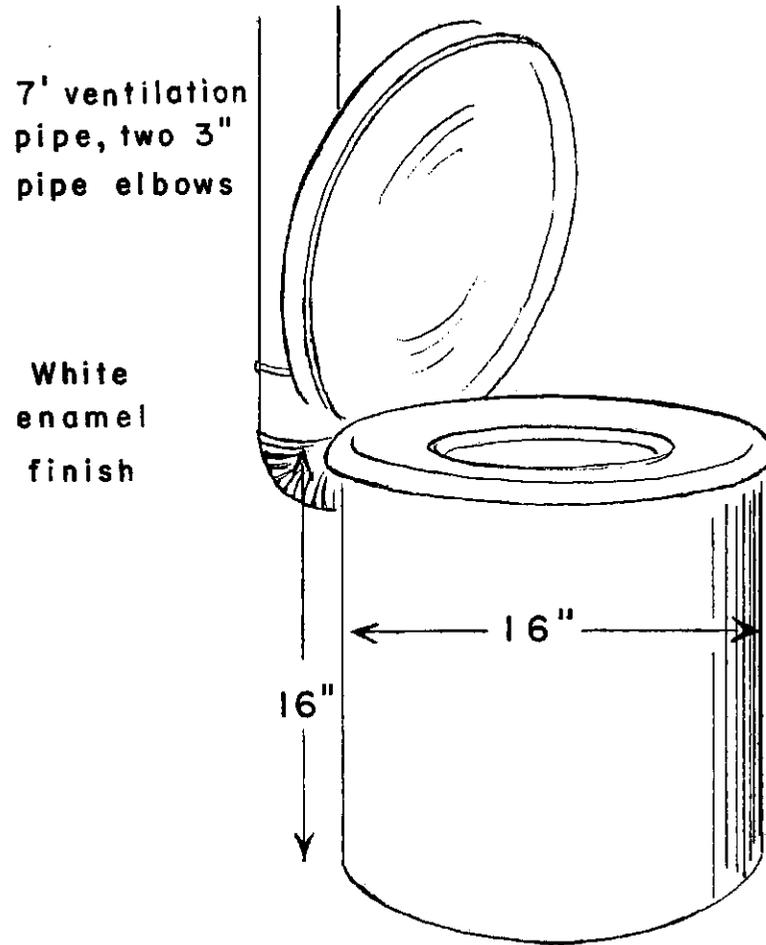


Chemical Toilets

These are used sometimes when people do not want to use septic tanks or sewer. These are a good way to get rid of human waste but they may cost more than many people can spend.

There are several kinds of chemical toilets. If anyone in your village wants to get one, show them the drawings in the Guide and talk with your supervisor about it.



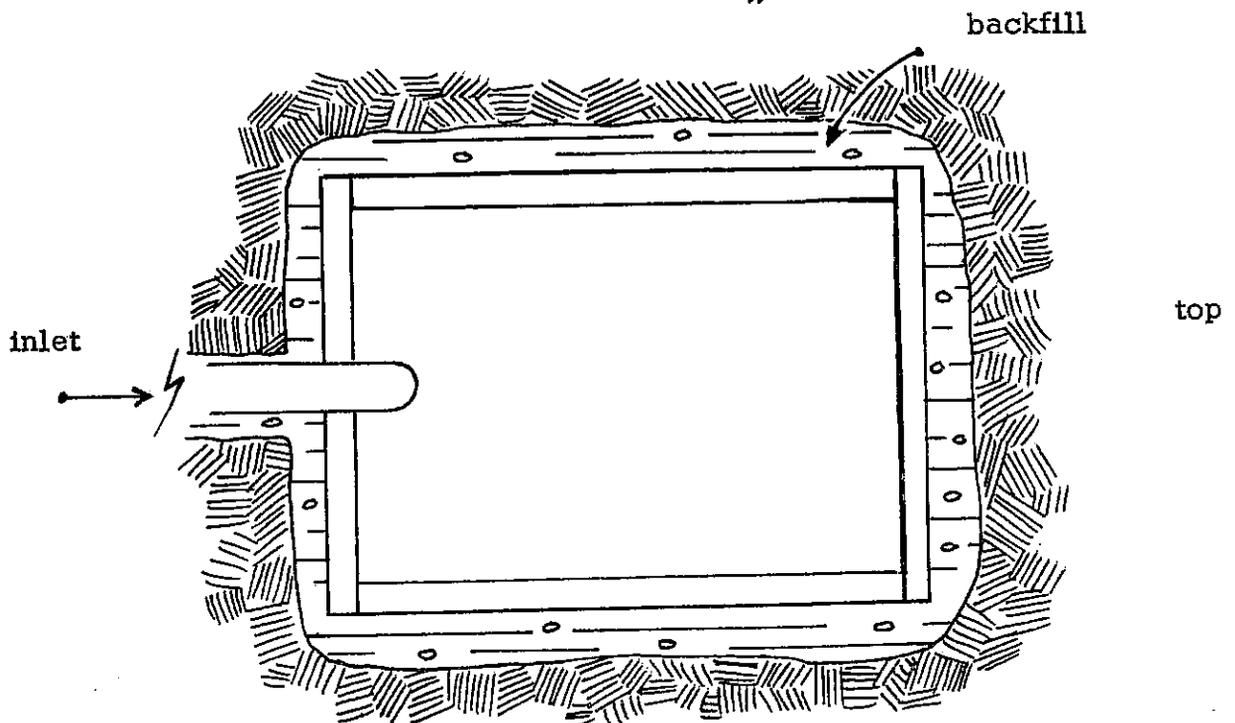
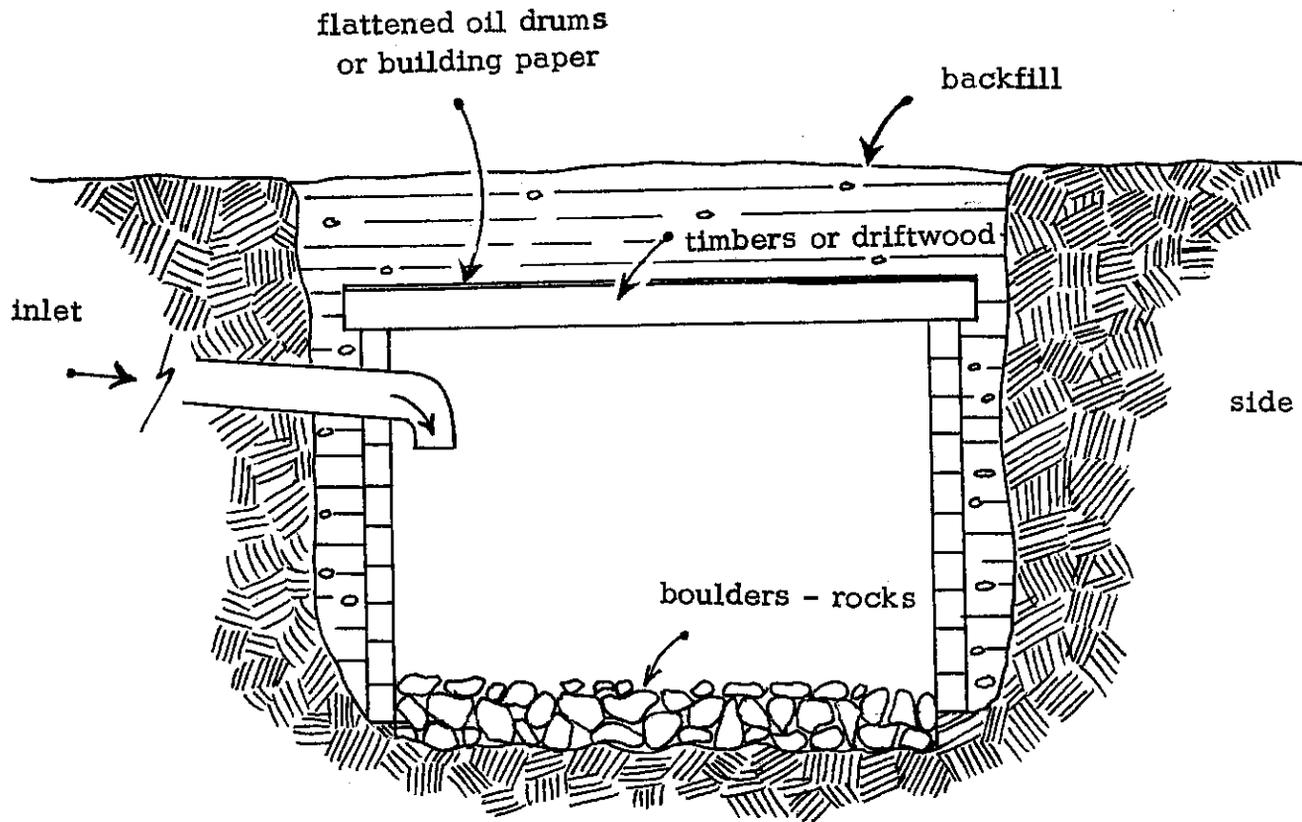
CHEMICAL TOILET

Cess Pools

These are holes dug in the ground for human wastes. Cess pools are sometimes used by people who have running water in the house and commodes but do not want to build a septic tank. This is not a good way to get rid of human waste.

commodes = flush toilets

CESS POOL FOR SINGLE HOUSE



Pit Privies

These are used by people who do not have running water in their houses or cannot put commodes in their homes. Pit privies are good to use for getting rid of human waste if they are built right and if they are away from water supplies.

For more information on privies you may order Bulletin HSE-7-2 from the Bureau of Environmental Health Programs, Division of Health.

Privies can be made by using lumber or oil drums. For summer use the house over the privies can also be made out of burlap or canvas. The important parts of the privy are the pit, the riser, and the cover. We can use anything for the house over these things.

When we build a privy the first thing we have to do is dig a hole in the ground about four feet deep. The hole should be about two feet wide and three or four feet long. Put boards or flattened drums with holes punched in them along the sides of the pit to keep the earth from falling in. If there is permafrost in the ground, dig a little each day as the ground thaws out. It helps to thaw the frost if water is put in the pit also.

