

INTRODUCTION

Aluminum foil has many potential uses in the cooking area, and no camp kitchen should be set up without including it in the supplies. It can be used in food preparation, as a cooking utensil, for heat control, and to reduce cleanup. Once you start to use aluminum foil regularly, the more uses you will find for it.

Many times the cooking utensil can be lined with aluminum foil to reduce cleanup. For example, if you are making a peach cobbler, you can line the dutch oven with foil. Use the wider foil. Adjust the foil so that it fits tightly against the sides and bottom. If the food burns, the burned material will be on the aluminum foil and not on the dutch oven. Unless there is a tear in the foil, the utensil will require little cleaning.

You might especially consider aluminum foil for your last meal in camp when a speedy, efficient cleanup is important. Or you might consider it for use in a moving camp to minimize your weight. It can be used by one person for cooking his own meal, or it can be used by a group with food cooked in individual servings.

Many people have had unhappy experiences with aluminum foil. These unhappy experiences have been due primarily to one of three reasons:

1. the aluminum foil was improperly sealed.
2. the foil was broken at some place.
3. the food was kept on the fire too long.

These difficulties can be prevented. When they are, the result is a satisfying meal, ready in a relatively short time, with little cleanup. Try aluminum foil and see.

WEIGHT OF FOIL

Almost every meal you will prepare can be cooked in standard weight aluminum foil, folded double. With double thickness of standard weight, you have some extra protection against punctures. If you haven't tried aluminum foil, you might try both standard and double weight and decide for yourself which you prefer.

SEALING FOOD IN

Sealing is the key to success in cooking in aluminum foil. Close the aluminum foil so that there is little possibility for the liquid to escape. You want to cook the food in its own liquid or liquid that is added. Not only that, you also want to do the cooking "under pressure." If you have a proper seal without any breaks in the foil, you will have a miniature pressure cooker. When you cook "under pressure," much less time will be required to cook than in an unsealed package. This is important to remember when you use foil.

A puncture or improper seal will mean loss of liquid. With little or no liquid in the package, the only result that can be expected is burned food. Be careful not to puncture the foil or otherwise break the seal.

When sealed, aluminum foil packages can be placed on a bed of coals. The coals should be somewhat beyond their prime. Turn packages as directed in the recipes. This might be every three to five minutes. A pair of gloves makes it relatively easy to turn packages. Tongs or pliers can also be used, but with these two utensils, there is some danger that the foil will be punctured.

When you remove the package from the coals, check to see if the food is done. When you open the package, do so carefully to ensure that the foil is not broken. If you started with a large enough piece of foil, you can usually reseal the package if you find that the food requires more cooking.

Consult page 3 for instructions in sealing food in aluminum foil.

USING ALUMINUM FOIL TO CONSERVE HEAT

If one is using charcoal, aluminum foil is extremely valuable in controlling and conserving heat. In winter camping, there is considerable loss of heat because of the cold ground. This is also true when the ground is wet. This heat loss can be greatly reduced if one uses aluminum foil. With foil placed on the ground and the coals on the foil, more heat will be directed upward for cooking.

There are additional advantages in using aluminum foil as the base for your coals. If it is windy, you can turn the edges of the foil up to serve as a windbreak. There will not only be less heat loss, but the coals will last longer.

Another advantage is that frequently, after you are finished cooking, you can lift the aluminum foil up and properly dispose of your coals. You can frequently remove all evidence of the fire in this way.

There will be times when you will want to increase the heat in the dutch oven. Again, aluminum foil comes in handy. For example, there is a considerable loss of heat from the coals in the lid on the dutch oven if it is windy or if it is raining. By placing a piece of foil on top of the coals, with a stone or two to hold it down, you will reduce the loss of heat and force more heat into the oven. However, when you do this, you will need to reduce the number of coals in the lid and make more frequent checks on the cooking progress. Additional protection from strong winds can be obtained by wrapping aluminum foil around the dutch oven.

At times it is difficult to get a nice brown crust on what you are cooking. If the item is completely cooked and you still want to get the top browned you can do this quickly by placing a piece of foil over the coals on the lid. In this case, do not remove any coals from the lid, but check in one or two minutes.

WHAT TO DO WITH USED FOIL

Crumple the used aluminum foil up after you have used it. Open the crumpled foil up and place it on some hot coals. A hot fire will break the foil down. (You can see from this what happens when you make a crease in aluminum foil.)

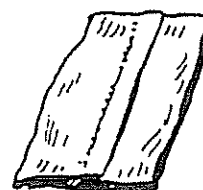
Any foil that is not destroyed, and there will always be some, should be put in a rubbish container if there is one at the campsite. Otherwise carry the used foil out with you to dispose of when you get home. Used foil does not belong in the fireplace or in the woods.

SEALING FOOD IN ALUMINUM FOIL

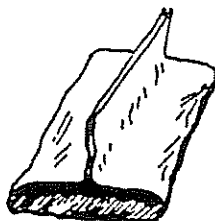
1. Cut piece of foil that will be large enough to make your seal. If you are using regular, not heavy-duty, foil, have a piece large enough to fold in half for double thickness. A good idea is to cut one piece first and check the size before you cut all you need. Do not skimp on the amount of aluminum foil you use to make your seal.



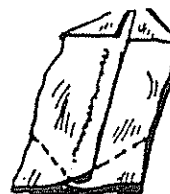
2. Place food in center of foil.



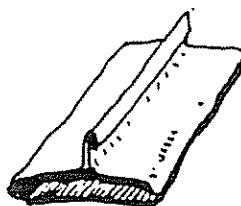
6. Fold the top down flat. Also press ends together.



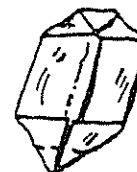
3. Bring sides of foil up over the food loosely.



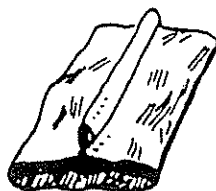
7. Fold corners over, as shown by dotted lines.



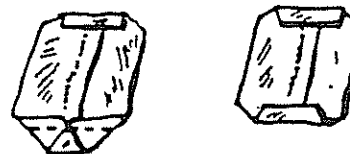
4. Fold the top half inch down on itself. This can be creased.



8. Fold pointed ends over, about one-half inch, as shown by dotted lines.



5. Fold the top down again on itself. Do not crease.



9. Fold ends over again.
10. Put foil package on the coals.

Hiker's Fold-Up Toaster

**It's lightweight
and easy
to make.**

With this simple toaster, you can cook fresh, warm toast on camp-outs. It's lightweight enough to carry in your backpack.

The toaster consists of two wire frames joined at the top with twist ties and held rigid at the bottom by a sheet of aluminum foil. The foil serves as the base.

To toast, simply lay slices of bread against the frames and then set the toaster *near* a bright "tepee" style fire (this works better than putting it on hot coals).

The toaster will work fine with just two frames, but you can make it with three or more if you want to toast more bread.

Besides toasting, you can use this contraption as a shish kebab stand or, if you cover the top completely with foil, as a reflector for baking dough. Because it's self-supporting, you can move it as far

from the fire as necessary.

You'll need:

- coat hanger wire (at least 2 pieces, each about 23 inches long)
- pliers, wire cutters, crayon, nail
- heavy-duty aluminum foil (5 inches by 3 inches)
- wire bread-bag twist ties

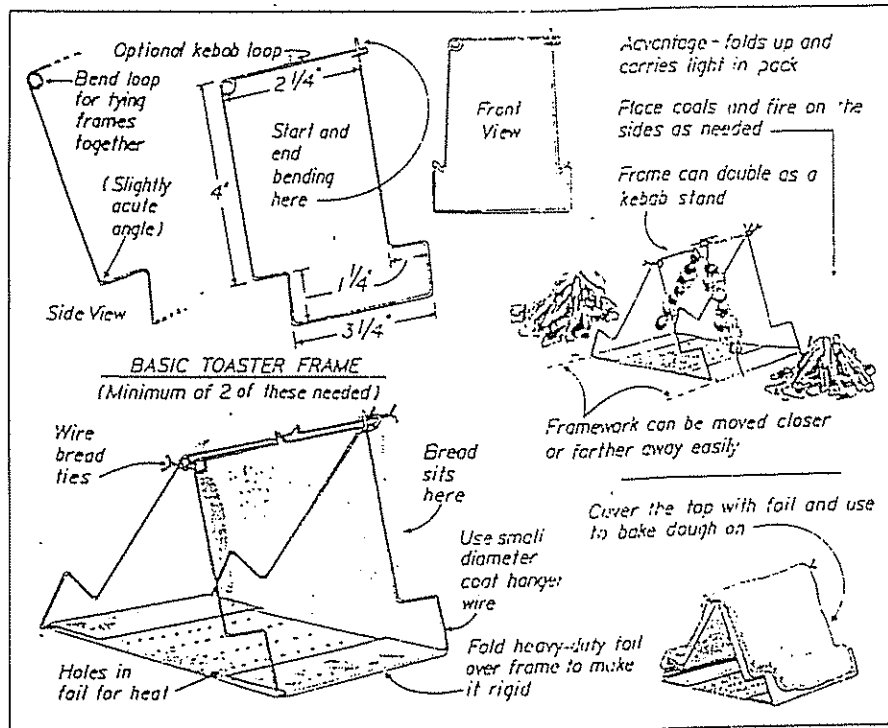
Referring to the diagram, measure the frame and use a crayon to mark on the wire those points where you will make bends. Grasp the wire with the pliers at the points you marked and bend it into shape around the ends of the pliers.

Make sure the bends in the frame are symmetrical, so that the toast will rest on it evenly.

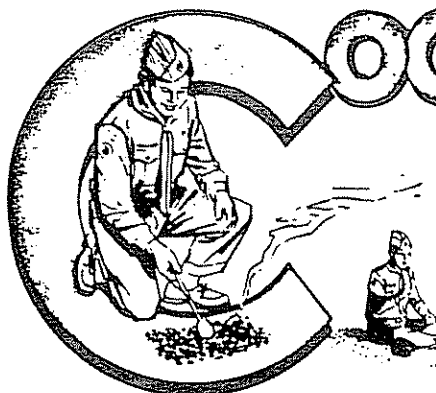
Join two or more frames together with twist ties and then form a base out of foil to hold the bottoms together. Poke nail holes to allow heat through.

When it's time to break camp, separate the frames. When folded, the toaster takes up very little space in your pack.±

—L. David Curtis



COOKING WITHOUT UTENSILS



COOK—WITHOUT UTENSILS—A MEAL FROM RAW MEAT (OR FISH OR POULTRY) AND AT LEAST ONE RAW VEGETABLE. PROPERLY DISPOSE OF GARBAGE, PUT OUT YOUR FIRE AND CLEAN UP THE COOKING AREA.

WITHOUT UTENSILS MEANS YOU'RE NOT TO USE COOK KITS, TIN CANS, FOIL OR ANY OTHER ITEMS MANUFACTURED FOR COOKING.

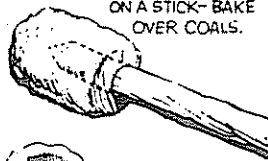
FIRE: BEST IS A SMALL TRENCH FIRE. ALLOW TO BURN DOWN TO RED COALS.



WHEN THROUGH COOKING, MAKE SURE FIRE IS OUT. FILL IN TRENCH WITH DIRT SAVED WHEN TRENCH WAS DUG. REPLACE THE GRASS SOD.

POTATOES: PUSH HOT COALS ASIDE WITH STICK. PLACE UNPEELED POTATOES ON GROUND UNDER COALS. COVER WITH ONE-HALF INCH OF DIRT. PUSH COALS BACK OVER DIRT. ALLOW TO BAKE ABOUT AN HOUR, THEN COOK MEAT OVER COALS.

BREAD: PRESS A WAD OF DOUGH ON A STICK—BAKE OVER COALS.

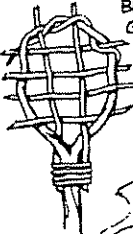


WHEN BREAD IS BAKED TO A NICE, GOLDEN BROWN, SPREAD BUTTER, JELLY OR SUGAR AND CINNAMON ON THE INSIDE.

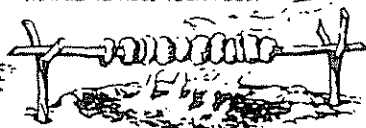
HAMBURGERS CAN BE COOKED ON A FLAT STONE LAID ON COALS. (WATCH OUT FOR "POPPING STONES"—TEST IN FIRE FIRST).



MEAT: STEAK MAY BE BROILED ON A GREEN STICK "TENNIS RACKET"



SELECT A GREEN SWEET WOOD—APPLE OR MAPLE—TO HOLD YOUR FOOD.



STEAK AND CORN CAN BE COOKED RIGHT ON THE COALS. OPEN CORN HUSKS ENOUGH TO REMOVE SILK—CLOSE UP AGAIN. SOAK CORN IN WATER, LAY ON COALS ABOUT EIGHT MINUTES ON EACH SIDE.

KABOB: SKEWER ONE-INCH CUBES OF BEEF, LAMB OR PORK ON A SLENDER STICK—SEAR MEAT UNTIL BROWN. REMOVE FROM STICK. THEN SKEWER ONIONS, GREEN PEPPERS, TOMATOES (CHERRY SIZE OR HALVES) ON STICK WITH CHUNKS OF MEAT BETWEEN. BROIL OVER COALS. TURN OCCASIONALLY UNTIL DONE.

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Brown-Bag Biscuit

Saturate bottom and sides of paper bag with cooking oil. Place prepared dough in bag and heat. Bag should hang high enough not to burn but low enough to receive good heat.

Egg on a Stick

Pierce small holes in egg and pass stick through egg. Heat over coals. Be sure the stick is from a nonpoisonous plant. Avoid holly, yew, elm, or laurel.

