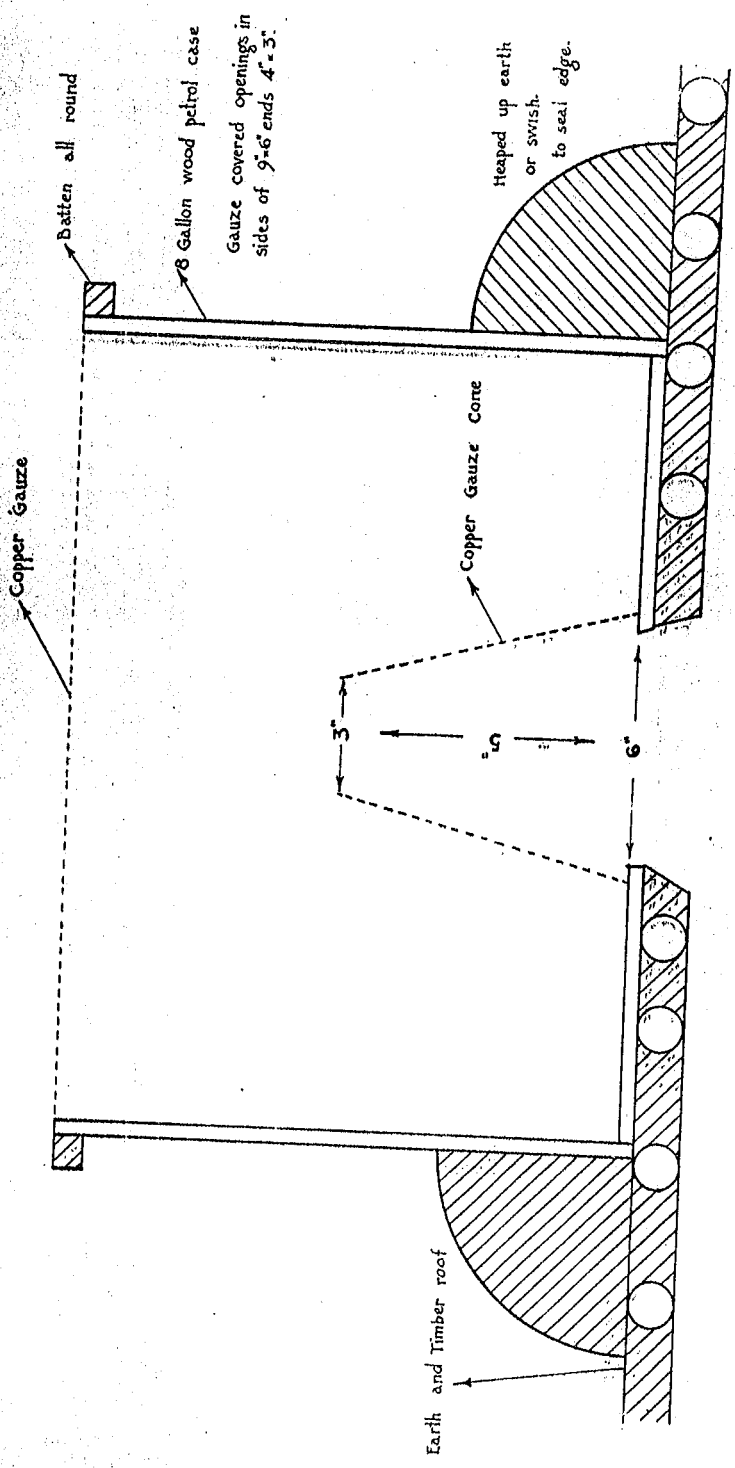
SCALE: 1/4" TO 1'