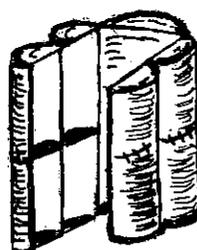
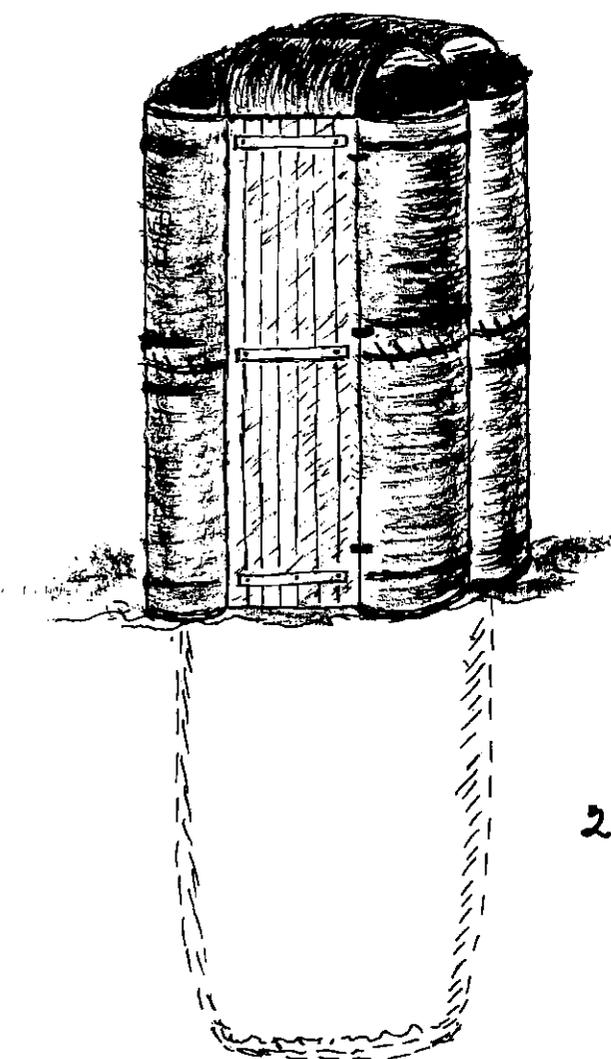
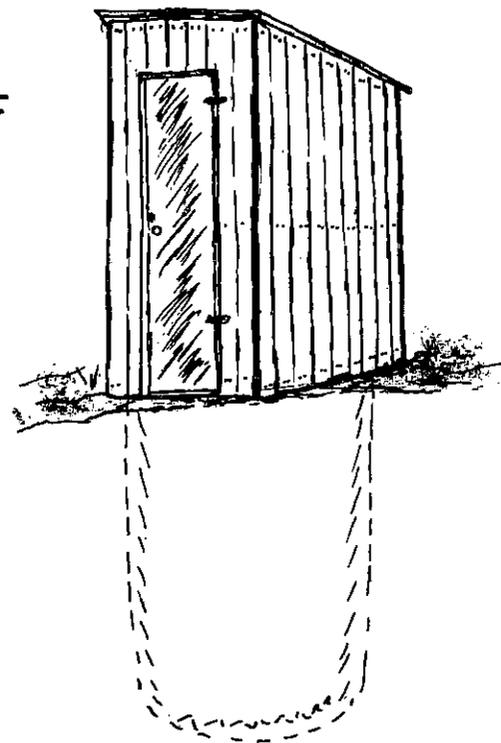
Build the floor, riser, and cover like those shown in the picture.

If a family is going to build a privy these are some of the things you should tell them:

1. Put the privy on high ground so that water will not run into it.
2. Make the floor of the privy, the riser, and the seat tight so that flies cannot get to the waste during the summer.
3. Build the privy at least 200 feet from a lake you use as a water supply and at least 200 feet away from a well, and down-hill.
4. The privy should not be close to your house.
5. The privy should not be where snow will cover it up in the winter time.

HOW TO DISPOSE OF FECES AND URINE

I. PRIVIES OUT OF LUMBER.



Barrels



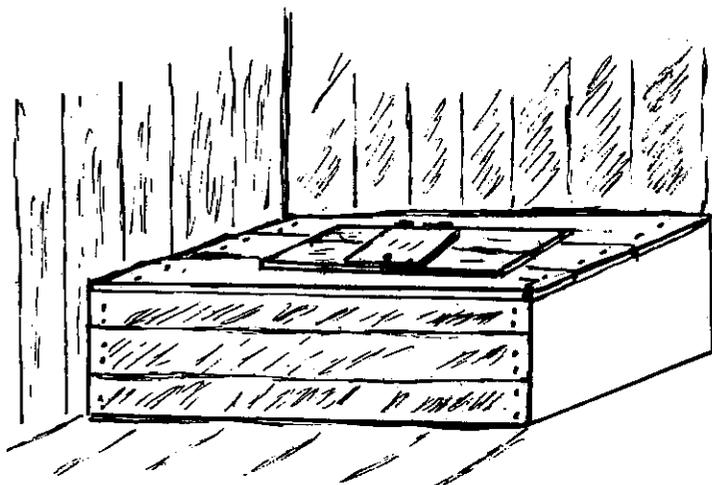
Door



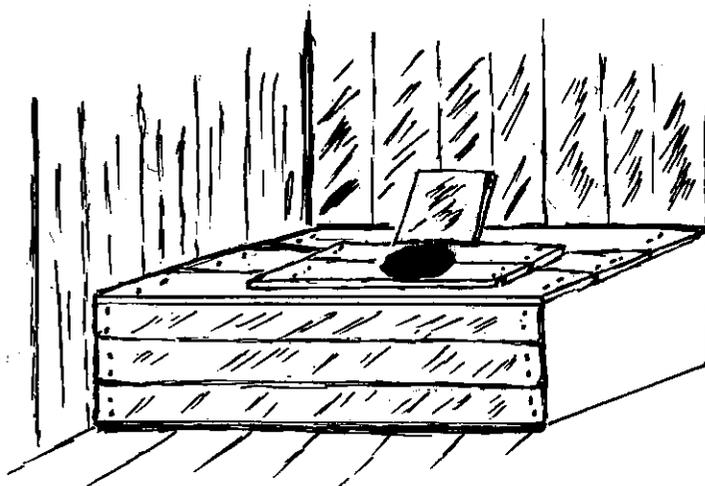
Seat

2. PRIVY OUT OF OIL DRUMS CUT IN HALF (Phillips Privy)

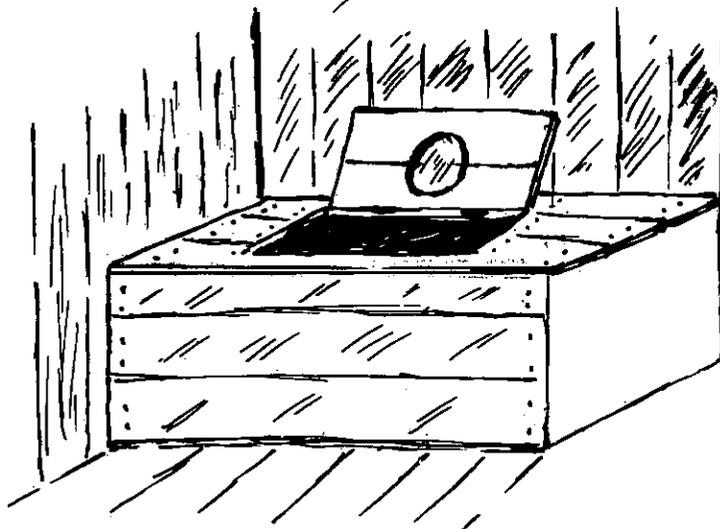
PRIVY SEATS FOR SUMMER AND WINTER USE



1. KEEP HOLE CLOSED WHEN NOT IN USE.

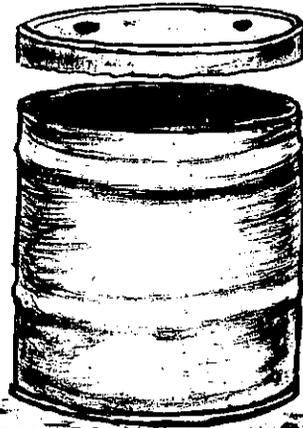


2. TURN SMALL COVER UP WHEN IN USE IN SUMMER.

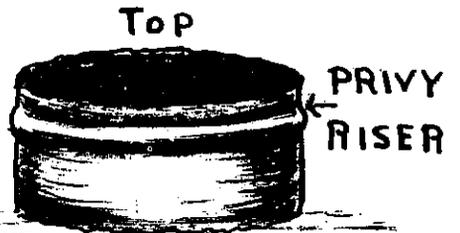
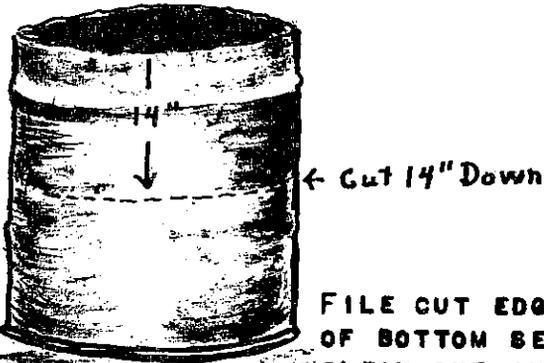


3. OPEN LARGE HOLE IN SEAT FOR USE IN WINTER. EMPTY HONEY BUCKETS INTO HOLE. USE SMALL HOLE IN SUMMER.

PRIVY RISER



NEXT-



FILE CUT EDGE OF BOTTOM SECTION CLEAN OUT AND USE FOR TUB.

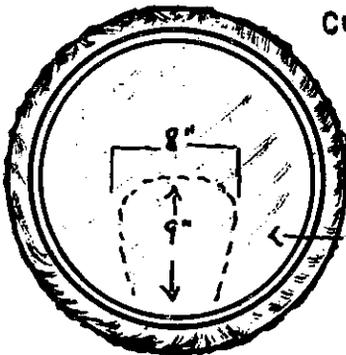
NEXT-

FLARE LID EDGES.