Paper Cup Hard-Boiled Egg

Fill an unlined, unwaxed hot paper cup with water ($\frac{3}{4}$ full). Allow water to boil. Place egg into cup. You may use aluminum foil to cover cup, but be sure to puncture the foil to vent steam. Use caution when removing egg. A pair of metal tongs should be nearby.

Paper Plate Bacon and Egg

Using an unlined, unwaxed paper dining plate, place bacon in first. If the heat is sufficient, the bacon should start simmering immediately. After the bacon is cooked, crack the egg directly over the bacon. Having sufficient heat without flames, the paper plate will not burn. The underside of the plate will be charred.

Paper Cup Rice

Rinse half a cup of rice and add water to just below top of cup. Seal top with aluminum foil and place close to coals but not directly on the coals. Use unlined, unwaxed cups.

Hot Potatoes

Wrap cleansed potato in aluminum foil and place over strong heat. Bake approximately 1 hour, turning side to side occasionally. Stick a knife or fork into potato to check doneness.

Orange or Onion Shell Eggs

Cut orange in half and remove fruit. Crack egg into peel and place directly on coals. Do the same using a hollowed onion for onion-flavored eggs.

Tarzan Steak. Blow the white ash from your glowing coals and place the steak directly onto the coals, cooking for about 5 minutes per side.

Fried Eggs. Bury a flat stone in the hot coals and when hot enough (a drop of water on the stone will sizzle if the stone is hot enough to cook on), sweep the ashes off. Crack an egg directly onto the stone, using a surround of green sticks to contain the egg if necessary. Burgers, sausages, and bacon can also be cooked in this way.

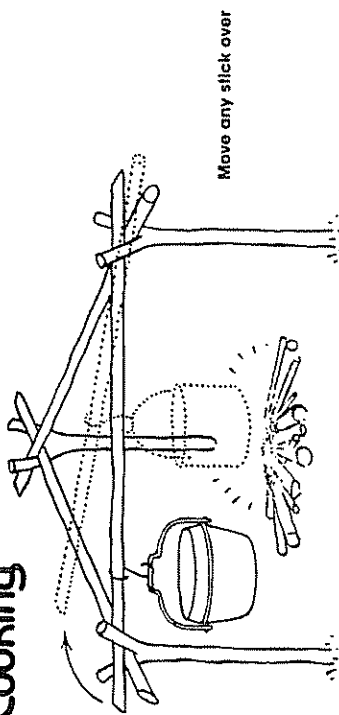
Pineapple Pud. Slice the top off a fresh pineapple using a sharp knife. Use a spoon to carefully remove center of fruit. Fill this with a mixture of raisins, pineapple (discard fibrous core), sliced apple, and grated chocolate. Replace the top of the pineapple, securing it in place with two sticks, and bury in hot embers for about 30 minutes.

Temperature Chart

Determine the approximate temperature of a fire by the number of seconds you can hold your hand over the coals. Be careful not to burn yourself.

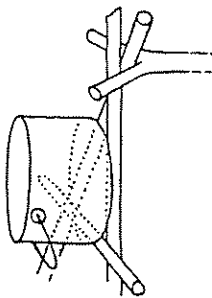
Temperature	Type Fire	Seconds
250 325 degrees	Slow	6-8
325 400 degrees	Medium	4-5
400 500 degrees	Hot	2-3
Over 500 degrees	Very Hot	1

Cooking

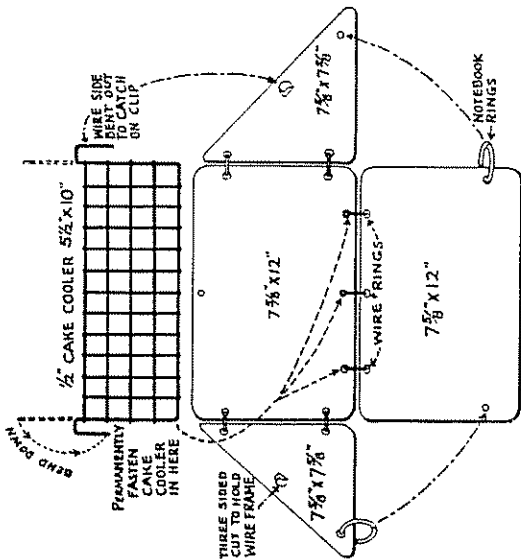


The Bangor Dixie Crane

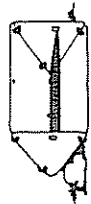
Rarely seen today, the Bangor Dixie Crane is the best of them all, say the veterans.
As the dotted "ghost" lines show, any of the top suspension sticks can be moved, so that dioxies and bilies can be moved over any part of the fire, for boiling or simmering. Also, utensils can be placed on other sticks, laid across as shown.



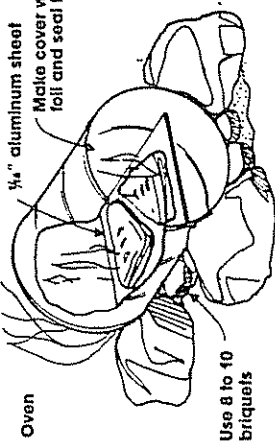
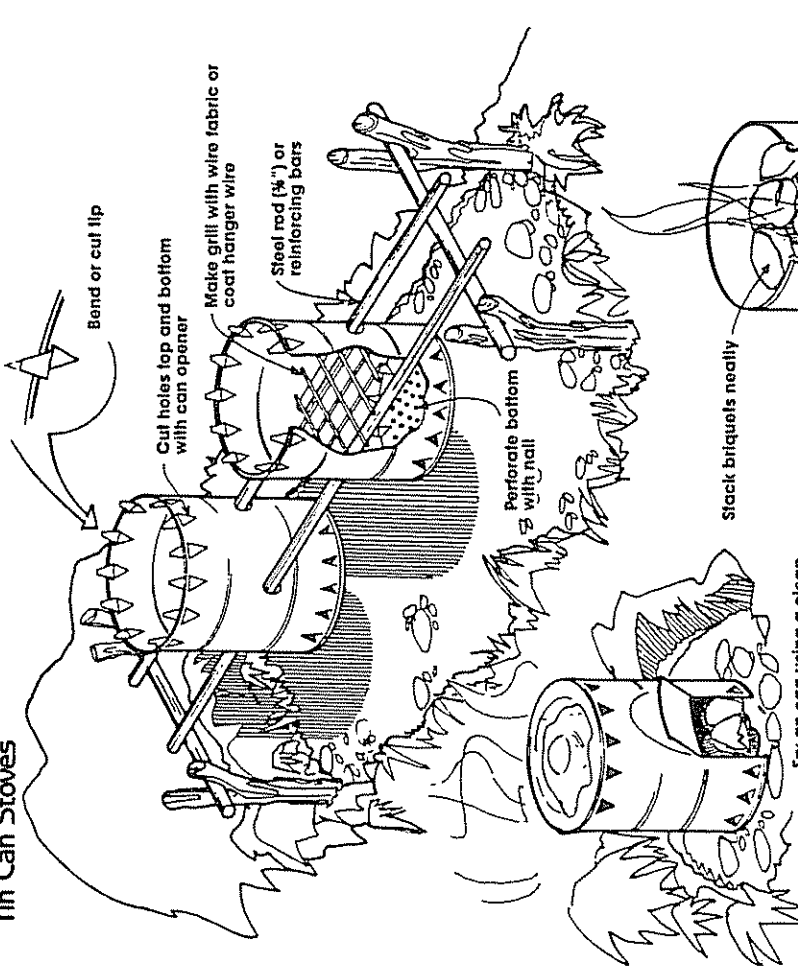
Rodgers Reflector Oven



This reflector oven folds flat and is lightweight.



Tin Can Stoves



Bake turnovers or muffins using can as oven over rock cradle.

Fast Charcoal Starter—You can easily start briquets by placing them neatly around the walls of the can, making a "hollow" in the middle. Place a fire starter and light. (See page 103 for fire starter instructions.)

Camp Can Craft

The sketches show some of the uses of the different size tin cans for camp can craft. Although only one sketch is given, some of the devices shown have several uses, depending upon the size of the can chosen and how it is used. Always be careful to crimp or file edges smooth. Handle carefully.

You can make everything you need to cook with on a patrol hike or troop camp and a lot of other interesting and useful gadgets to boot. No, it doesn't cost a thing—just a little thought, planning, and time. Sure, you can still get them! It depends on the kind you want as to where you look. The number 10s and the 5-gallon squares you can get from a restaurant, hotel or filling station; the big round ones from a fish store or a bakery; the little ones you can have your boys bring from home. All you need is a can opener, a pair of tin snips, a pair of pliers, a little wire, a nail for a punch, a metal file, emery cloth, and an old pair of gloves to protect the hands. Be careful of sharp edges. Crimp edges over with a pair of pliers and pound them down, or strike the edges with a file and round them off with emery cloth.

Uses for the 5-gallon square (1):

- Troop or patrol water can (1)
- A simple reflector oven (2)
- An improved reflector (3)
- A dishpan, sterilizing basin, or foot-bath (4)
- A stove (5)

Uses for the No. 10 and associates (38):

- Charcoal stove (using triangular can opener)

- Stove (inverted) (36)
- Nesting pails save space (37)
 - Water bucket
 - Stew kettle
 - Fire bucket (painted red)
- Double Boiler (34)

Crimp an edge and choose size (35):

- Coffee pot
- Tea pot
- Water pitcher
- Milk pitcher
- Syrup pitcher

Cut it down to size:

- Stew pan (25)
- Cereal bowl (25)
- Saucer (25)
- Sugar bowl (26)
- Plate (27)
- Serving dish (26,20)
- Pot cover (27)

By special design:

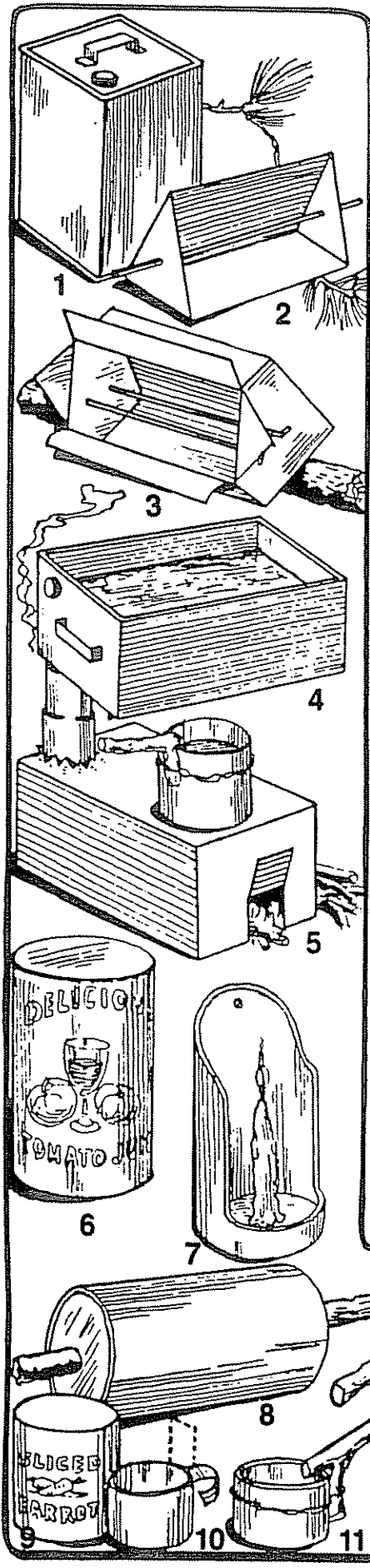
- Frying pan (24)
- Griddle (27)
- Skillet (24)
- Grill (from opened side of No. 10) (16)

Jobs for the No. 2½ and No. 3 (9):

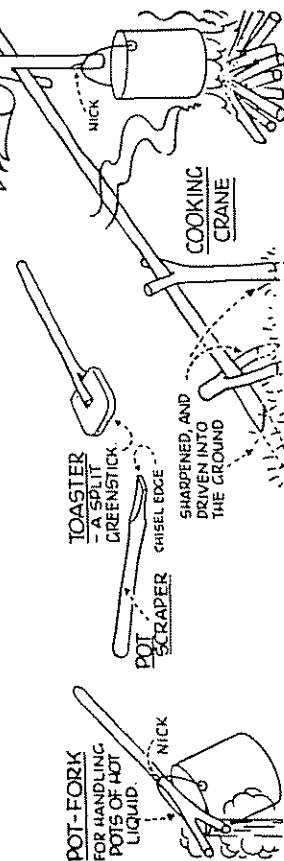
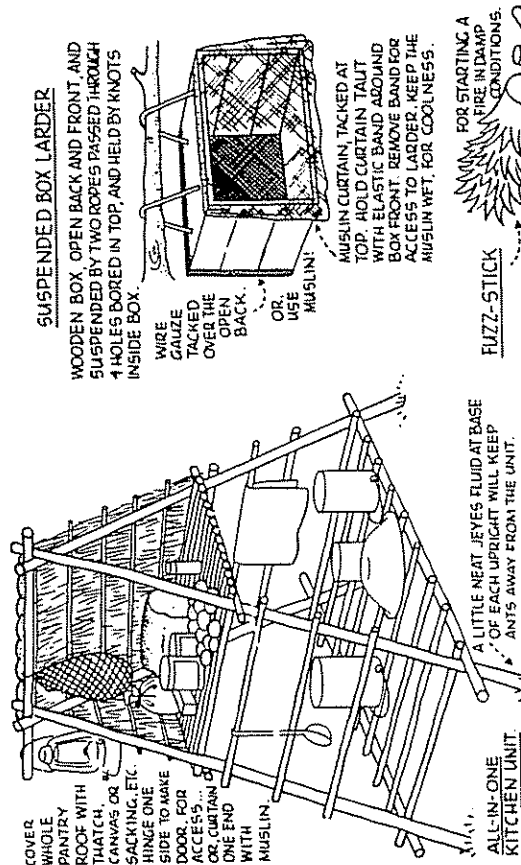
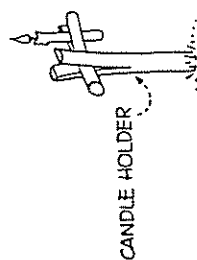
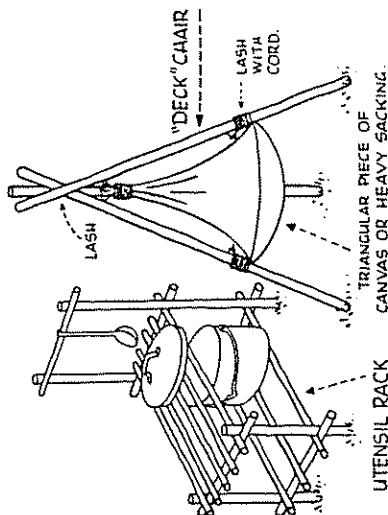
- Cup (10)
- Dipper (11)
- Dipper (12)
- Potato masher (9)