PLAN

FLY TRAP - DETAIL SKETCH

ELEVATION

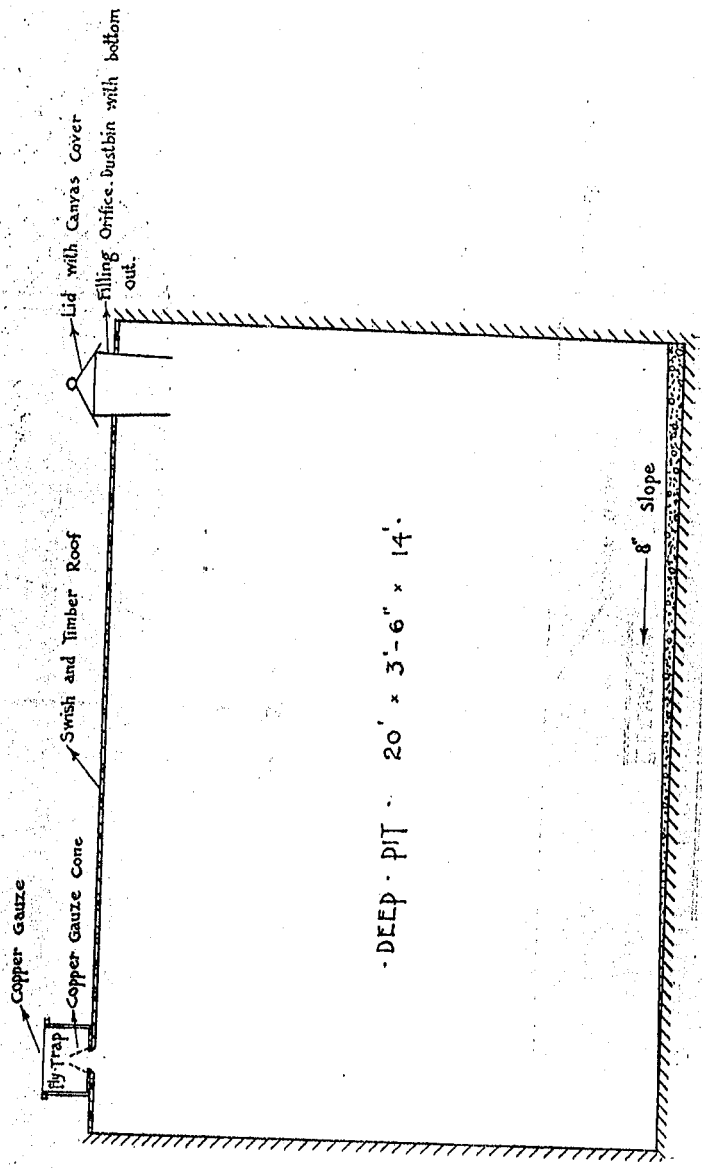


PIT

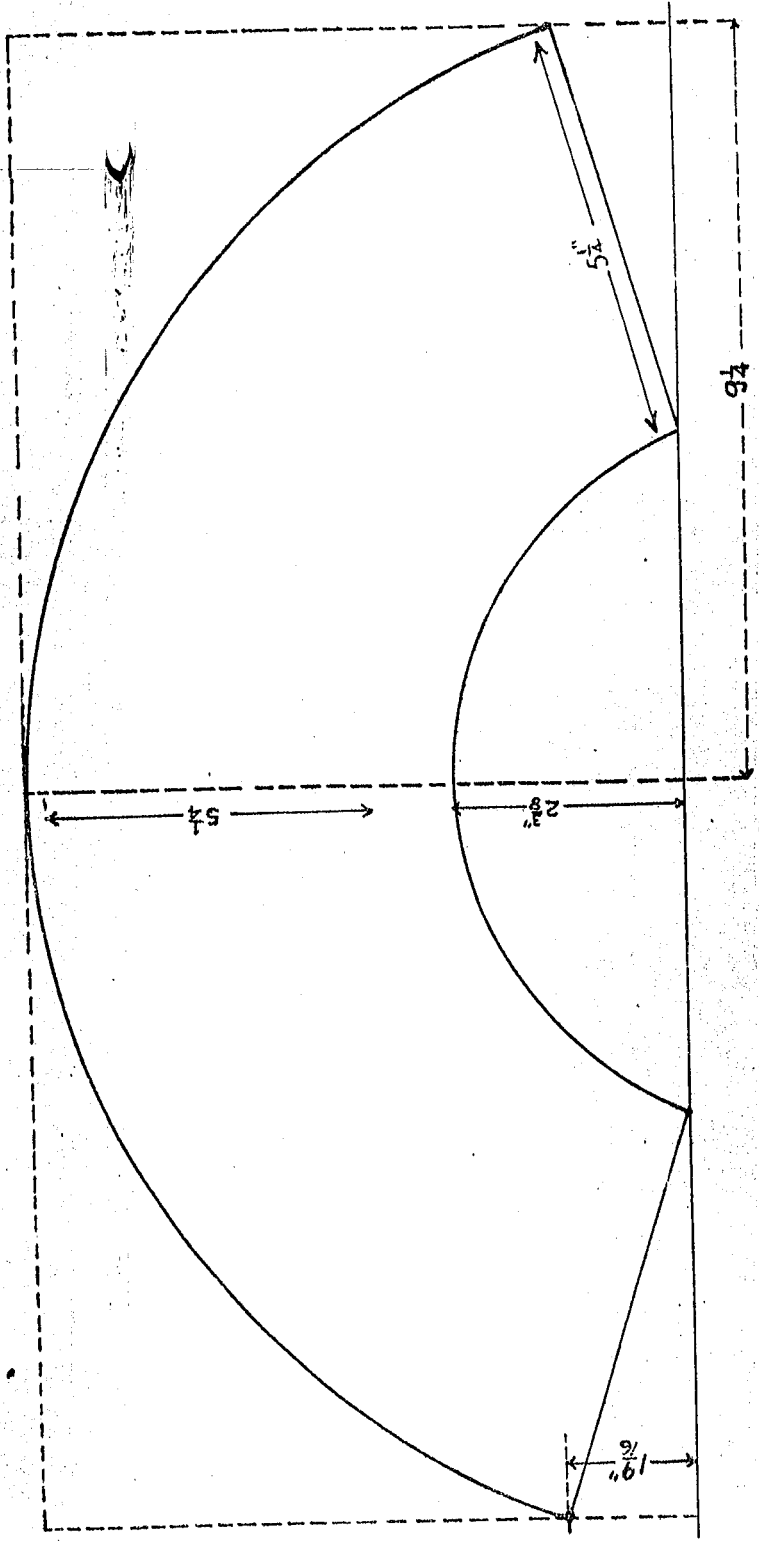
20

"FLY TRAPPED" PIT FOR EXCRETA DISPOSAL

SCALE: 1/4" TO 1'



HALF SCALE PATTERN FOR GAUZE CONE



Scale of inches 0 1/4 1 2 3 4 5