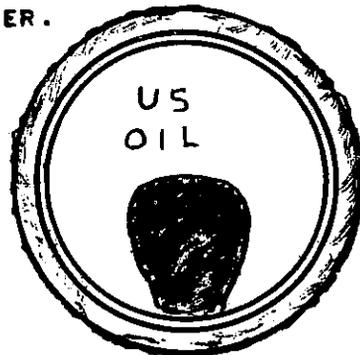


NEXT-

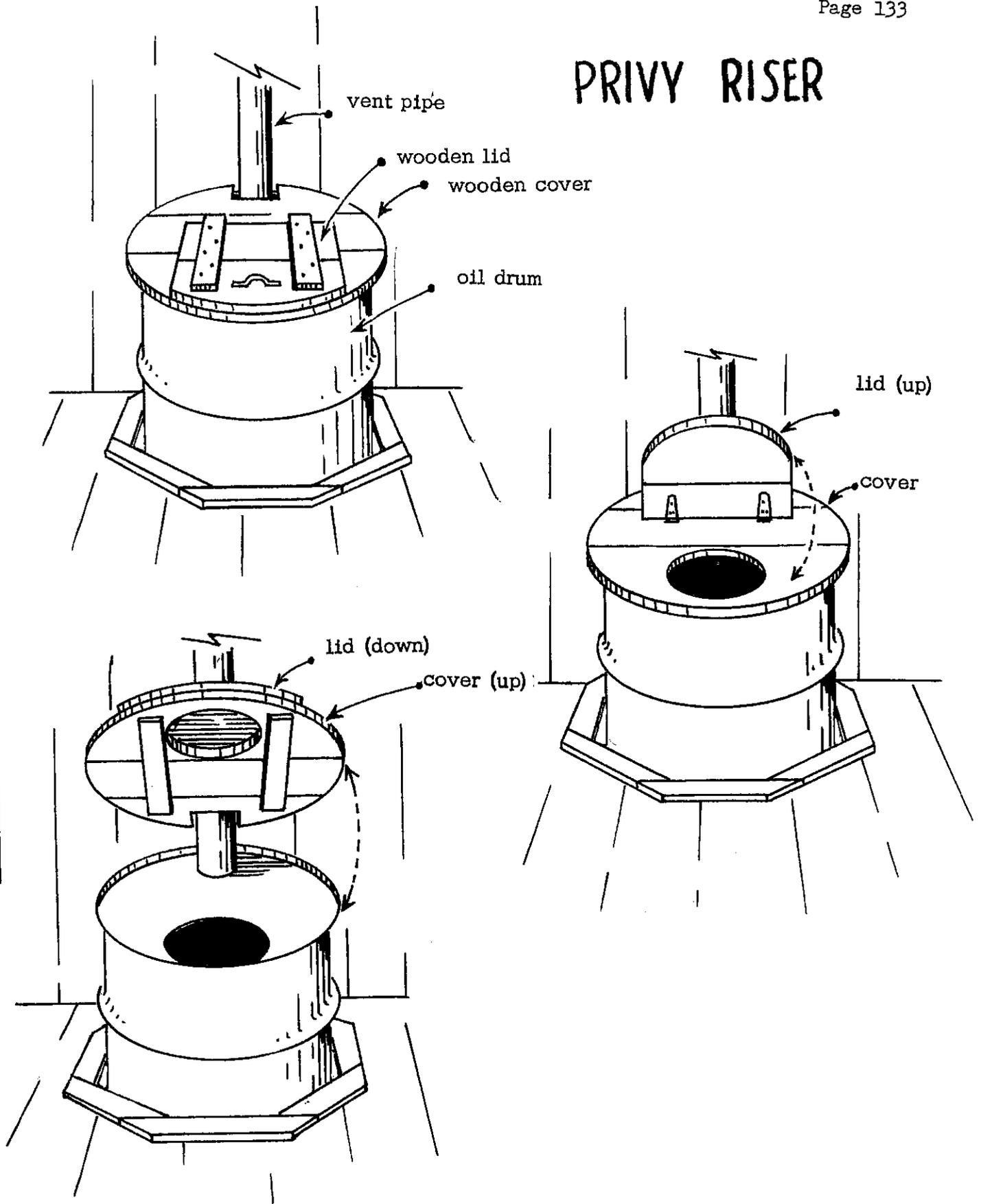
CUT HOLE IN COVER.

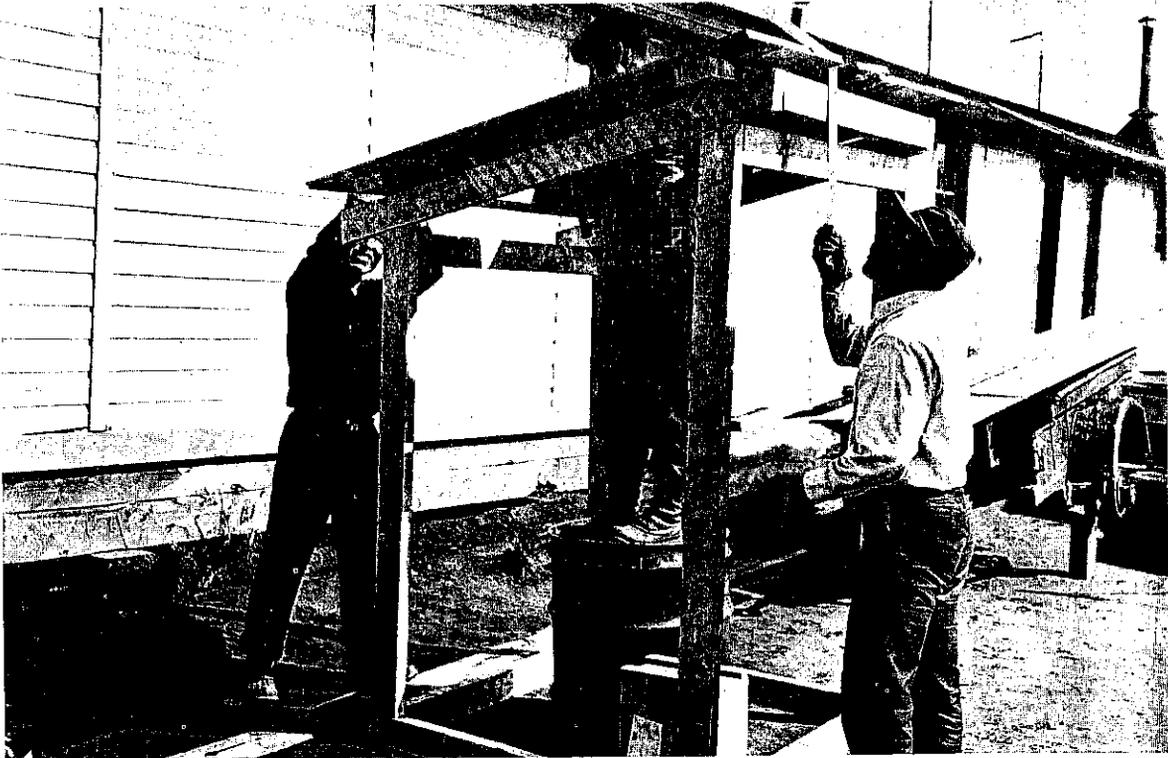


9" Hole Deep
8" Hole Wide



PRIVY RISER



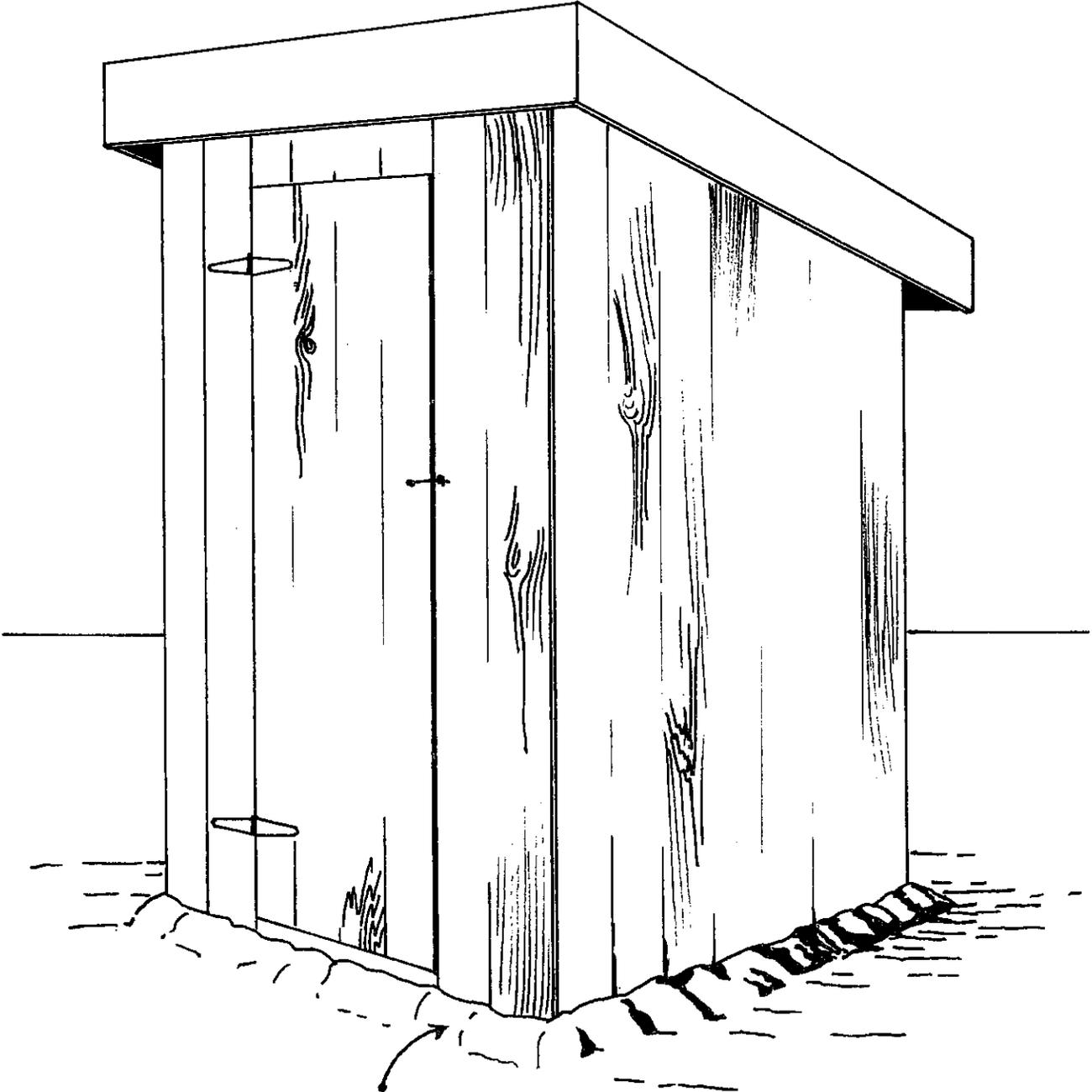


BUILDING PRIVY



FLOOR AND INTERIOR DETAIL OF PRIVY

A FINISHED PRIVY



- Piled up dirt

6. When the privy is finished, bank earth around the sides of the house so that water will run away and dogs, birds, and flies will not get in the pit.