From a flat piece:

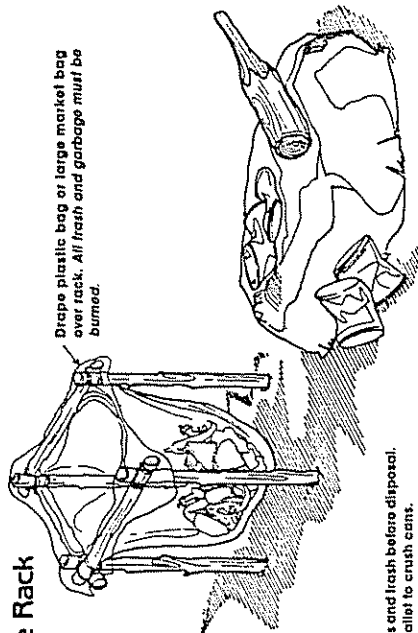
- Pancake turner (17)
- Grater (19)



Gadgets Old and New



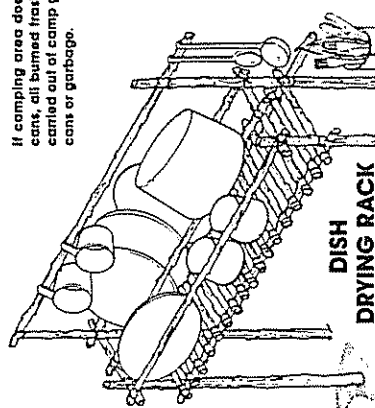
Garbage Rack



Burn all tin cans and trash before disposal. Use wooden mallet to crush cans.

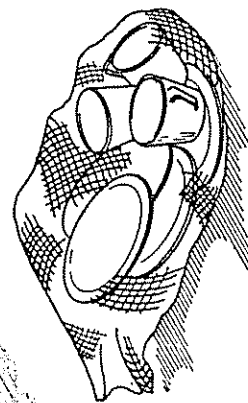
If camping area does not provide trash cans, all burned trash and cans must be carried out of camp grounds. Do not bury cans or garbage.

Dishwashing



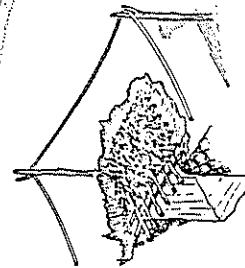
Rope off pit for safety.

Nylon mesh bag for rinsing. Perforated can for dental rinse.



Dig approximately 12 inches deep and 8 inches square in width. Place twigs as shown and place pine needles or grass over to trap grease.

GREASE PIT





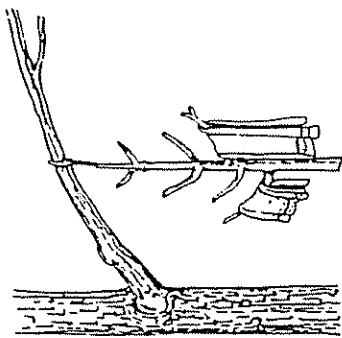
SHOE RACK

Keep shoes dry and off the ground on a simple shoe holder.



CAMP CHAIR

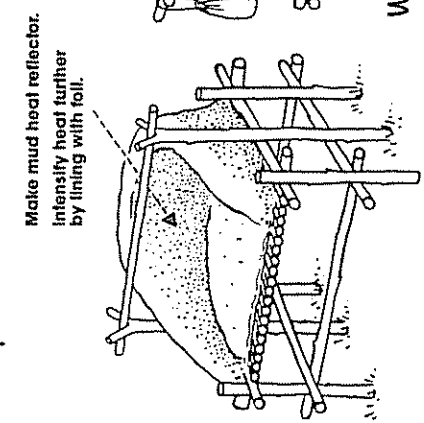
No rocking chair in camp but this Scouts chair will give you loads of comfort.



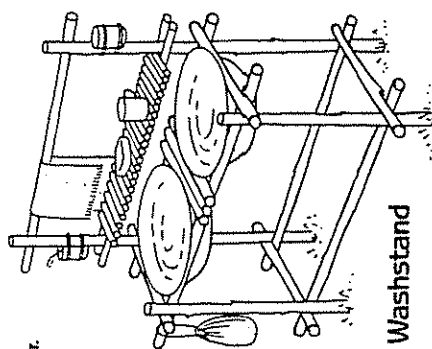
HANDY HANGER

Branch with short side branches solves problem of where to hang things.

Altar Fireplace



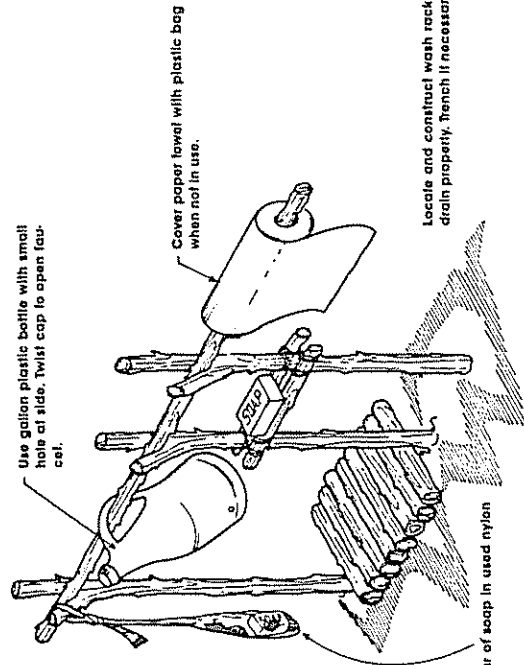
Make mud heat reflector. Intensity heat further by lining with foil.



Washstand

Lash with sisal string.

Hand Washing Rack



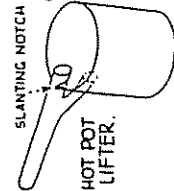
Use gallon plastic bottle with small hole at side. Twist cap to open faucet.

Cover paper towel with plastic bag when not in use.

Locate and construct wash rack to drain properly. Trench if necessary.

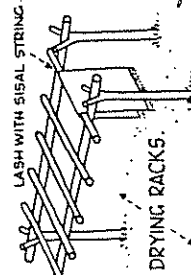
Suspend bar of soap in used nylon stocking.

Some Traditional Camp Gadgets



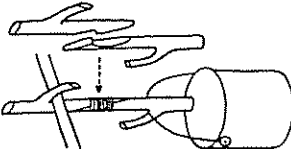
SLANTING NOTCH

HOT POT LIFTER.

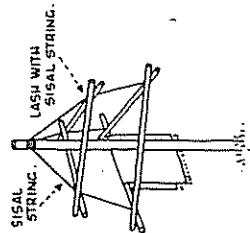


LASH WITH SISAL STRING.

DRYING RACKS.



POT HOOK.



SISAL STRING.

LASH WITH SISAL STRING.

CAMP SHOWER.

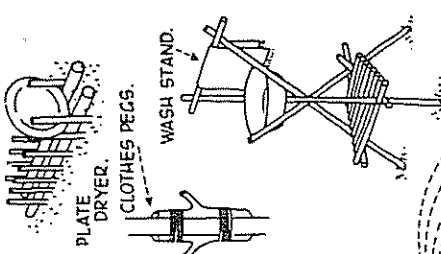


PLATE DRYER.

CLOTHES PEGS.

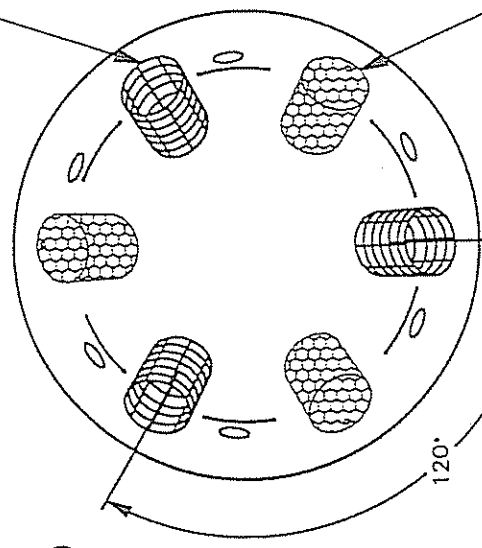
WASH STAND.

PULL

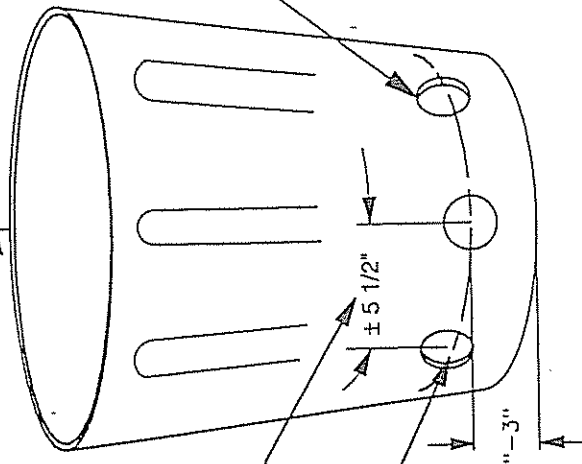
CHARCOAL COLUMN
(SEE SHEET 2
FOR DETAILS)

PERMANENTLY
MOUNT BETWEEN
AIR INTAKE HOLES

VEGETABLE
CAGES
(SEE SHEET 2
FOR DETAILS)



AIR INTAKE
8-10 HOLES
EQUALLY SPACED
1 3/4" DIA

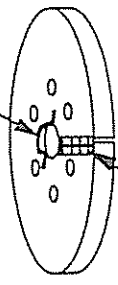


TRASH CAN DETAIL

SHEET 1 OF 3
T.O.A.P. 8/98

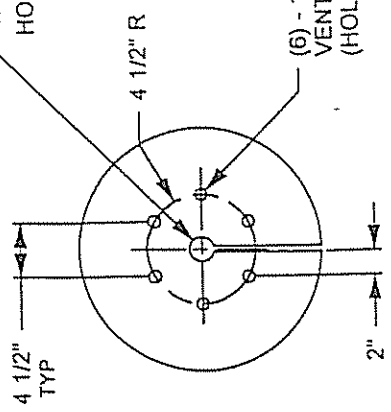
(30 ga)
metal

REMOVE HANDLE
(TIN SNIPS OR PLIERS)



PIANO HINGE
(OPTIONAL)
(EXTRA HEAT RETENTION
IF REQUIRED)

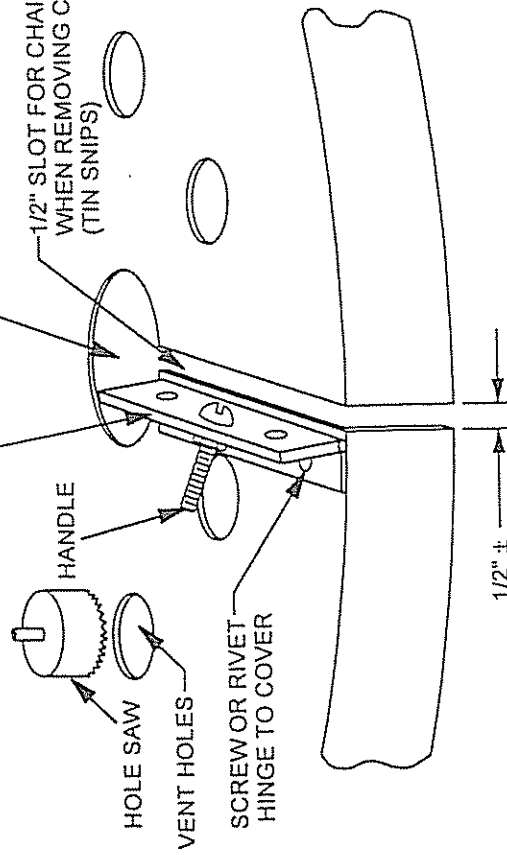
2" DIA HOLE
HOLE FOR CHAIN



1/2" SLOT FOR CHAIN TO CLEAR
WHEN REMOVING COVER
(TIN SNIPS)

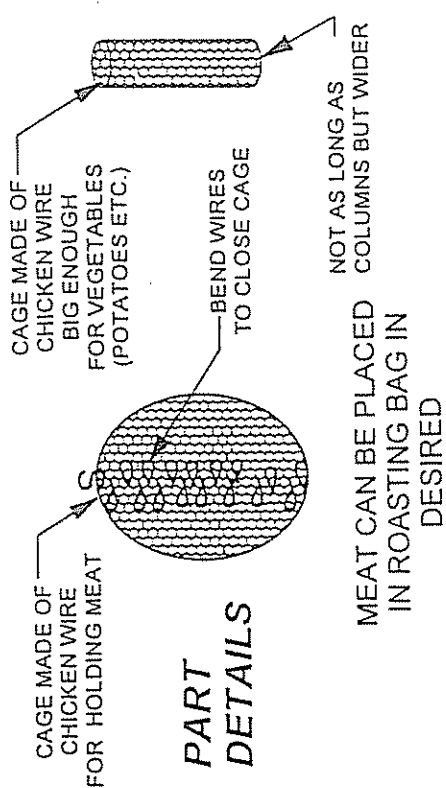
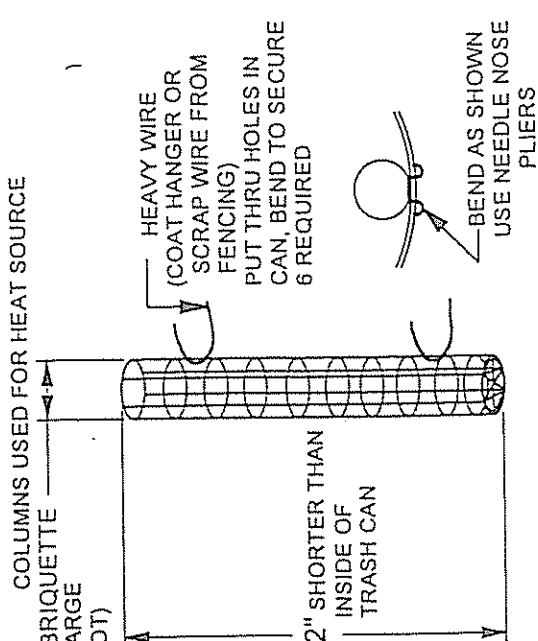
OPENING FOR CHAIN

HINGE SHOWN OPEN
TO SHOW SLOT FOR
CHAIN CLEARANCE

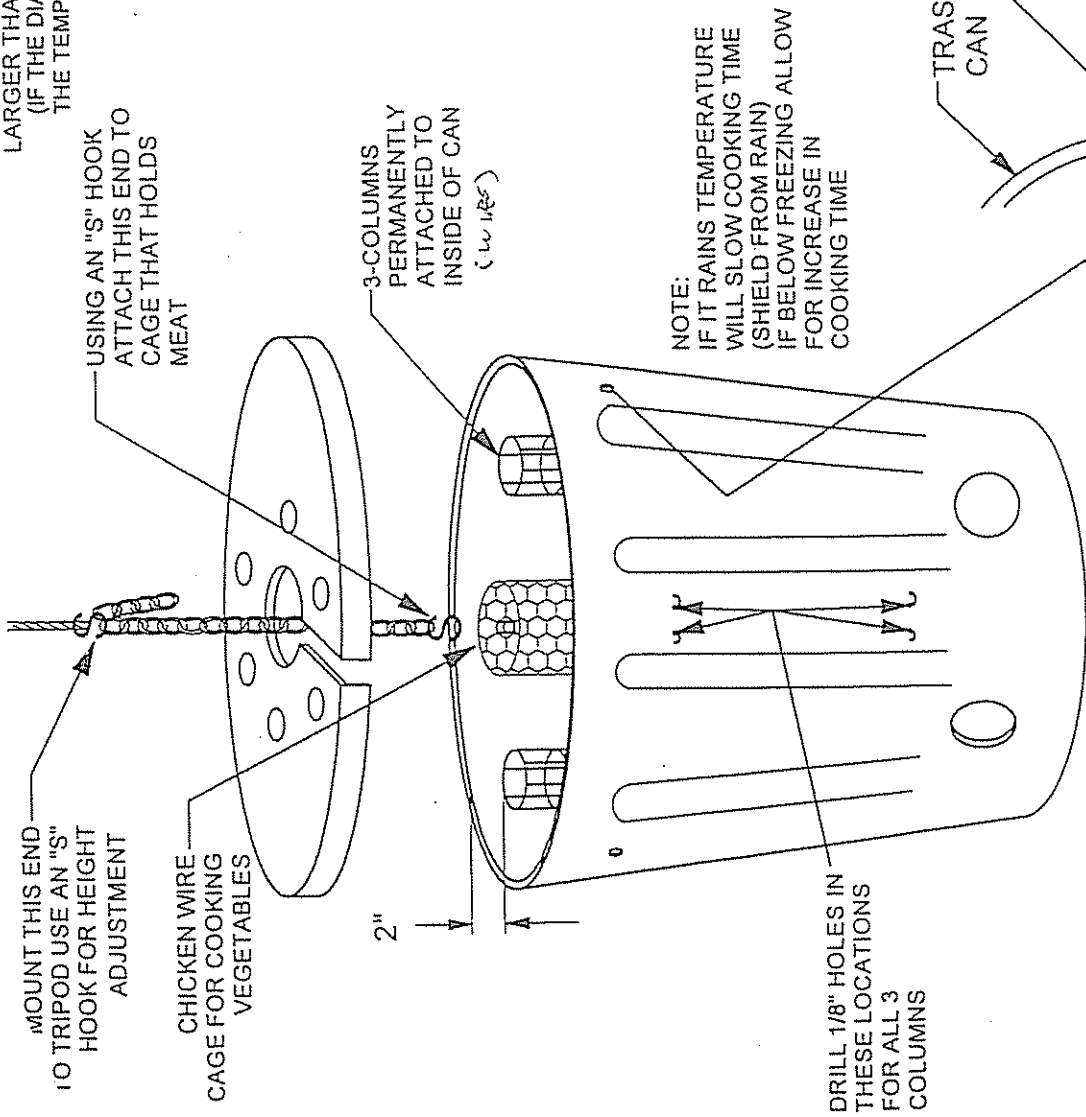


"CLOSE ENOUGH IS
GOOD ENOUGH FOR ALL
DIMENSIONS"

COVER DETAIL



PART DETAILS



TRASH CAN ASSEMBLY



NOTE:
THERE IS NO SCIENTIFIC DATA FOR
HOLE SIZES OR DIMENSIONS.
HOLE SIZES CAN VARY IF YOU HAVE
SOMETHING CLOSE. :

TO START:
PLACE SOME HOT COALS IN
COLUMNS. ADD FRESH UNBURNED
COALS ON TOP OF HOT COALS. IT IS
NOT NECESSARY TO FILL COLUMNS
WITH ALL HOT COALS. YOU WILL
NEED A SET OF TONGS TO ADD
COALS BECAUSE OF THE INTENSE
HEAT RISING OUT OF THE COLUMNS.

"I HAVE NEVER ENCOUNTERED
TOXIC FUMES FROM THE METAL.
IT WILL BURN OFF THE
EXTERNAL COATING WHERE IT
MAKES CONTACT WITH DIRECT
HEAT."

NOTE:
IF IT RAINS TEMPERATURE
WILL SLOW COOKING TIME
(SHIELD FROM RAIN)
IF BELOW FREEZING ALLOW
FOR INCREASE IN COOKING
TIME.
COOKING TIME WILL VARY WITH
OUTSIDE TEMPERATURES.

MOUNT THIS END TO
ROPE USING A "S" HOOK
RAISE AND LOWER ROPE
FOR HEIGHT ASJUSTMENT
DO NOT LOWER ROPE BELOW
THE LID OR IT WILL BURN

YOU MAY WANT TO ADD A
COUPLE OF HANDLES TO
THE LID SO IT COULD BE
EASILY LIFTED WHEN
CHECKING THE MEAT.

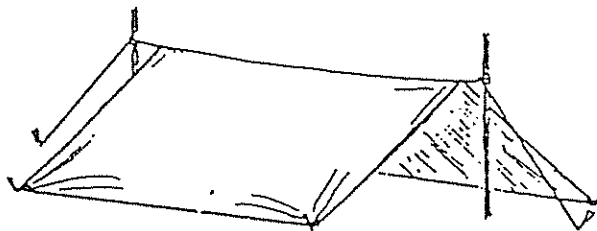
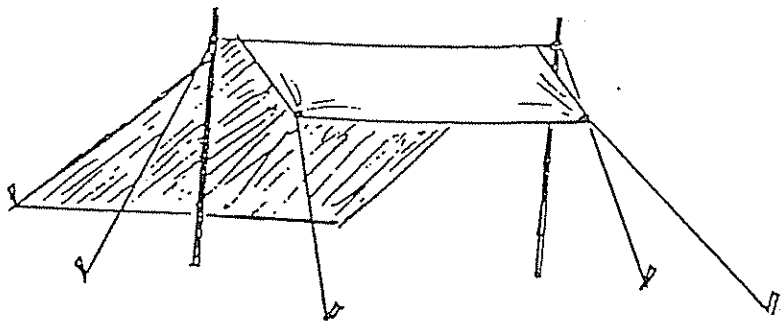
YOU CAN HANG A STOVE
THERMOMETER ON THE
MEAT CAGE TO
MONITER PROGRESS.
DO NOT LEAVE A
MEAT THERMOMETER
IN THE MEAT WHILE
COOKING IT MAY
CRACK THE GLASS.

SMOKE MAY OCCUR WHEN
YOU COOK FOR THE FIRST
TIME, ITS THE OIL COATING
ON THE CAN. YOU MAY WANT
TO FIRE IT UP WITH A COUPLE
OF DOZEN COALS BEFORE YOU
ATTEMPT ANY COOKING.

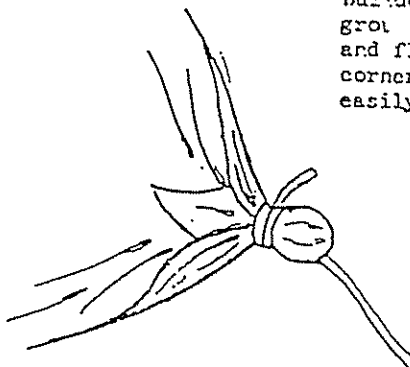
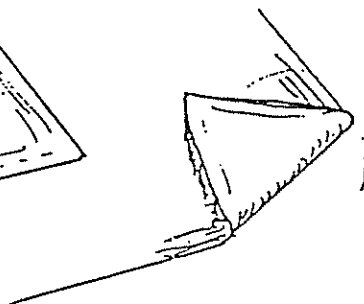
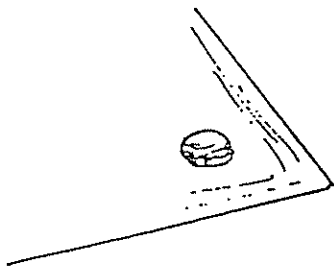
A PAN CAN BE PLACE IN THE
BOTTOM TO COLLECT
DRIPPINGS FOR GRAVY.
MAKE A RACK AND COOK
SOME PIES.

TRASH CAN MAY BE PLACED
ON CONCRETE BLOCKS TO
PROTECT THE GRASS.

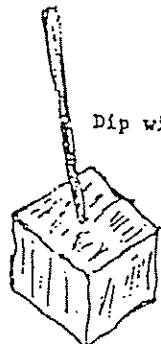
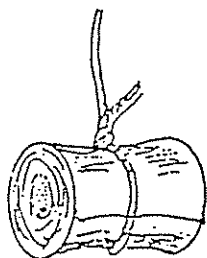
NOTE:
TO CENTER MEAT IN TRASH
CAN MOVE ONE OR OF THE
TRIPOD LEGS IN OR OUT.



Builder's plastic can be used for ground cloths and to improvise tents and flaps. Tie a small stone in the corner with the tent rope. It won't easily rip out.

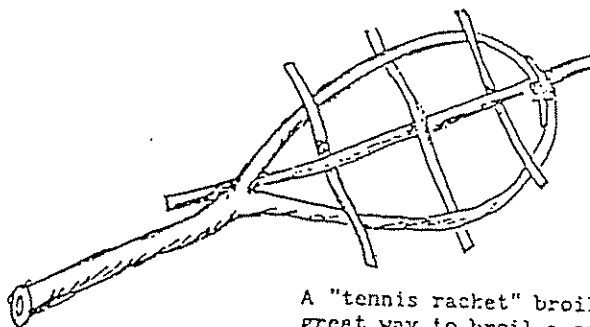


Film cans make good personal salt & pepper shakers. Close the top with tape - stick it on the side when in use.

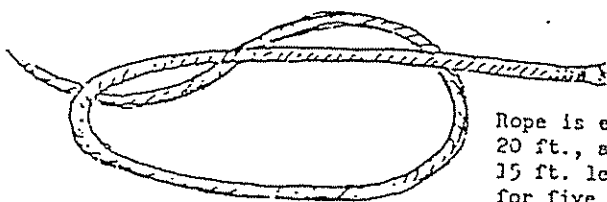


Dip with toothpick

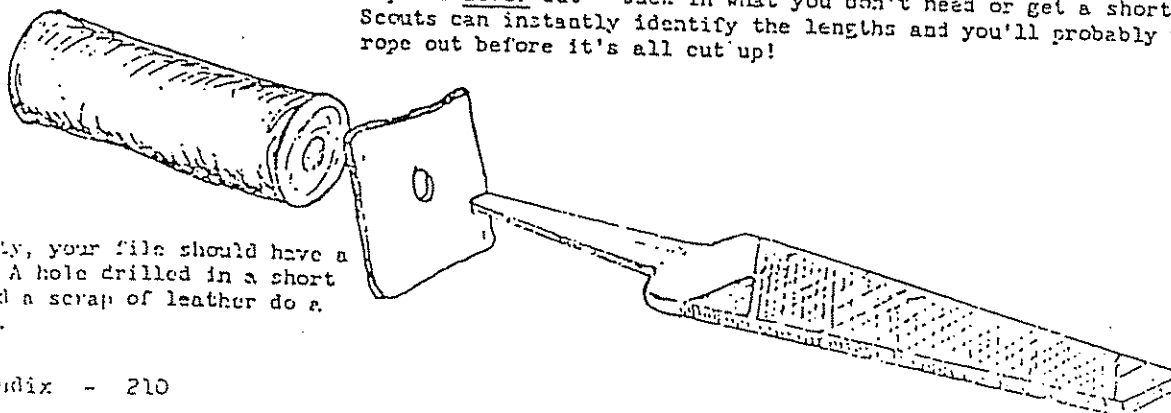
Cubes of Celotex or short rolls of newspaper, dipped in paraffin make good fire starters. Nick 'em to light. WARNING: Always melt paraffin in a pan of water to prevent fire.