7. Keep the privy clean and neat. Chlorinated lime in the pit will keep the odor down in the pit.

Honey Bucket Pits

These are sometimes used to get rid of human wastes. They are good to use when camping or when a privy cannot be built. A privy is a better way to get rid of wastes than a honey bucket pit. The drawings show how honey bucket pits should be made. These pits can be made of wood or with an oil drum.

Sometimes snow will drift around honey bucket pits. This might be stopped if the cover for the pit was almost level with the ground. The picture shows how this can be done.

If someone in your village wants to build a honey bucket pit, tell him to do these things:

1. If a person is going to use a honey bucket pit, he should dig one in the fall or early winter so that it will last until spring. If he does this he will not have to dump waste on the ground away from the village or on the ice of the lakes and streams.
2. The honey bucket pit should be built away from water supplies the same as privies.
3. The cover for the pit should be tight so that animals and flies cannot get into the pit.

OIL DRUM DISPOSAL PIT

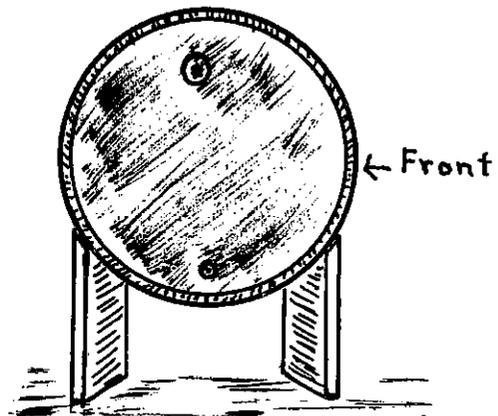
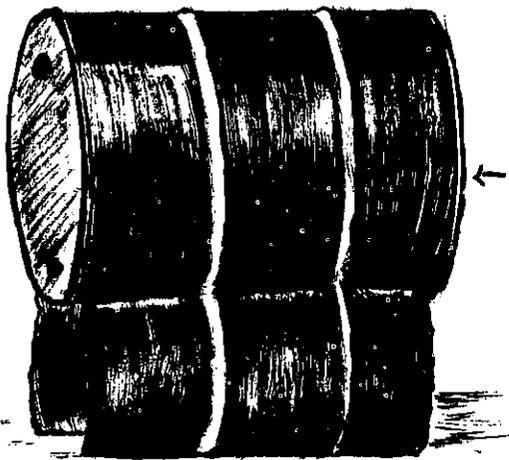
FIRST-



CUT OIL DRUM AS SHOWN, ($\frac{1}{2}$) HALF WAY AROUND ON BOTH ENDS NEXT TO THE BEADING. THEN DOWN THE SIDE, END TO END, AT THE MIDDLE OF THE END CUTS.

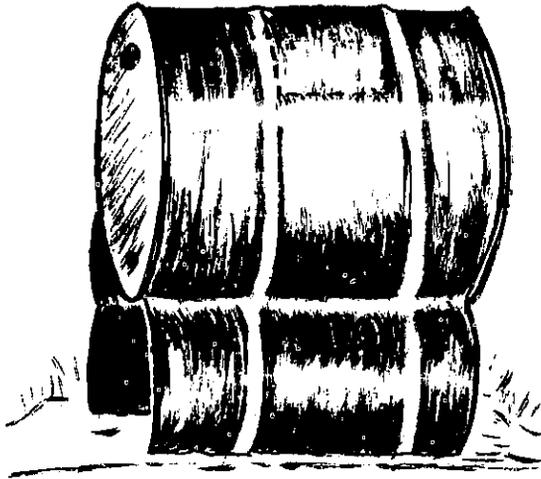
NEXT-

PRY CUT SIDES OUT UNTIL THEY MAKE WALLS EVEN WITH UN-CUT SIDES OF DRUM.



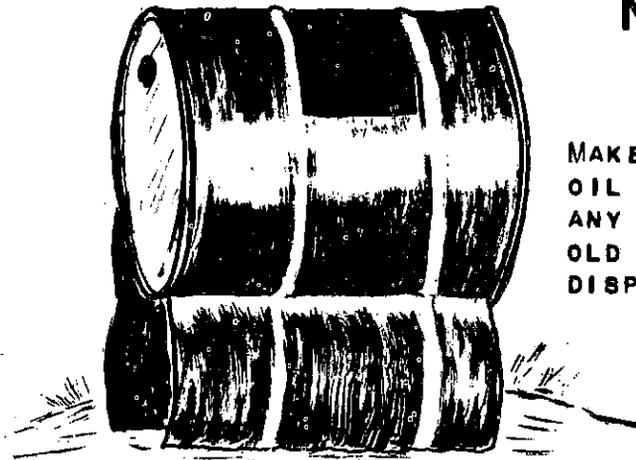
OIL DRUM DISPOSAL PIT

NEXT -

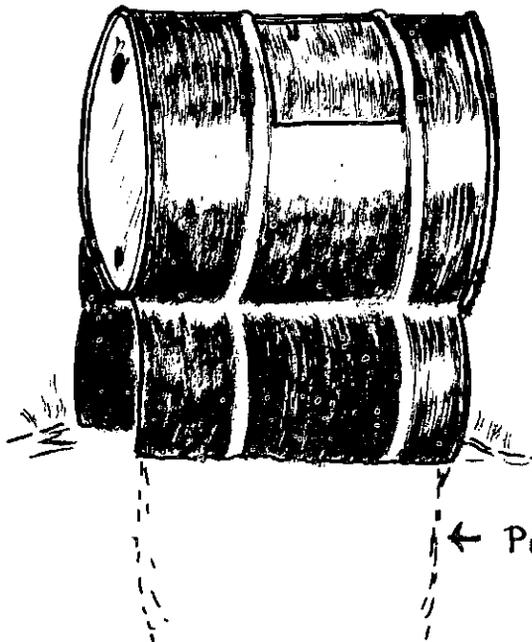


CUT HOLE IN TOP SIDE OF DRUM AS PICTURED.

NEXT -



MAKE A LID TO COVER HOLE BY USING AN OIL DRUM THAT IS NOT SATISFACTORY FOR ANY OTHER USE. CUT A PIECE OUT OF THE OLD DRUM, LARGER THAN THE HOLE IN YOUR DISPOSAL DRUM AND HINGE TO FIT.

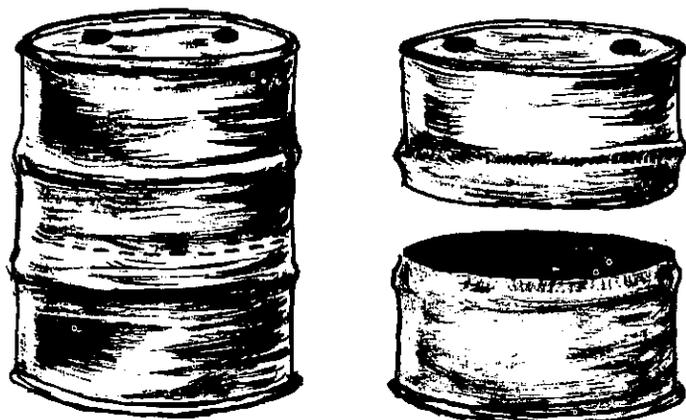


FINISHED READY TO SET UP OVER PIT. COVER END OPENINGS WITH PIECES OF OLD OIL DRUM USED FOR LID.

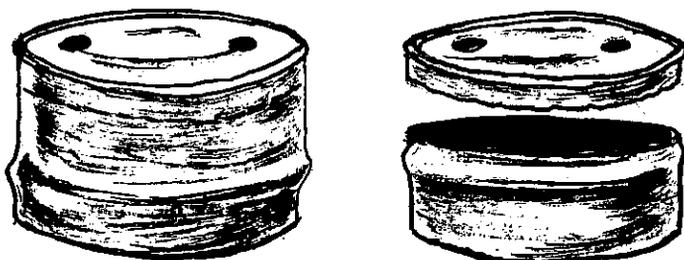
OIL DRUM

INDOOR HONEY BUCKET

(SANITARY CLOSET TYPE)

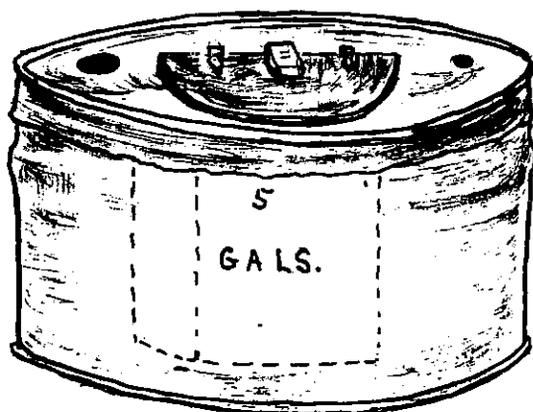


CUT OIL DRUM OFF ABOUT 15"
FROM BOTTOM.



THEN -

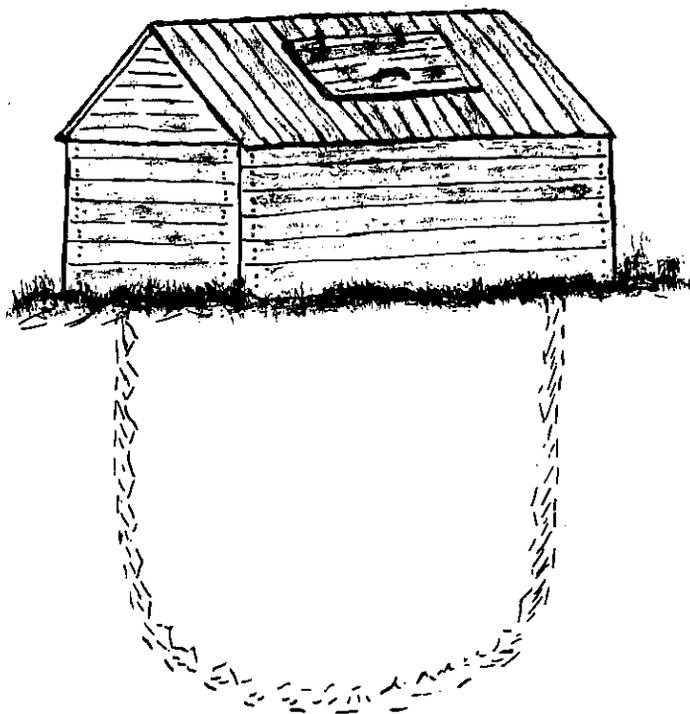
CUT OFF THE TOP OF THE DRUM,
DOWN ABOUT 3" FROM TOP.