A "tennis racket" broiler is a great way to broil a small steak or fish.

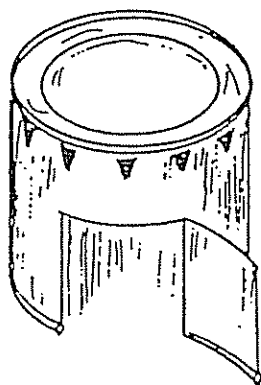


Rope is expensive and here's how to conserve it. Cut rope into 15 ft., 20 ft., and 25 ft. lengths. Whip the ends. Paint the whippings on the 15 ft. lengths with red paint. Three letters in red - each letter stands for five ft. Paint the 20 ft. lengths with blue (4 letters x 5 ft. is 20 feet), and the 25 ft. lengths with green paint. Set the standard that rope is never cut - tuck in what you don't need or get a shorter piece. Scouts can instantly identify the lengths and you'll probably wear the rope out before it's all cut up!



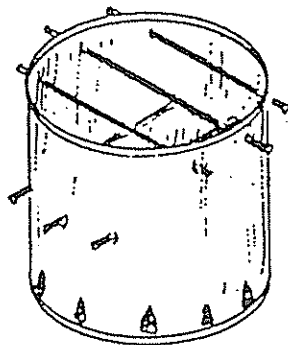
For safety, your file should have a handle. A hole drilled in a short stick and a scrap of leather do a fine job.

Gizmos, Gadgets, & Gilhickies



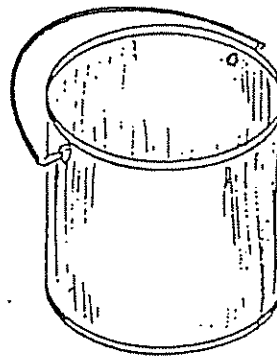
Hobo Stove

Punch out with triangular beverage can opener

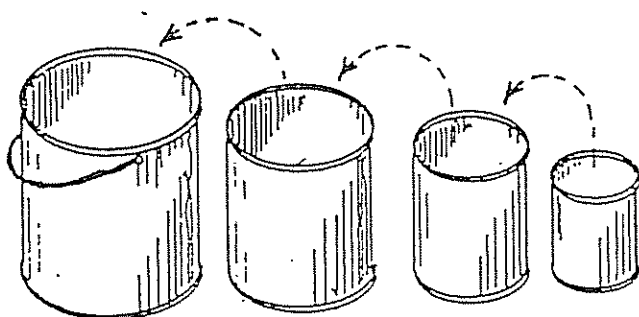


Tin Can Charcoal Stove

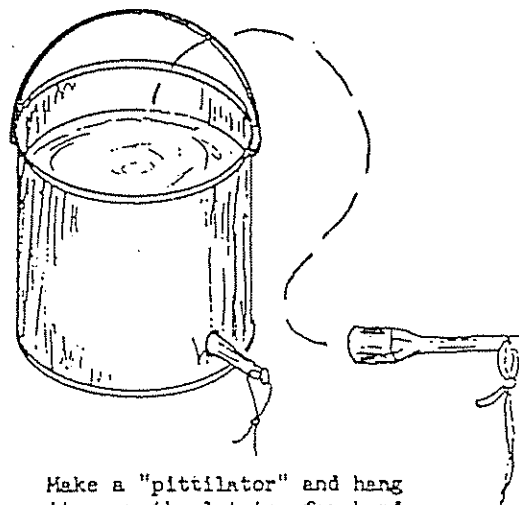
Use coat hanger wire through holes punched with nail.



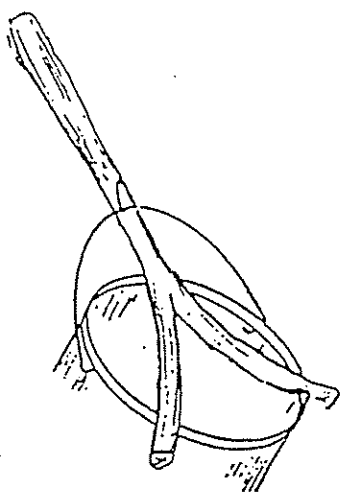
Holes punched in cans and fitted with coathanger wire bails make good camp pots.



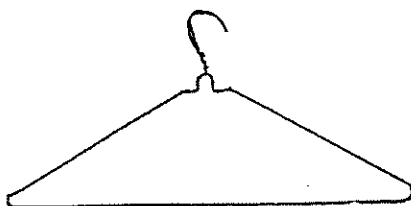
Nesting tin can pot set



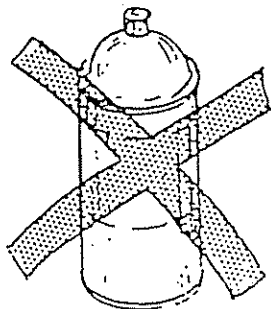
Make a "pittillator" and hang it near the latrine for hand washing.



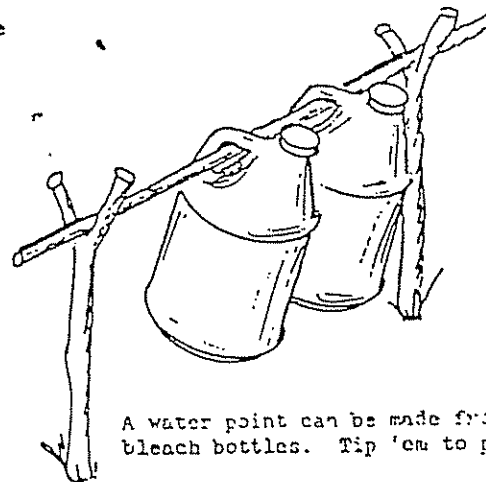
A forked stick with a few notches makes a good pot pourer.



Coathanger wire has endless use around camp.



Don't use insect spray or spray repellent in camp. It'll take the waterproofing out of the tents!



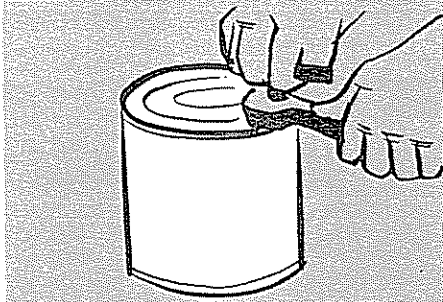
A water point can be made from 1½ gal. bleach bottles. Tip 'em to pour.

CAN CRAFT

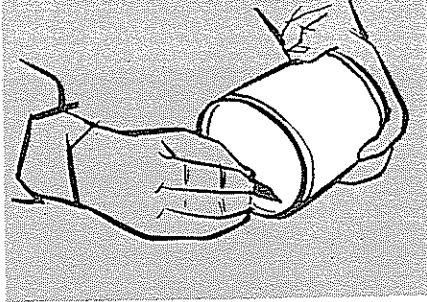
Of all the things that can be made of discarded tin cans, the Scout Cooking Kit is perhaps the most useful. The usual kit consists of a cup, two kettles and a frying pan. The entire set should be constructed to fit one inside the other.

In making the kit, use only clean, shiny food cans. They are the safest and they will not leak. Tobacco cans are usable, if they are tight, but you should NEVER, under any circumstances, use a can that had contained paint.

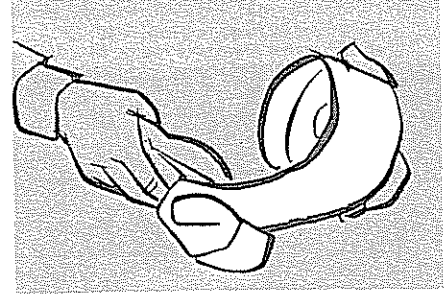
When you see the color film movie on "Tin Can Craft" which is available through the Visual Education Service of the Boy Scouts of America, you will surely want to make this Kit. These plans will simplify your work considerably.



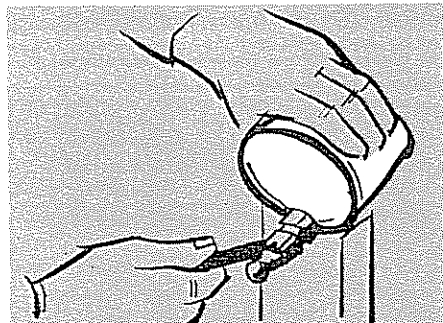
The tops of cans should be removed with any type of patented can opener. For making large kettle use a 5" can.



Draw a line to mark where you will cut, in the inside of the can, about 3½ to 4" from the bottom of the tin can.



Cut off along this line in long spiral. Keep bending tin back as you go to avoid cutting hand.



Cut out a groove in the end of a piece of board to fit the can and top a 1/8" lip at right angles all the way around.

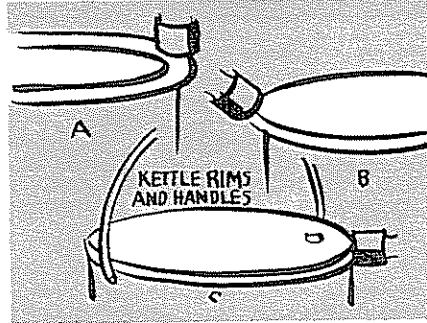
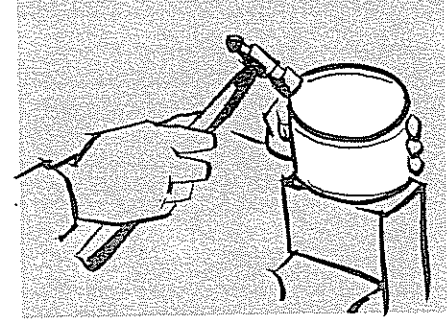
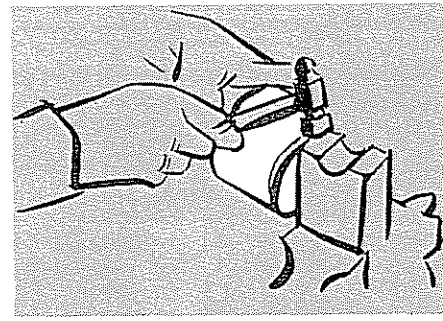


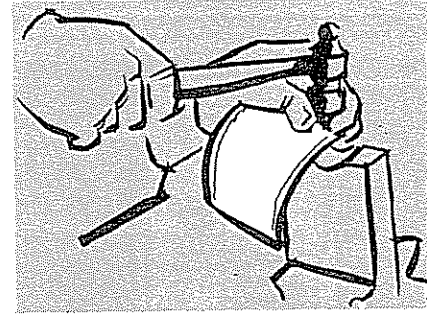
Fig. A shows how the can will now look. Fig. B shows it after the next operation. Fig. C shows inserted handle.



Set can upright and top lid down still more. Light taps will make it look smooth as in (B).



Then tap down edge evenly all around to make it look as in (C). This turned edge is stronger and prevents cuts.

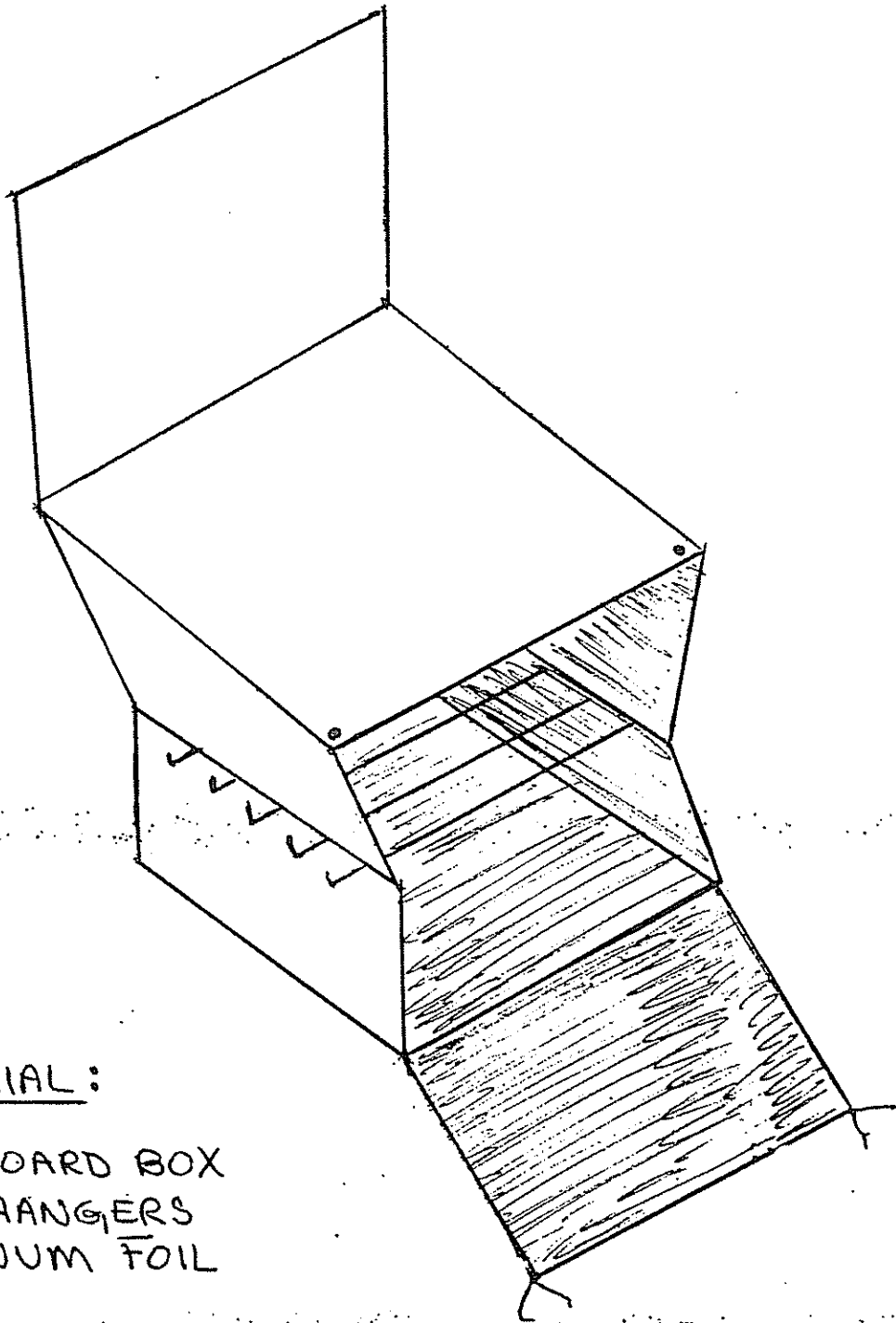


Use a nail or punch to punch holes for the handle. A handle of fairly heavy wire should be bent to fit as in (C).