FLARE OUT EDGES OF CUT TOP
OR LID, AS SHOWN IN PRIVY
RISER PICTURE. PLACE LID
OR COVER ON BOTTOM SECTION
AND PROCEED AS IN FIGURE 5.

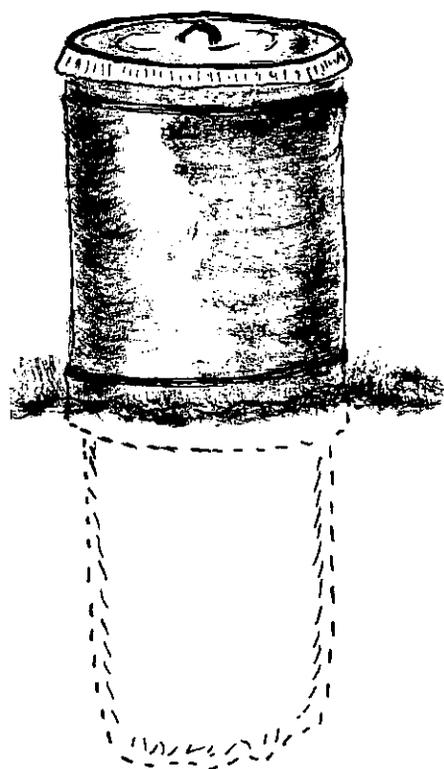
IN THIS TYPE OF HONEY BUCKET,
YOU WILL PLACE A SMALLER CAN
OR PAIL INSIDE DRUM AND EMPTY
SMALLER PAIL AS NECESSARY,
DISINFECTING INSIDE OF DRUM
EACH TIME WITH CLOROX, ETC.

3. PIT WITH SMALL HOUSE OVER FOR EMPTYING HONEY BUCKETS.



4. PIT WITH OIL DRUM OVER FOR EMPTYING HONEY BUCKETS.

MAKE HOLE DEEP AS YOU WANT.
MAKE HOLE SMALLER THAN BARREL.
SINK BARREL ABOUT SIX INCHES
IN GROUND AROUND HOLE.



Trench latrines

Trench latrines are a good way to get rid of human waste when camping or when someone is going to live in a place a short time. This is a very old way to get rid of waste. Many different kinds of people have used it in history. Trench latrines are easy to build. In the camp or on the trail it is important to be sanitary. The drawings show how a trench latrine can be made. In building a trench latrine the rules listed below should be followed:

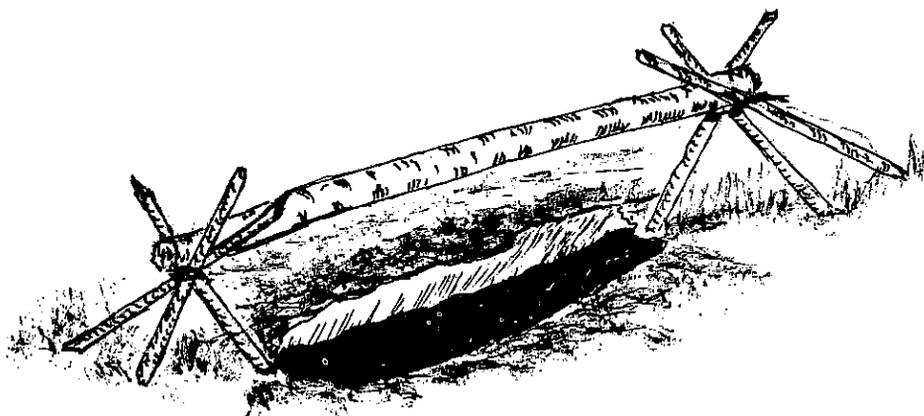
1. Do not put the trench near a water supply.
2. Once each day throw about 4 inches of dirt into the trench.
3. When the trench gets full, cover it up and tamp the earth down.
4. Mark the place where the trench was with poles or stones so that people will not dig into it.

SEWAGE DISPOSAL AT CAMP

AT CAMP BE JUST AS CAREFUL ABOUT WATER AND SEWAGE AS IN THE VILLAGE. WHEN AT CAMP ALL SUMMER, DO THE SAME THINGS TO GET WATER AND THROW AWAY SEWAGE THAT YOU DO AT HOME.

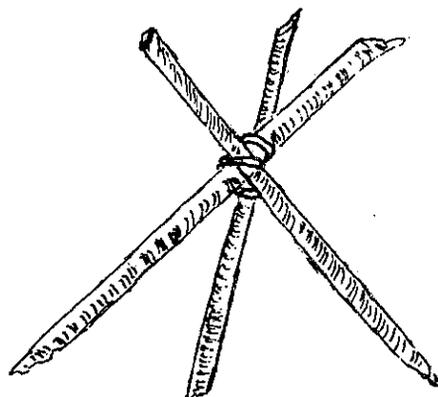
WHEN AT CAMP FOR ONLY A FEW DAYS, USE THE SIMPLE WAYS. HERE IS A GOOD WAY.

TRENCH LATRINE



1. LASH STICKS TOGETHER TO MAKE SUPPORT FOR POLE.
2. DIG PIT UNDER POLE.
3. COVER WASTE WITH DIRT AFTER USING LATRINE.
4. PIT SHOULD BE FILLED IN AFTER YOU FINISH USING IT AND BEFORE LEAVING CAMP.

EVERYONE AT CAMP SHOULD USE ONE OF THESE WHILE THERE, TO KEEP THE CAMP CLEAN.



Being Sanitary with dogs is important because we know that disease germs may also travel in dog wastes. We should be careful how we dispose of dog wastes for the same reason that we are careful with human waste.

1. Tie all the dogs up, except when they are working. By doing this we keep the dog wastes in one place. It also helps prevent rabies.
2. Tie the dogs away from the water supply.
3. Tie the dogs as far from the house as possible.
4. Clean up the ground where the dogs are tied. During the summer this should be done at least twice each week. Dig a hole and bury the waste or put it in the honey bucket pit or latrine.
5. Tie the dogs in a place where melting snow or rain do not make pools.
6. The dogs should have dog houses and should be fed and watered well. A healthy, strong dog will do more work than a sick dog.

SECTION 8

TYPES OF GARBAGE DISPOSAL SYSTEMS
HOW AND WHERE TO BUILD THEM

We know that people should be sanitary with garbage because flies live and breed in this. Garbage also draws rats which carry disease. Garbage and trash are very often talked about together. This is the difference between garbage and trash:

Garbage is food scraps that are not eaten. When a meal is eaten and there is something left over that we do not want, this is called garbage. Food that we do not want and throw away is garbage.

Trash is something that we throw away that is not food. Tin cans, old clothes, broken bottles, and anything we throw away that is not food, is trash.

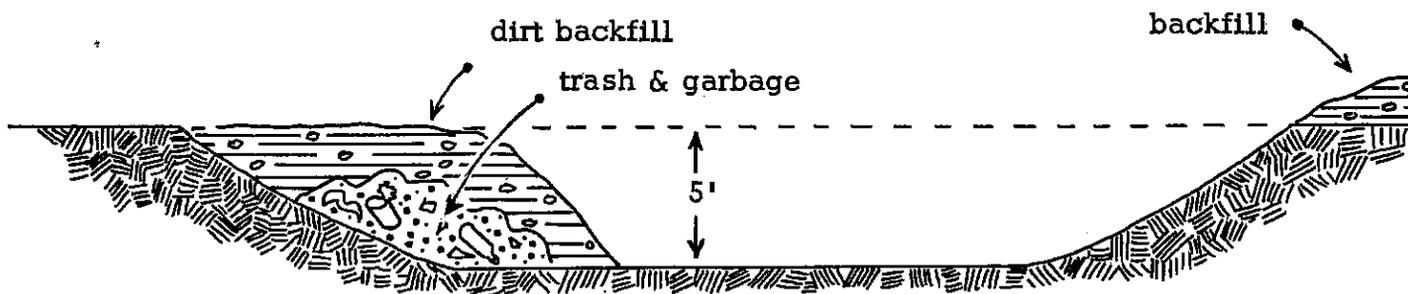
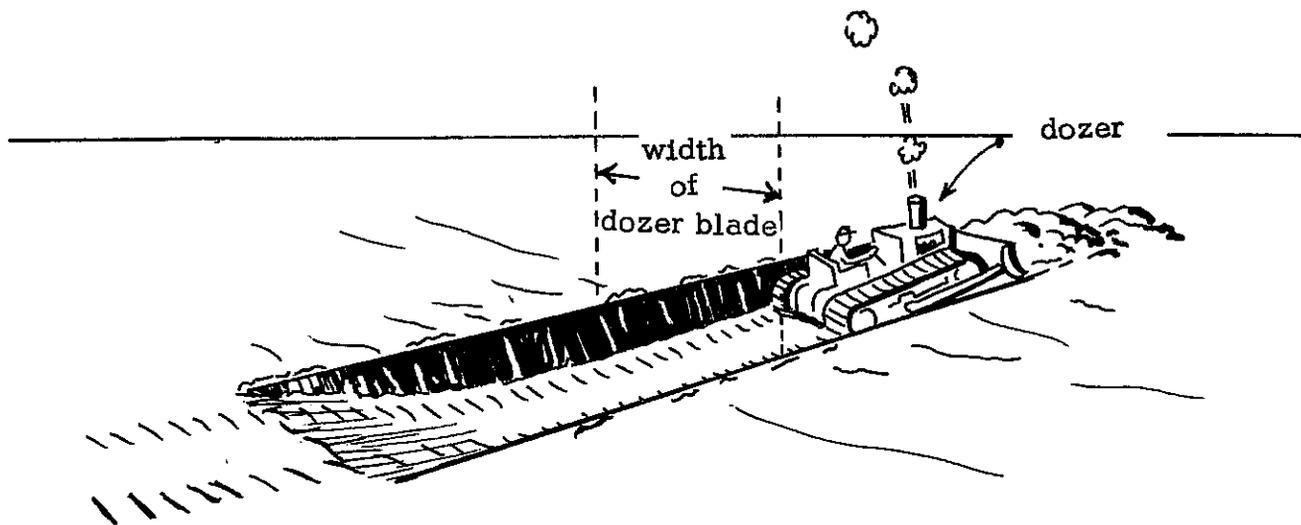
It is not good to leave trash around the village because people walking around over it may get hurt. Trash thrown around the village also makes a good place for rats to live. A sanitary village is also a neat village. A village with trash in the streets and behind the houses is not a sanitary village.