Do the same with a 4" can for a coffee or a tea pot. Cut it to fit inside large kettle.

HOMEMADE EQUIPMENT:



MATERIAL:

CARDBOARD BOX
COAT HANGERS
ALUMINUM FOIL
GLUE

BACKPACKER'S OVEN

I. INTRODUCTION

Have you ever been camping in the mountains in the spring or fall? Have you ever gotten up on a cold frosty morning and had bacon and eggs over a campfire and felt that something was missing? Have you ever had fresh hot biscuits with creamy butter and homemade strawberry jam? Have you ever wondered if it would be possible to have baked goodies on a camping trip?

Many years ago I attended a Boy Scout Commissioners Training Conference in Garmish Partenkirchen in the Federal Republic of Germany. While there, a fellow scouter (let's call him John C.) invited me over for some fresh biscuits he was baking in a cardboard box oven. Now I want you to understand that J.C. is a fine scouter and an honorable man; but I have heard him tell some tall tales around the campfire. J.C. knows a lot of incredible things about camping; but a cardboard box oven? Excuse me? I followed J.C. to his "field kitchen" where he carefully opened the front of this cardboard box and the delicious aroma of fresh baking biscuits grabbed my nose and wouldn't let go. We sat and talked about the oven for a couple of hours, munching on many helpings of fresh biscuits, creamy butter and homemade strawberry jam along with enough coffee to float a tank. J.C. told me he had gotten the idea from a scouting publication and had made some improvements over the years.

Over the past twelve years, I have made a number of modifications and refinements to J.C. plans and through trial and error have developed what I consider to be the ultimate cardboard box oven. I have given classes on the construction and use of the oven to hundreds of scouts and scouters in Germany, Korea and the United States of America.

In preparation for my fifth adult scouter training course, I have decided to put into one publication, the complete instructions on how to build and use the cardboard box oven. Good eating to you all.

111. HOW TO BUILD A CORRUGATED CARDBOARD BOX OVEN

The best cardboard box that I have used was originally used to ship 1 gallon glass containers containing a brownish liquid that can be used to clean cuts and sometimes believed to help cure or prevent snake bites. The ones I use are shipped from Kentucky and have a double layer of cardboard.

You can either buy a full case and empty the box yourself or ask the friendly person at the store to save you a couple of boxes with the tops still attached (cut on three sides only). Yes, I know it takes longer to empty the box yourself and it is a dirty job; but somebody has to do it.

Using the heavy duty aluminum foil, begin to line the inside of the box with the shinny side of the foil toward the inside of the box. Starting at the edge of the inside of the lid (See Point A, Figure 1) and run the foil down the lid, down the side, across the bottom and up the side of the box. Leave about a 4" end extend over the front side of the box (See Point B, Figure 1). The shinny side of the foil will reflect some of the heat back into the box and will help retain a constant temperature in the box for a longer time. If you use a small piece of duct tape at Point A, the end of the foil will stay in place easier.

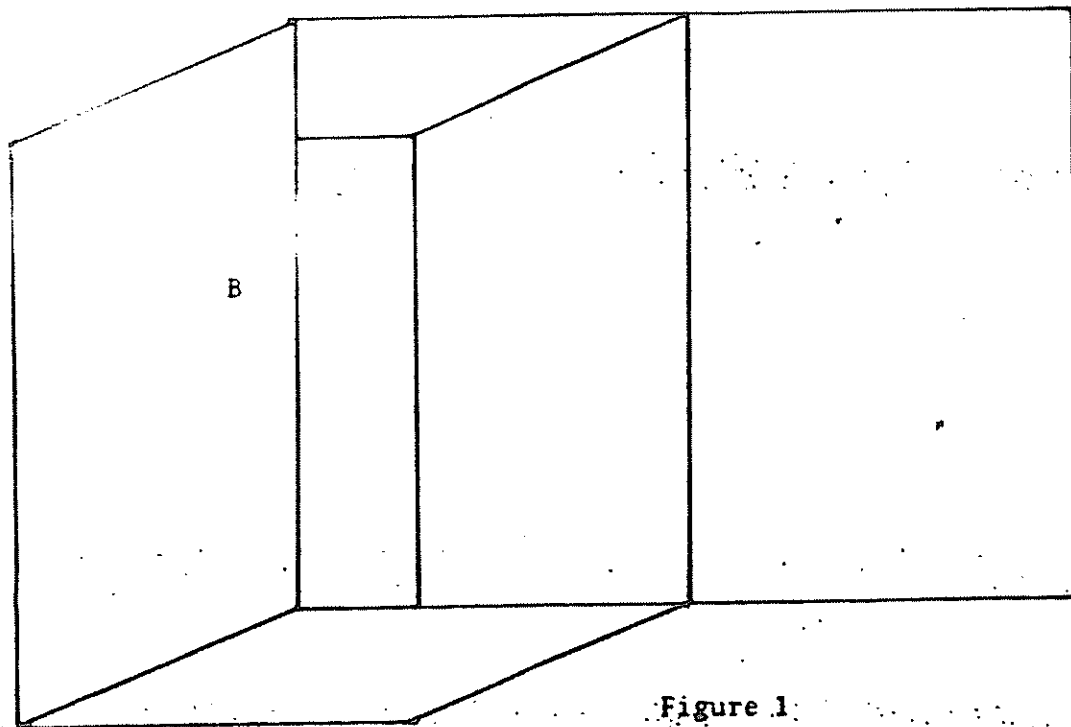


Figure 1

Measure from E to F, marking the half way point on Line CD (See Figure 4).

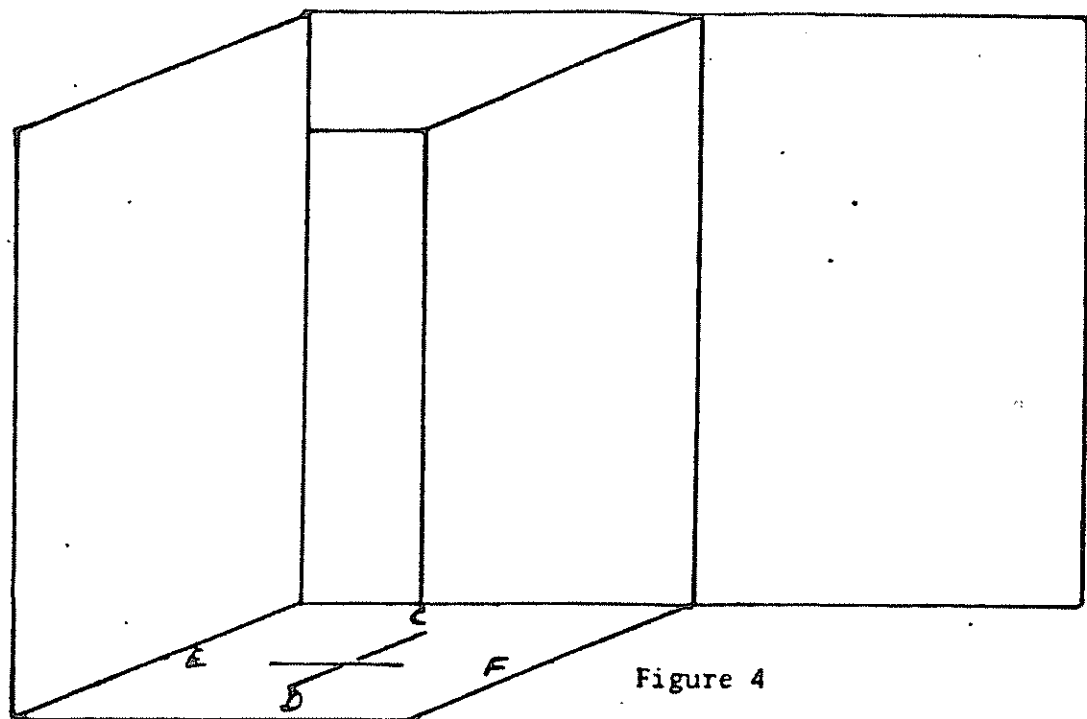


Figure 4

Measure $2\frac{1}{2}$ " on both sides of the half way mark on Line CD and mark the two points as G and H (See Figure 5).

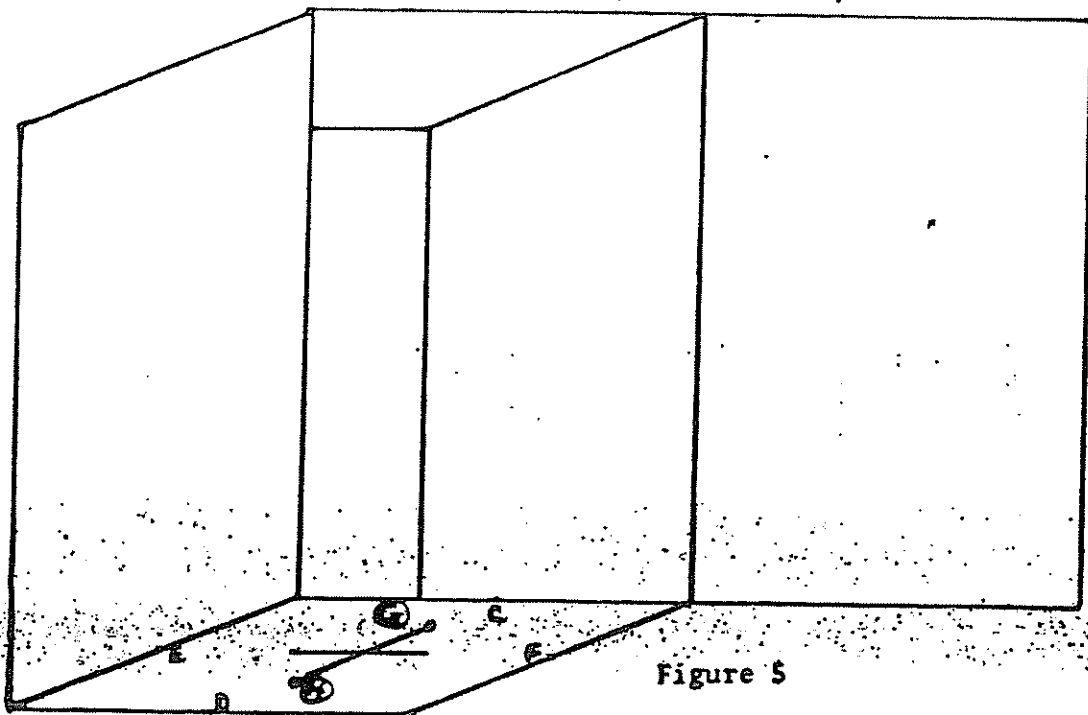


Figure 5

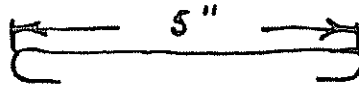


Figure 7

Taking one of the prepared short rods, place the bend of one end around rod G, and the other end around rod H. Using the pliers, complete the bend so that the shorter rod will not fall off rod G or H. Do the same thing with the other prepared short rod.

The remaining piece of hanger should be cut to 10" in length. Put a bend in both ends and attach to the two smaller cross rods just installed. Bend the two ends around the rods, so the new rod will not fall off. The finished cooking rack should look like Figure 8.

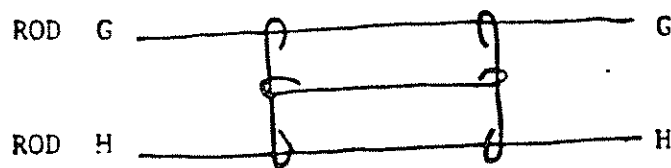


Figure 8

The oven at this point should look like Figure 9.