There are many ways to get rid of garbage and trash in a sanitary way. These are some of the ways:

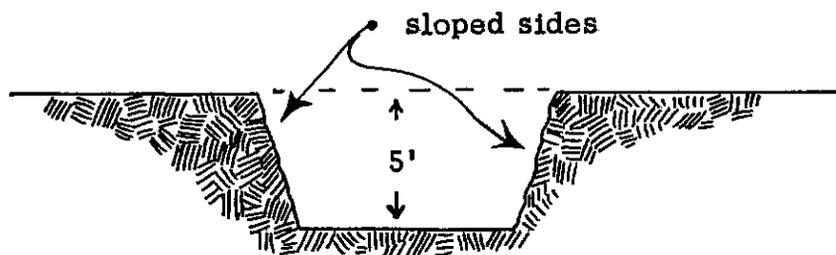
The Sanitary Landfill is a good way to get rid of garbage where there is a bulldozer. A Sanitary Landfill is made by digging a trench with a bulldozer. Garbage and trash is dumped in the trench by all the people in the village. Once every week the bulldozer pushes some earth over the trash and garbage. This is done until the trench is filled up. The picture shows what a Sanitary Landfill looks like. The Sanitary Landfill would not be good to use where there was a lot of snow. Drifting snow would fill the trench up.

These are things to remember about a sanitary landfill:

1. Put the trench where the wind blows away from the village.
2. Do not put the landfill too far from the village.
3. It would be a good idea to put a fence around the landfill. This would help keep trash from blowing around,
4. Do not put the trench near a water supply.
5. Cover the trench over each week during the summer time to keep flies from living in the garbage.



Dump at end of trench compact & cover
as often as possible



MODIFIED TYPE SANITARY LANDFILL

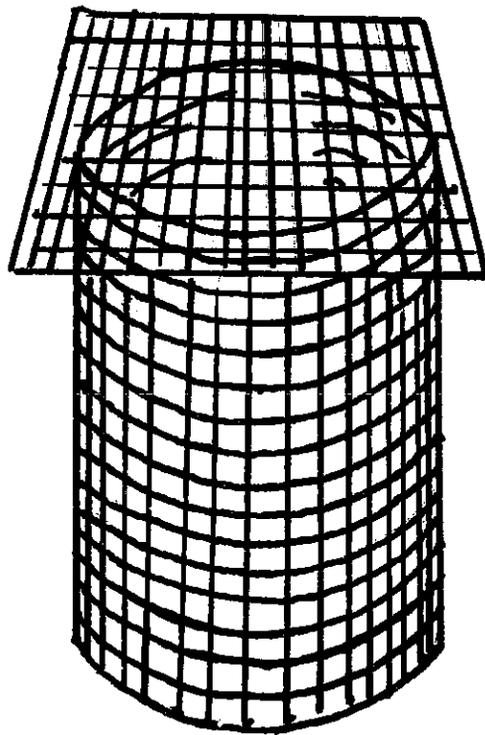
Incinerators are sometimes used by people to get rid of trash that will burn. Incinerators will not burn garbage. Incinerators are good for families to use when they want to get rid of trash that will burn.

The drawings show how incinerators can be made with things that are found around the village.

These are things you should tell people who use an incinerator to get rid of trash:

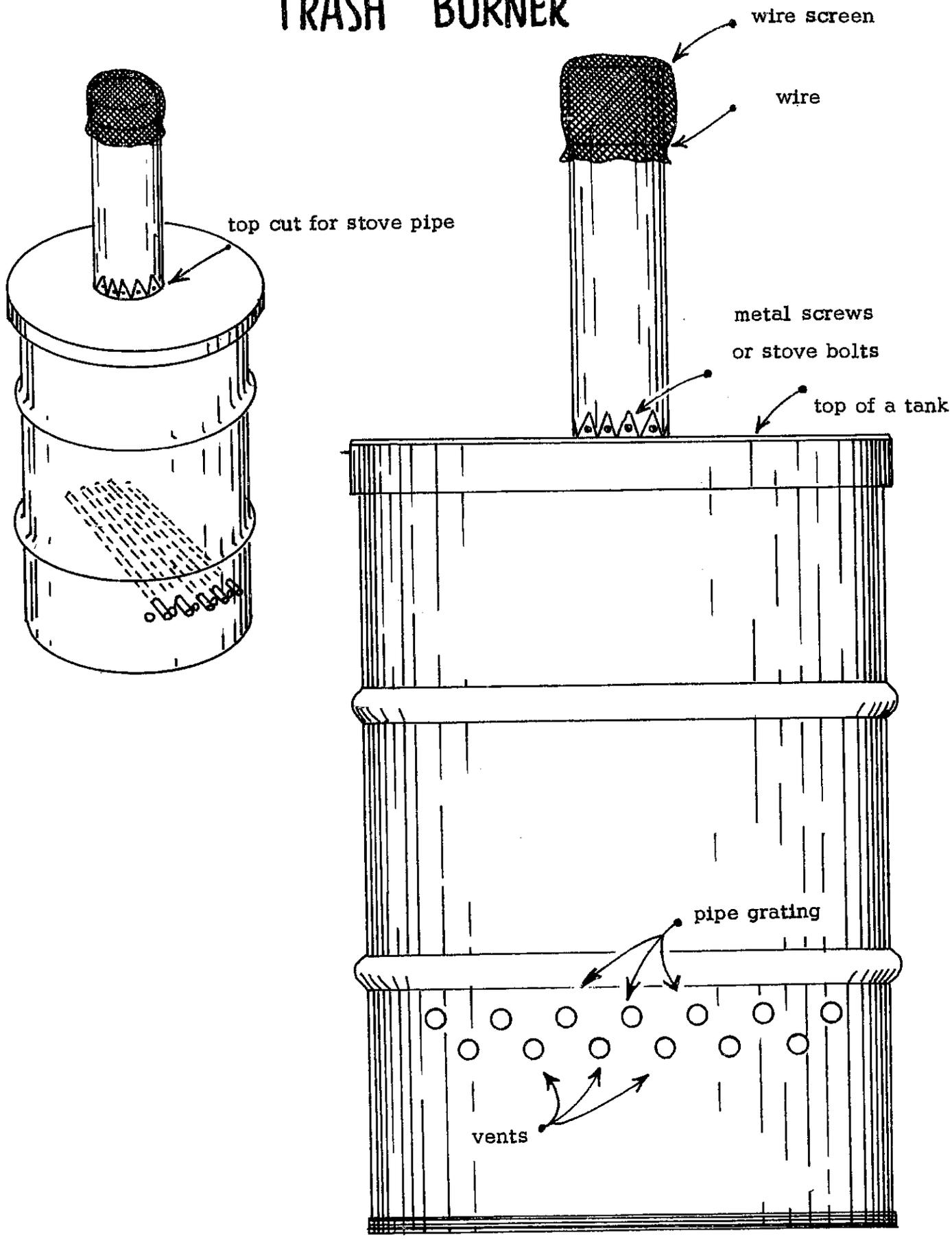
1. Put the incinerator where sparks from the fire will not burn the house.
2. Always have a cover for the incinerator.
3. Do not try to burn garbage in the incinerator.

KINDS OF INCINERATORS



Bend concrete reinforcing
mesh in circle. Cover
with same material.

TRASH BURNER



—•Designed by Joe Lemack•—



Another way to make a trash burner from an oil drum.

Garbage pits are a good way for one or two families to get rid of their garbage. Garbage pits look like honey bucket pits. The pictures show those kinds of garbage pits that might be used. These are things to remember when someone makes a garbage pit:

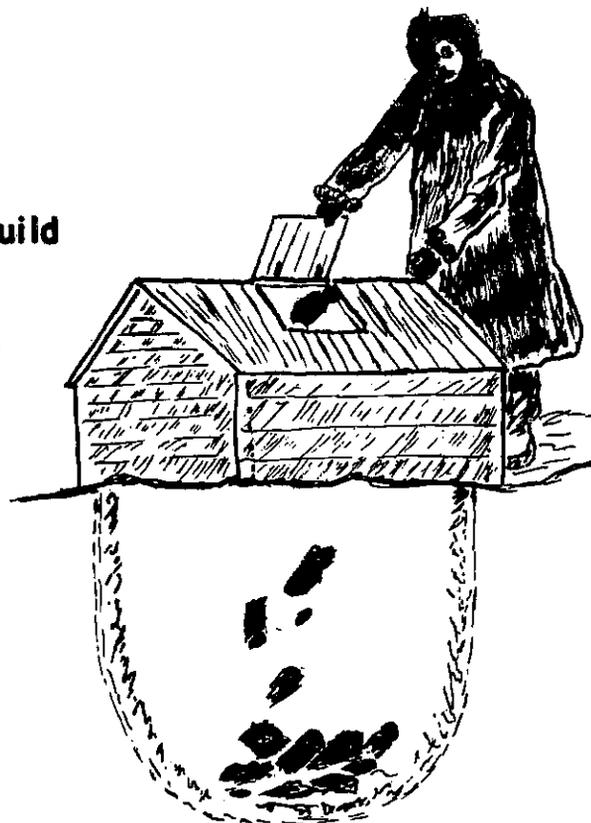
1. In the fall, make a garbage pit big enough so that it will last all winter.
2. Make the cover for the pit tight so that flies cannot get to the garbage.
3. Do not put trash in the garbage pit. The trash will fill up the pit very quickly.
4. Do not put the pit too far from the house.
5. When there is a lot of snow the cover for the pit might have to be level with the ground.
6. Dig a separate pit for trash or use an incinerator.

GARBAGE AND TIN CANS

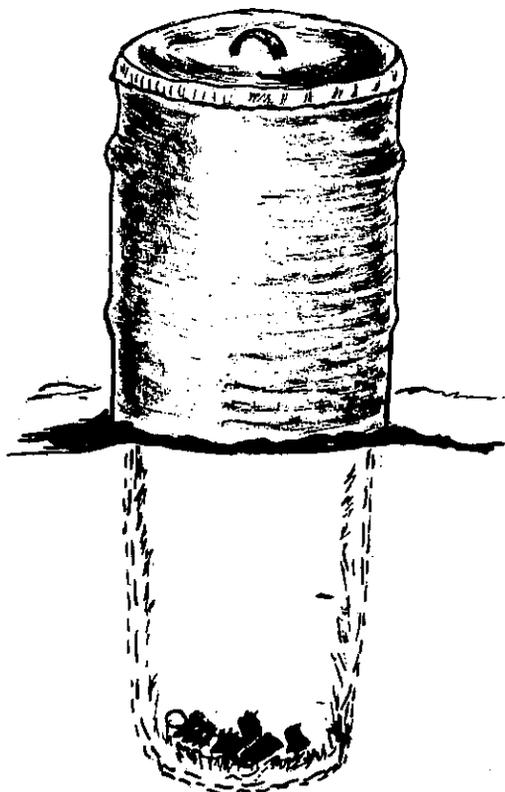
FIRST WAY

Dig pit as deep as you want. Then build a small house over it like in the picture.