If A is used, you can help the door remain closed by putting a rock in front of the door, or putting a couple of sticks in the ground in front of the door, or (and this is what I do), poke two small holes in the top of door and tie the 18" piece of string to the door (See Figure 11)

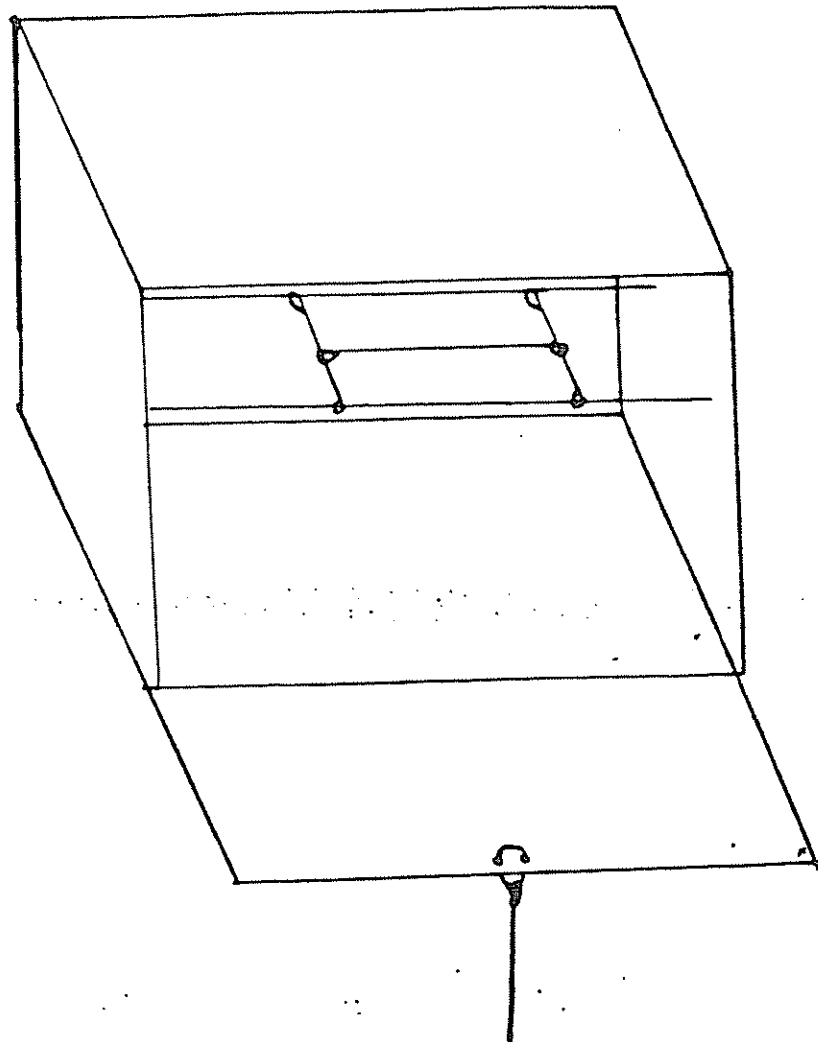


Figure 11

IV. USE OF THE OVEN

The secret to baking is maintaining the proper temperature for a specific period of time. The rule of thumb I use to determine the number of charcoal bricketts required is to divide the suggested baking temperature by 50.

<u>TEMPERATURE</u>	<u>BRICKETTS</u>
150°	3
200°	4
250°	5
300°	6
350°	7
400°	8
450°	9

Don't try to cut a brickett in half. If the required temperature is between 350° and 400°, use 8 bricketts and check the food more often.

WARNING: WHEN IN USE, THE BOX OVEN CAN GENERATE A LOT OF HEAT.

Do not place the oven on top of a plastic ice chest or anything that can burn, scorch or melt. I have put a couple of layers of the heavy duty aluminum foil under the oven and placed the oven on the top of a heavy wooden picnic table. It would be better to set the oven on a couple of bricks.

V. PREPARING THE CHARCOAL

Prepare your charcoal in an area away from the oven. Use hot pot tongs to move the fire pan between the oven and the fire area. If you use hot pot tongs to move the pans (cooking and fire) you won't burn your fingers. One of the worse things you can do is to take the time and trouble to construct the oven, prepare the food and then burn your fingers on a hot pan and spill the food. BE CAREFUL.

An easy way to start charcoal is to take a two pound coffee can, and using a triangular punch can opener ("church key"), open a series of holes along the side of the can at the bottom. Poke two holes at the top (across from each other) and attach a handle made out of another coat hanger. (See Figure 13.)

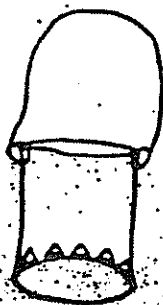
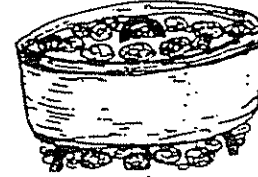


Figure 13

USING A DUTCH OVEN

The dutch oven is the utensil that can make it possible for you to enjoy the same type of foods in camp that you have at home. If a New England pot roast dinner is one of your favorite meals at home, you can have just as good New England pot roast dinner in camp -- if you have a dutch oven. Or if one of your favorite desserts is home-cooked apple pie, there is little reason why you cannot have apple pie in camp -- if you have a dutch oven. A dutch oven opens unlimited opportunities for improving your camp diet. To a large extent, it is true that if you can cook it at home, you can cook it in a dutch oven in camp. A dutch oven, once used with success, becomes a necessity.



Dutch ovens come in various sizes. Diameters of 10, 12, 14, and 16 inches are common, with depths of 4 or 6 inches. For cooking for groups of 8 persons, a number 12 oven is fine. A number 10 oven is fine for pies and cakes. In addition to round dutch ovens, there is one outfit that manufactures a 9-inch square dutch oven and a 6-inch by 9-inch rectangular oven.

The lid of the dutch oven is important. A dutch oven that is used in one's kitchen usually has a domed lid, but this type of lid is not suitable for camp cookery. For camp cookery the lid should have a flanged or raised lip around the rim. With the top recessed, coals can be placed on the lid to increase the heating efficiency of the oven.

Dutch ovens are made of either cast iron or cast aluminum. Cast iron dutch ovens are readily available from Official Boy Scout Distributors. Cast aluminum dutch ovens are more difficult to locate. I own and use both aluminum and iron dutch ovens and have recognized no differences in the finished cooked products.

The thickness of the metal helps to distribute the heat around the entire dish that is being cooked. With the oven set over coals and with coals on the lid, the temperature within the oven can be varied by increasing or decreasing the number of coals.

Conditioning and Cleaning Ovens

No special care is needed for conditioning and cleaning an aluminum dutch oven, but a cast iron oven requires the same care as any cast iron utensil. A new cast iron dutch oven needs to be broken in before you use it. This involves covering the inside of the dutch oven with a coating of shortening. The inside of the lid is also coated. The oven is then placed over a low heat and the shortening is allowed to melt. This should be done several times prior to using it the first time. Any surplus shortening in the oven after it has been conditioned should be drained out.

The cast iron oven is now ready to use.

When you are through with the cast iron oven, you have the problem of cleaning it. At the Philmont Scout reservation in New Mexico, one is taught

that the dutch oven should never be washed. However, I prefer to wash the dutch oven if need be and to recondition it immediately after washing it.

If the cast iron dutch oven is not going to be used for some time, make certain that there is a heavy coating of shortening worked into it. If it has been stored for a long time, it is always a good idea to recondition it before it is used again.

This sounds like a lot of work, but actually it takes little time after you have broken the oven in.

Heat Control in the Dutch Oven

For many years I have sought instructions on the use of the dutch oven. It was possible to locate a number of articles on the oven, but it was the exceptional article that provided a reliable guide to the amount of coals to use to produce heat. Most early articles, including instructions that come with the dutch ovens, encouraged the use of far too many coals. Many persons using a dutch oven the first time became discouraged with the oven because they did follow the instructions and ended up with some badly burned food. In using a dutch oven, it is far better to use too few coals than too many.

Even today, one can find contradictory instructions. In reading instructions in this book, you will find that the main source of heat will usually be from the bottom. There are two other books in which it is recommended that the main source of heat come from the top. And, believe it or not, both instructions are correct! That is because of the way the dutch oven is used. In this book, except for a few cases, such as peach cobbler or beef stew, the dutch oven is actually used as an oven with the food being cooked in a separate pan and with the pan set on a rack in the dutch oven. Hot air circulates around the pan just as it does in the oven at home. In the other books, the dutch oven is used as a cooking pot and except where you are simmering something, the main source of heat must come from the top.

To begin with, it is important for many dishes to preheat the dutch oven. That means getting it hot. This is done by placing the oven over a layer of coals. Additional coals can be piled on the lid. In this way, with coals under the oven and on top of the oven, the oven can be thoroughly preheated.

I have found that with the oven set over 27 to 30 charcoal briquets and with the same number of briquets on the lid, the temperature in a number 12 oven will reach 450° or higher within 12 or 15 minutes. This temperature can be maintained for 30 minutes or more with the number of briquets under the oven reduced to 12 and with the number on the lid reduced to 9.^{1/}

A pair of kitchen tongs is fine for handling the hot coals.

When you are ready to start cooking in the dutch oven, some coals need

^{1/} For a number 10 oven, the same temperature can be attained in the same time with about 18 charcoal briquets under the oven and the same number on the lid. This temperature can be maintained for about 30 minutes with only 9 briquets under the oven and 9 briquets on the lid. This experiment was done during the summertime when air temperature was in excess of 70°.

After a while you can recognize the condition of the liquid by sound. The main adjustment that you will make in regulating the heat in these cases will be changing the amount of coals under the dutch oven.

If you are using the dutch oven to cook a cake, a pie, various types of bread, or anything that involves a dough, changes in the surface of the dough can be used as a guide as to whether there is too much heat, just the right amount of heat, or too little heat. The condition of the dough can be checked merely by lifting the lid just enough to see the dough and replacing the lid as quickly as possible. Do this fast so that you do not lose too much heat.

Whenever I cook a dish I know how much time is required to cook it under normal cooking conditions. I take this time and divide it into thirds. Condition of the surface of the dough at the end of the first third and of the second third indicates the adequacy of the heat. As the dough cooks, a crust starts to form on the top. Eventually, the crust starts to brown. Table 2 shows how these changes can be used in judging the adequacy of the heat.

Table 2. Condition of dough as a guide to the adequacy of the heat

Time required to cook dish	Condition of dough	Adequacy of heat	What to do
1/3 of time	No crust can be seen	Too low	Add fresh coals
	Crust starting to form	Just right	Leave alone
	Hard crust	Too high	Remove a few coals from lid and bottom
	Some browning	Much too high	Remove half of coals from lid
2/3 of time	No browning	Too low	Add fresh coals to lid
	<u>Starting to brown</u>	Just right	Leave alone
	Considerable browning	Too hot	Remove some coals from lid*
	Dark brown	Much too hot	Remove all coals from lid*

*Also test to see if it is done.

This table is an excellent guide except for one factor. If the oven is too hot, the dish can be ruined by the time of the first check. It is suggested, if you have had little or no experience in using the dutch oven, that you check the first five minutes and again the first ten minutes. Since there is a tendency to use too many coals, these five- and ten-minute checks can be used to make certain that there is not too much heat. Actually, I tend to use these five- and ten-minute checks myself if I have not used a dutch oven recently. It is a way to check on myself and the type of coals being used.

Another check that you might make is one about five minutes before the

DUTCH OVEN MEALS

A Dutch oven looks like a thick, round metal pot, but it works like an oven. It bakes slowly, blending flavors into food worth waiting for.

Dutch ovens are made of cast aluminum or iron. Aluminum heats faster than iron and does not rust, but iron holds heat better and gives a more even temperature.

The oven stands on short metal legs. Its thick lid has a raised metal rim. A metal loop sticks out of the middle of the lid. The legs raise the pot above hot coals, and the rim on the lid helps to hold more coals. Use the loop to lift the heated lid.

Like any oven, a Dutch oven needs to be preheated to do its job well. That means you need a batch of coals from charcoal or wood. Charcoal briquettes are easiest to manage.

The maker of your Dutch oven will list the maximum number of coals you should use. Too much heat can damage the oven.

A typical 12-inch aluminum oven will preheat with 10 to 12 briquettes under the pot and 12 to 15 on the lid. An iron oven will usually take more.

It takes the oven about 15 minutes to get hot enough to bake a fruit pie. Replace coals as they burn down.

When your oven is preheated, you can start cooking. Have pliers, tongs or a hook to lift the lid and its coals.

Quick No-Burn Biscuits

Biscuits are basic for Dutch oven cooks. You can peek under the lid and watch the biscuits brown. Beginners sometimes burn them on the bottom, but two aluminum pie pans

can solve that problem.

Use about 14 ounces of any good biscuit mix. Make the biscuit dough according to instructions (usually you just add water). Divide the dough in even pieces in one pie pan. You'll have enough for two batches.

Preheat your oven for 5 to 10 minutes. Add coals until there are 16 to 18 briquettes on the bottom and 20 to 24 on the lid.

Put the empty pan upside down in the bottom of the oven. Set the biscuit pan on it. Put on the lid.

Remove the biscuits when they are brown on top. Takes 15 to 20 minutes. Feeds six.

A Dutch oven can also do terrific one-pot meals.

Dutch Oven Pot Roast

2 pounds of boneless chuck roast
1 tablespoon vegetable shortening
1 large onion, sliced
4 large carrots, in 1-inch pieces
4 large potatoes, peeled, quartered
seasoning salt, pepper
garlic powder (optional)

Put the oven on 30 coals. Melt the shortening. When the shortening is very hot, put in the chuck roast and brown it well on one side.

Turn the meat over, sprinkle it with pepper, seasoning salt and garlic. Add sliced onions.

Place the lid on your oven and put 18 to 20 briquettes on the lid.

Let the meat cook for an hour or so. Add briquettes as needed to replace those that burn down.

Pioneers knew a good thing when they saw it. That's why Dutch ovens have been simmering over campfires in America for more than 300 years.

Add the vegetables. Cook for 25-30 minutes or until the carrots are

tender. Feeds six.

If you have two ovens, make biscuits in one and a roast in another.

Better yet, make biscuits and put this next recipe on top of them.

Easy Stewed Beef With Gravy

1½ pounds of beef cubes (1 to 1½ inches square, cut from stew meat, chuck roast or bottom round roast)

2 tablespoons cooking oil

½ teaspoon seasoning salt

3 cups of water

1 packet (1¾ ounces, 4 servings)

dry French onion soup mix

1 envelope (¾ ounce) dry brown-gravy mix

In the bottom of a hot Dutch oven over about 30 briquettes, brown the cubes on all sides in hot oil. Sprinkle the meat with seasoning salt, and add two cups of water.

Cover and cook over about 12 briquettes for 40 minutes. Stir in the onion soup mix and let it simmer for 15 minutes. Add the third cup of water and the gravy mix. Cook and stir until the gravy thickens.

For dessert, bake a cobbler.

OUTDOOR SKILLS INSTRUCTION

COOKING

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SESSION 1—FIRE BUILDING

Learning Objectives: At the end of this session, each participant should be able to:

- Build and use a variety of fires.
- Make a stove.

Materials Needed: *Boy Scout Handbook*, *Fieldbook*

Fires

Although fires may not be used in some areas of the country, the objectives of this session are to demonstrate and use a variety of fires using wood, charcoal and liquid fuel. Many people are not aware of the basics in fire building. Neither are they aware of the variety of fires that may be built for cooking.