When pit is almost full dig a new pit and fill in the old one. Then move the house over the new pit.



SECOND WAY



1. Cut bottom out of barrel
2. Fix cover with handle
3. Dig round hole a little smaller than the barrel
4. Put barrel over hole as you see in the picture
5. When hole is almost full, cover it with dirt and dig a new hole. Put the barrel over the new hole
6. Flatten cans before dumping.



Garbage Containers are very often used by people who don't want to walk to the garbage pit several times a day. Garbage cans are often used to store garbage until it can be hauled to the Sanitary Landfill. Garbage containers can be made out of large oil drums or twenty-five gallon drums. Some stores sell regular garbage cans. It is better not to use large cans. When they are full they are too heavy to carry easily. These are things to remember when you talk to people about garbage containers:

1. Do not make them too large.
2. Use tight fitting covers so that animals and flies cannot get to the garbage.
3. Empty the garbage containers at least twice each week during the summer time.
4. Wash the cans out after they are emptied.
5. To keep dogs from turning the cans over it would be a good idea to put them on a platform.

SECTION 9

TYPES OF REFUSE DISPOSAL SYSTEMS
HOW TO BUILD THEM

We know that it is a good idea to put garbage in one place and trash in another. We also know that a village with trash or refuse scattered about is not a sanitary village. It is important, therefore, that we know how to get rid of trash or refuse. These are some of the ways to get rid of trash:

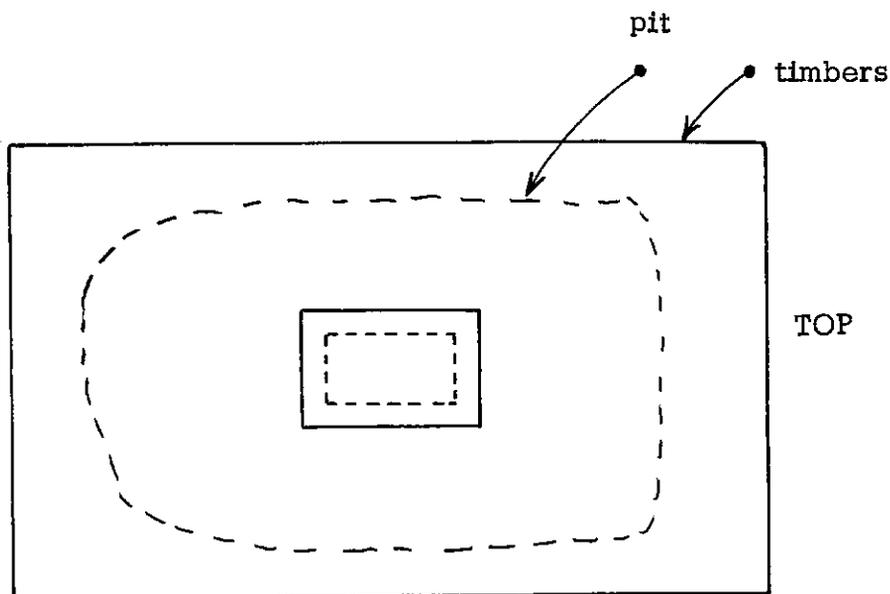
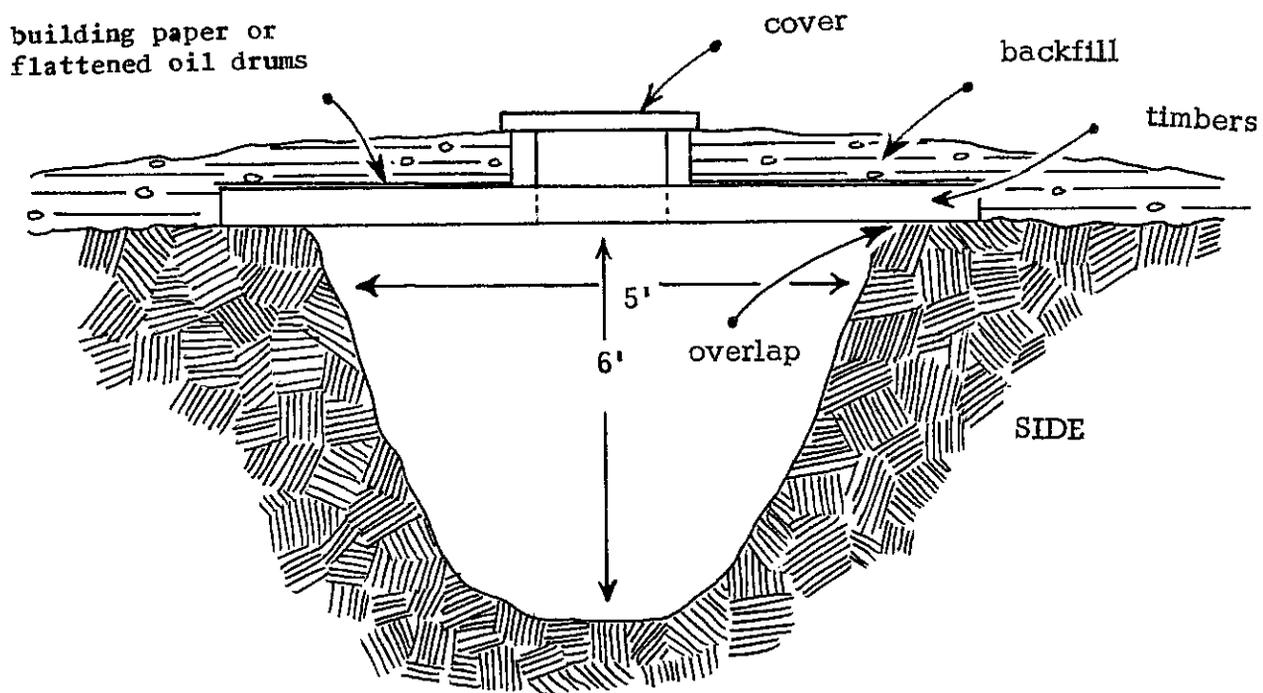
scattered = thrown around

The open pit is often used to get rid of trash. During the warm months a pit can be dug which will last all winter. The pit can be made as small or large as the person wants. Bottles that are put into the pit should be broken and tin cans should be smashed flat. By doing this the pit will last longer. When the pit is full, cover it up with earth.

The covered pit is good to use where there is a lot of snow in the winter. Dig a hole as big as needed. Put a roof over the pit. In the center of the roof make a door. Build a cover for the door. The roof of the pit and the door into should be level with the ground so that snow will blow over the pit. The drawing shows how this can be done. When the pit is full, take the roof off, cover the pit with earth and dig a new pit. The cover from the old pit can be used on the new pit.

For more information on refuse disposal write to the Bureau of Environmental Health Programs, Division of Health.

GARBAGE PIT FLUSH WITH GROUND



SECTION 10

FOOD STORAGE IN THE HOME AND
METHODS OF PROTECTION

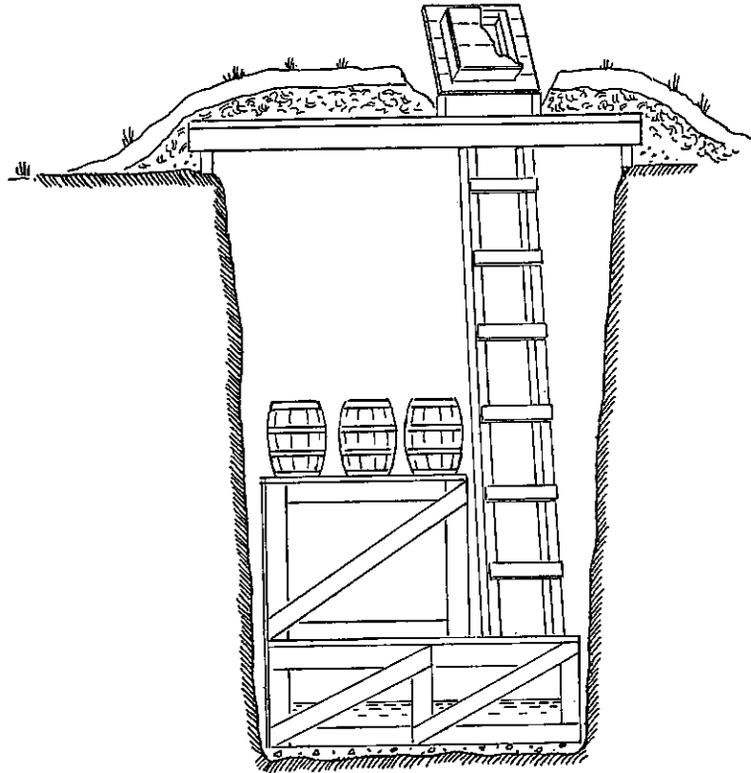
We learned in school that disease germs very often travel about on food that we eat. The Guide also taught us that flies or dirty hands can leave germs upon food. When we eat the food, the germs go into our bodies and make us sick.

All of us have seen fish or other meat that rots or spoils when the weather is warm. There are other foods also that rot if they are not kept cool. Milk spoils, canned meat that is opened also spoils. When food spoils or rots we cannot eat it and money or work is lost.

There are several ways to keep food from spoiling and keep animals and flies off the food. These are some of the ways:

The Food Storage Pit

On the following pages is a picture of a food storage pit which may be built in perma frost areas. When food is kept this way, it is important that racks be built in the pit so that food will not lie on the floor. It is also important that earth be put on the roof and a good trap door so that warm air will not get into the pit and water will not stand on the roof.



**FOOD STORAGE PIT FOR USE IN
PERMANENTLY FROZEN GROUND**

FIG. 2.

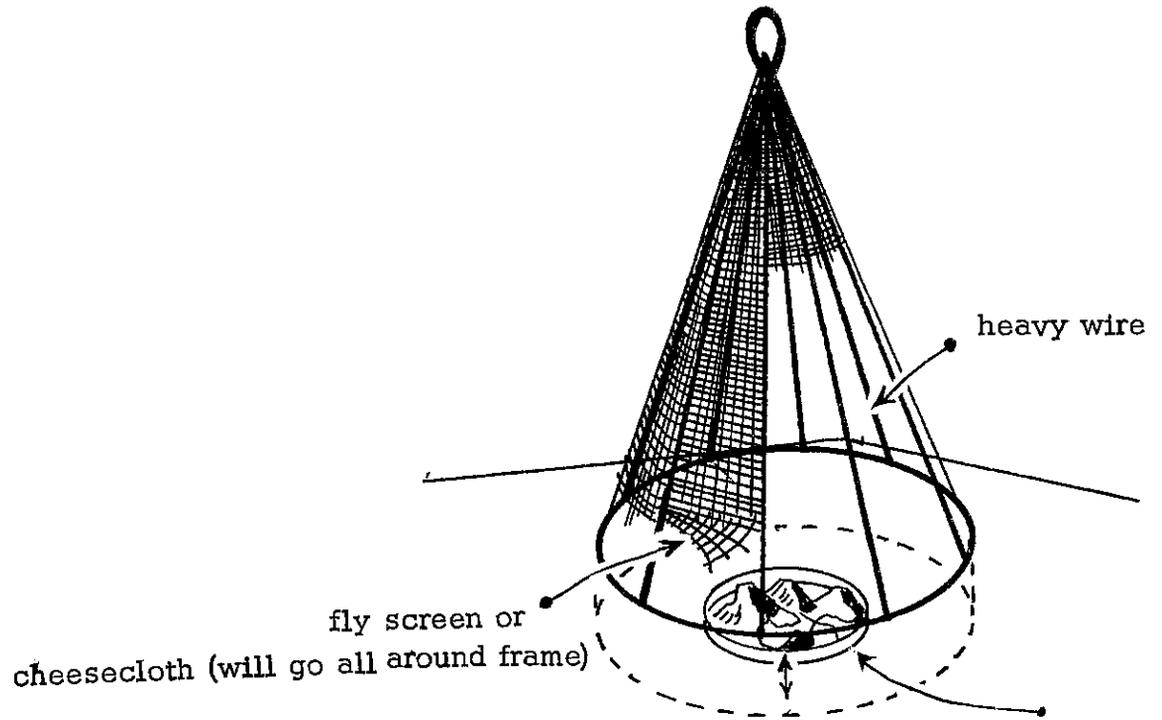
The refrigerator is used in towns or cities where there is electricity. There are also gas and oil refrigerators. Refrigerators are the best way to keep food from spoiling.

An outside screened Cabinet can be used in those places where the days are cool all the time. This looks just like the water cooler, but does not have burlap over the fly screen. This cabinet can be hung on a pole, a tree, or outside a house. It is a good way to keep flies off food.

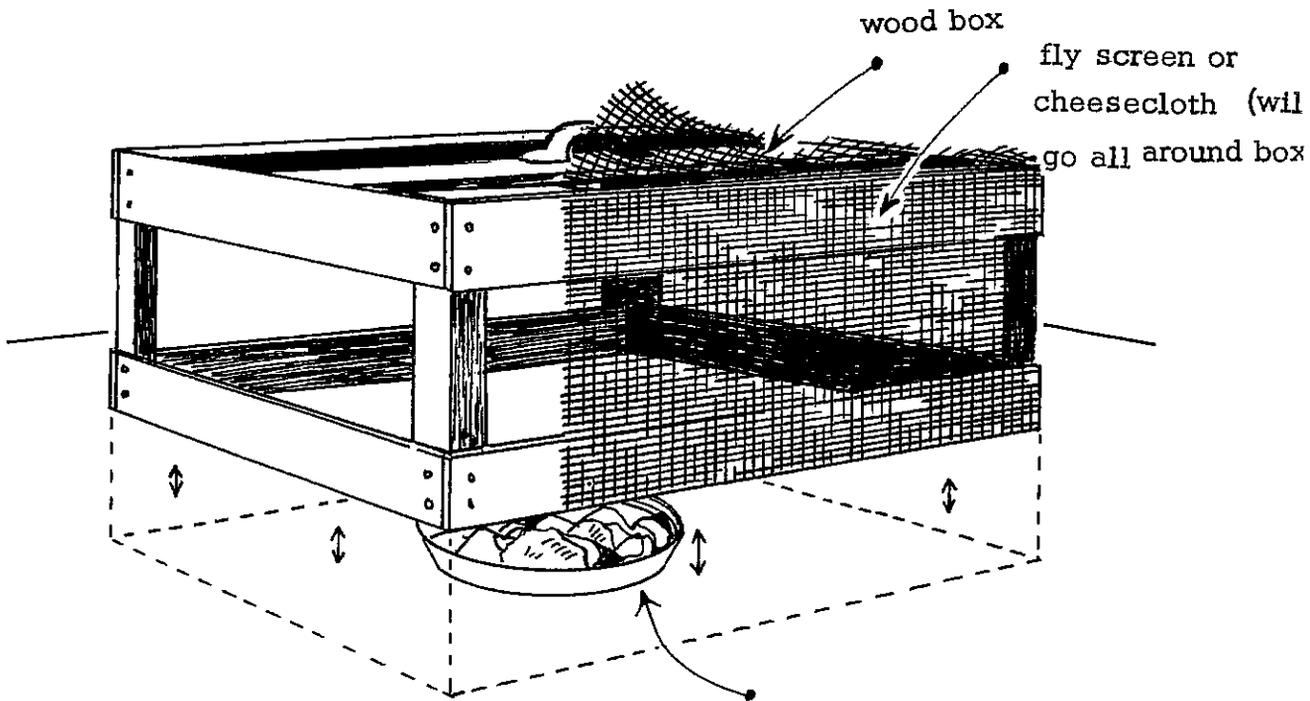
It is a good idea to put screen around fish drying racks also. Animals and insects could not get to the fish if the racks were screened.

Inside cupboards should be in every house. Clean dishes, knives, spoons, and cups should be kept in the cupboard where dust and germs cannot get to them. Food that will not spoil should be put in cupboards. The cupboards should have tight fitting doors. Food should not be put on the floor.

Portable food covers can be used to cover food when people are away from home. It can also be used to cover food on the table. The drawing shows what a portable food cover looks like.



PORTABLE FOOD COVER - wire and screen type



PORTABLE FOOD COVER - wood and screen type

Screening doors and windows of the house is one of the best ways to protect food in the home. We know that flies live in the same places where disease germs are found. We know that flies carry these germs on their legs and bodies, and when they come in the house, they crawl upon the food. The germs rub off on the food as they walk over it.

Screens on the windows and doors will help keep flies out and will keep the food clean. When screens are on the windows and door, we can let fresh air and sunshine in the house. Fresh air and sunshine kill germs.

SECTION 11

TYPES OF INSECTICIDES AND RODENTICIDES
WHEN, WHERE AND HOW TO USE THEM

Insects, like people, need a place to live and food to eat. The sanitary home or village does not give insects a home or food. The best way to get rid of insects is to take away the places where they live and the food they eat. Sometimes it is very hard to do this in a short time. When this happens, we may use insecticides to help kill the insects.

If you use insecticides or tell other people how to use them, follow these rules: - Remember, most of the insecticides and rodenticides are POISON.

1. Never spray any insecticide where it will get on the food or the dishes we eat from.
2. Be careful not to spill insecticide on your hands or clothing. If you do, wash your hands with soap and warm water. Take off the clothes which have insecticide on them.
3. Never spray insecticide in a room where there are babies or small children.
4. Never put insecticide where children may drink it or where it may get mixed up with food.

The chart tells you what insecticides to use and how to use them:

<u>Insecticide</u>	<u>Insects it will kill</u>	<u>Where to use it</u>	<u>Remarks</u>
D.D.T.	Flies	Around door sills, window frames, upon screens, outside of garbage cans, ceilings of rooms.	7% D.D.T. mixed with water is a good insecticide for flies.
	Lice	Cracks of mattresses, the hair, where clothing hangs, dust clothing not washed.	Use 10% D.D.T. dust
	Fleas	Dust clothing, bedding, hair	Use 5% D.D.T. dust
	Bed bugs	Dust clothing, bedding, furniture, -- spray walls, cracks, moldings	Use 10% dust
Chlordane	Cockroaches	Under drains, in cabinets, in drawers around sinks, along baseboards	Use 5% liquid -- paint on with brush -- do not spray.
	Ants	Sprinkle chlordane dust on ant hills and where ants travel	Use 5% powder -- not liquid Very poisonous
Lindane	Ants	Dust runs or hills	Very poisonous -- use 5% both liquid or dust
	Cockroaches	Paint on like chlordane	
	Bees	Liquid spray	
	Wasps	Liquid spray	
	Hornets	Liquid spray	
Malathion	Flies	Spray on garbage dumps	Dilute with molasses or sugar and water.
Pyrethrum	Flies	Spray in houses, point spray up, let mist settle down,	Kills insects on contact, is a space spray -- harmless to people.
(Flit, Flytox, etc.)	Moths, Mosquitoes, etc.		

Rodenticides are poisons used to kill rats and mice. In some places the villages have rats that live along the docks or in the houses. Because rats carry disease to people, it is important to get rid of them. Rats and mice are like flies and people. They must have a place to live and food to eat. If people keep their homes clean and neat they will not give rats a place to live. If people do not throw garbage where rats can eat it, they will find some place else to live.

Sometimes there are so many rats that we have to kill them with poison. Many of the poisons meant to kill rats and mice will also kill people. That is why people should be very careful how and where they use rodenticides. Before you use poison or tell other people to use it, ask your supervisor to help you.

The chart gives you the names of some of the rodenticides and how they are used:

RODENTICIDE	KIND OF POISON	HOW TO USE IT
Warfarin	Dicumarol Causes internal bleeding	Put poison in bait boxes where other animals cannot get to it. Can be used in garbage dumps if protected from rain, snow, etc. Safe to use if handled with care.
Fortified Standardized Red Squill	Poison kills rat because they cannot vomit	Mix bait with hamburger, fish, or other ground meat - Wrap in paper in small amounts and put where rats live or run - Safest poison to use. Will not kill other animals except chickens, etc.
Crawley's Licorice poison	Arsenic trioxide Kills all animals	Pour Coca Cola bottle caps full of poison. Put in bait boxes where rats or mice run. Do not use around food - Lock bait boxes.
Cyanogas "A" Dust	Cyanide	Use only in rate holes - do not use indoors or near buildings where people live. Do not use if your supervisor is not with you.

" THE SANITATION AIDE " is a bulletin of news and activities in the field of public health and the Native Village Sanitation Program of the Alaska Department of Health and Welfare. It is available to anyone who is interested in the public health problems of Alaska's villages and small communities. If you are interested in this work and wish to receive " THE SANITATION AIDE " please fill out and mail in this form -

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