Types of Outdoor Cooking

If you plan to use a type of cooking which involves any change to the area — cutting green sticks, making pot hooks, digging a trench or hole — be sure that this is permitted in the area where you camp. Select the green sticks or wood to be carved with care so as not to deface the area. If you dig a hole or trench, be sure to follow the practice of cutting and replacing the sod discussed under fire building.

Here are various types of cooking and little “helps” to make them successful.

Toasting. To brown by heat. This is best done over good coals; patience in waiting for the fire to burn to coals is its own reward. A good camp-crafter toasts his bread or marshmallows golden brown, evenly done on all sides. He doesn't say he “likes his burned” just because he is not skillful enough to do a good job.

When a flaming fire must be used, hold the food to one side of the flames, instead of *in* or *over* them, or the food will be smoked instead of toasted.

Broiling. To cook by direct exposure to heat. Broiling is a method used to cook meat, especially tender cuts like chops or steak. It is usually done on a green stick, a wire rack, or broiler.

Broiling is best done over coals; the food should be turned often and cooked slowly. As in toasting, flames will smoke the food.

Pan Broiling. To cook in a pan without fat or water (usually for meat). Heat the pan first, put in meat, turn often, pour off fat as it accumulates, keeping pan as dry as possible so meat does not fry.

Stewing or Boiling. To cook in water. Tougher cuts of meat are good for stew; they have more flavor but take longer to cook. For stews, meat should be browned quickly in fat and then slowly cooked in water until tender. Generally speaking, the longer the cooking, the better the stew.

Demonstrate difference between kindling found on the ground and off the ground. Demonstrate preparation of kindling with ax. Illustrate advantage of sharp edges on kindling over round edges.

Fire Lighting

Demonstrate how to place tinder and kindling. Save a handful of tinder, light it, then apply to fire lay. Demonstrate protection of fire from weather. Show proper method of feeding the fire. Explain the importance of good draft. Explain methods such as stick in ground, draft in trench fire, raised log for trapper fire.

Fire Lays

Show various fire lays and explain their uses:

teepee	altar
trapper	reflector
trench	charcoal

(Consult the Appendix for illustrations of some of the types of fires.)

Hunter-Trapper Fires

This is the all-around cooking fire without equal. It has been so regarded since the first pioneer stepped foot on the American continent, and it is still the favorite today, save for one thing—it takes a lot of wood and in some places, wood is becoming increasingly scarce. But there are variants and modifications for such a scarcity.

This is the number one fire—ideal for all-around use. Equipped with a thorough knowledge of it and its offspring, no other fire will really be needed. First the authentic pattern, then the variants.

The True Hunter-Trapper

Its characteristic is two side logs on which the cooking utensils are supported, laid either parallel or at a slight angle, and of such distances apart as to accommodate the pots and pans. If logs are at an angle, the narrow end is for the smaller pots. If it's a camp for several days, the side logs should be of nonflammable wood; otherwise, use any green wood. Logs six to eight inches in width and four feet long are right.

Place the logs so that the wide end is at a slight angle to the wind, as shown in the illustration in the Appendix. Note the damper stick, a green billet placed under the end of one of the logs when the fire is being lighted and withdrawn when it is going, to be replaced only when fuel is added or more heat is desired.

Put the tinder between the logs, a few small softwood sticks above in a little wigwam, and then build a crisscross on top of the side logs as follows: put short sticks across the logs, long sticks lengthwise over the opening, more short crosswise sticks, more long lengthwise sticks, etc. Set fire to it and it will soon drop to the ground between the logs. As additional fuel is needed, long sticks are laid lengthwise between the side logs. The fire must be long enough to accommodate three or four pots and kettles set in a row on top of the side logs, hence the long crisscross arrangement.

The Backlog Fire

Another variant of the versatile hunter-trapper calls for one large log as seen in the illustration for a backlog fire. The hunter-trapper may be quickly turned into this type as occasion demands by removing one side log and using the other as the backlog. Out from the backlog, place two nonflammable firedogs, measuring about three inches in thickness. Across these lay nonflammable cross sticks as needed to support the pans. This arrangement necessitates a pot-hanger leaned against the backlog with its butt stuck in the ground.

Build the fire in the usual crisscross fashion in front of the backlog and utilize the flame to boil the kettle. Then rake the coals forward under the pans, adding more fuel to blaze under the kettle. This is the advantage of the backlog fire—both coals and flame can be had at the same time.

Fires Below Ground Level

There are two times in which these fires are appreciated—on a hot day, when the cook finds relief in the scant heat they throw into his face, and when wood is scarce, for you can do much with little. Squaw wood is as good as any in them. Cooking in a hole is a good habit to get into.

The trench fire, already described, is of this kind, although classified in this chapter as a variant of the hunter-trapper. And there are others.

Hole Fire

This is for a small, quick meal. Excavate a hole a foot wide and eight inches deep, piling the dirt on the side away from the wind. Fill with tinder, build a crisscross lay of small hardwood above it, and set on fire. When it falls, flip out the smoking butts, put two green cross sticks across it for the skillet, and cook in comfort. If there is a kettle, it is suspended on a pot-hanger before the fire is touched off.

This is a good hike or picnic fire for steak on a stick, kabobs, wieners, and the like—the meat sticks may be laid on the ground extending over the coals and will cook unattended.

Automatic Stew Fire

Stew requires a slow, steady, and long fire—that's why a fire in a hole is good. A hole is prepared as in the preceding fire, with the stew kettle above the crisscross before it is lighted and then lowered very close to the coals after it has fallen in the hole, makes an ideal stew fire. A little fuel can be added from time to time as needed.

But if you want to go fishing for an hour, set up a row of hardwood sticks around the edge of the hole. These sticks will fall automatically as the bottoms burn away, and the stew will continue to simmer away.

You will need a hole with perpendicular sides large enough so that there will be a space of four to five inches all around and below the kettle when hung well down in it. You'll also need slow-burning hardwood sticks—sugar maple, white oak, hickory, beech, yellow birch, sycamore, persimmon. Green and dry sticks should be mixed for best results.

to rise, then lift both logs and place them on crosswise logs of equal size, hot side down. Rake the coals aside and place the pan on the hot ground, and then roll logs or stones to cover the front and back openings. The two crosswise logs used to support the main logs may also be heated by placing them across the main logs before lighting the fire. The burning surface should then be placed toward the pan as the oven is built.

Reflector Fire. This is the traditional baking arrangement and is usually used with a reflecting baker. There is a bank of logs that throws the heat forward into the baker. Green nonflammable logs are required for the back wall, leaned against two poles driven in the ground, and a tall wigwam fire of quick-burning softwoods is needed in front to furnish the quick blast of heat that baking demands. Two firelogs of green wood extend out from the back wall on which to set the reflector baker. Have the baker in place before the fire is lighted.

Outdoor Stoves and Ovens

Many and varied are the camp fireplaces and outdoor stoves, of all levels of complexity and artistry, if one has concrete with which to fashion them. But these are for parks, reservations, organized camps, and picnic grounds, rather than the backwoods camp. Even the simplest and most primitive of outdoor stoves is scarcely necessary in the bush, unless one is camping on the same spot for a long time. Many people like them, particularly the making of them, so let us consider two elemental types which will provide delightful projects even though they may not be found important for the trail.

Trench Stove

This is our old trench fire converted into a more permanent camp stove. Build it in the side of a hill, slabbing up the sides and back with flat rocks, and covering the top with sheet metal as in the Appendix illustration.

A section of an old kitchen stove top makes a good top because it has holes and lids that can be removed in cooking. A chimney is essential for which a tile or a short section of an old kitchen stove chimney may be employed. Make it small to save wood and work. To use it as an oven, build a hot fire in it, and warm the biscuits on top until they begin to rise. Then rake out the coals, put in the pan, and close the opening with a rock slab.

Fire Without Matches

Why cook without matches? Ernest Thompson Seton answered this question well when a group of "practical" businessmen questioned his zest for the rubbing-stick fire. Said he, pointing to the ground, "You are thinking of the fire that is lighted down there," and pointing to his breast, continued, "I am thinking of the flame that is kindled in here!"

The Rubbing-Stick Way

These woods will make fire: American elm, slippery elm, balsam fir, red cedar, white cedar, cypress, tamarack, basswood, cottonwood, poplar, sycamore, soft maple, white pine, and willow. And of the Southern woods, yucca is particularly useful.

To Make Fire. Sharpen the drill to a point and wrap the bowstring around it as shown. Place the point three-eighths of an inch from the edge of the fire-board and drill a small hole. Then cut a notch with a knife, bringing the point of it to the exact center of the hole. A slightly U-shaped notch is better than a V. The notch may be cut first, but it is easier to bring the point to the center of the fire hole if the hole is started first. The bottom of the drill should be pointed only when starting the hole and thereafter should remain in the bluntly rounded shape that the friction creates.

Lay the tinder on a chip of dry wood and place the notch of the fire-board directly over its center. Set up the fire outfit as shown. Note that the drill is on the outside of the thong, away from the bow. Kneel on the right knee, place the left foot firmly on the fire-board to hold it immovable, grasp the drill socket in the left hand, and keep the left wrist firmly against the left leg to prevent wobbling. Make long even strokes with the bow held in the right hand.

Charcoal Cooking

Now let's use that same principle in considering our charcoal fire. By containing the briquettes within the wall of a small stove—a pail, a piece of stove pipe, a square can, even a collar cut from a tin can—we cause the air to sweep through the charcoal. In addition to speeding up the draft, the stove has a further advantage in that the heat is directed upward where you can make most effective use of it.

To increase the heat for faster cooking, fan the fire with some kind of fan or blower. To slow it down, close up the draft opening or sprinkle water on the coals. Probably the most important trick you can learn is to place pots directly on the burning charcoal for fast cooking. It takes about ten pounds of briquettes per patrol, per day.

How To Make a Stove

Secure a two-foot length of commercial stovepipe and cut it in half to make two briquette stoves. Cut a draft hole at the bottom. Make four small holes in the sides, four inches from the top, and other sets of four holes at various heights so that you can make further adjustments. Push in through the holes two pieces of wire on which can rest a circle of half-inch wire mesh (hardware cloth). The pipe should be one inch wider than the diameter of the post.

Refer to the Appendix for other styles of ovens and stoves to be used. Make sure you use dutch oven cooking and some utensiless items.

Sanitation Exhibit and Demonstration

Dishwashing

Put dishwater on the fire to heat before eating the meal.

Dry dishes by moist heat; after submerging in actively boiling water for at least a minute, allow to dry in air.

Dry dishes by dry heat, over flame. Use improvised dish mop, grass root, or moss for a scouring pad. Tie string on silverware to immerse it in boiling water.

used indoors there should be adequate ventilation. Strict adherence to the safety standards and instructions of the manufacturers in fueling and lighting such stoves and lanterns must be carried out under the supervision of a responsible and knowledgeable adult.

Both gasoline and kerosene shall be kept in a well-marked Underwriter's Laboratory (UL) approved container (*never in a glass container*) and stored in a ventilated locked box at a safe distance (minimum twenty feet) from buildings and tents.

Empty liquid petroleum cylinders for portable stoves and lanterns should be returned home or to base camp. They may explode when heated and therefore must never be put in fireplaces or with burnable trash.

The use of liquid fuels for starting any type of fire is prohibited. This includes damp wood, charcoal, and ceremonial campfires. Solid-type starters are just as effective, are easier to store and carry, and are much safer to use for this purpose.

All types of space heaters that use chemical fuels consume oxygen and must only be used in well-ventilated areas. When used in cabins, camper-trucks, and recreational vehicles, there is not only a fire danger but also lives can be lost from asphyxiation if not well ventilated. Use of charcoal burners indoors can cause lethal carbon monoxide poisoning.

Guidelines for Safely Using Chemical Stoves and Lanterns

- Use compressed or liquid-gas stoves and lanterns only with knowledgeable adult supervision, and in Scout facilities only where and when permitted.
- Operate and maintain regularly according to manufacturer's instructions.
- Store fuel in approved containers and in storage only with adult supervision. Keep all chemical fuel containers away from hot stoves and campfires, and store below 100°F.
- Let hot stoves and lanterns cool before changing cylinders of compressed gases or refilling from bottles of liquid gas.
- Refill liquid-gas stoves and lanterns a safe distance from any flames, including other stoves, campfires, and personal smoking substances. A commercial camp stove fuel should be used for safety and performance. Pour through a filter funnel. Recap both the device and the fuel container before igniting.
- Never fuel a stove or lantern inside a cabin; always do this outdoors. Do not operate a stove or lantern in an unventilated structure. Make sure there are at least two ventilation openings, one high and one low, to provide oxygen and exhaust for lethal gases. Never fuel, ignite, or operate a stove or lantern in a tent.
- Place the stove on a level, secure surface before operating. On snow, place insulated support under the stove to prevent melting and tipping.
- Periodically check fittings on compressed-gas stoves and on pressurized liquid-gas stoves for leakage with soap solution before lighting.
- When lighting a stove keep fuel bottles and extra canisters well away. Do not hover over the stove when lighting it. Keep your head and body to one side. Open the stove valve quickly for two full turns and light

A kerosene stove must be preheated by squeezing a dab of special flammable paste onto the base of the burner and touching a lighted match to it before igniting the burner itself. An air pump regulates the fuel tank pressure, and thus the height of the flame. Although kerosene stoves can be a bit bulky, they are reliable in any season.

White Gas

White gas is highly refined, extremely flammable, and potentially explosive. Use it with the utmost caution.

Some white gas stoves have air pumps to provide the pressure necessary for ignition and an even flame, while others must be preheated. Follow the instructions for your stove *exactly!*

Other Fuels

A variety of stoves use charcoal, canned flammable jelly, burnable pellets, or some other petroleum-based fuel. While they may be suitable for warming a cup of soup, most do not produce enough heat to serve the needs of backpackers.

Carrying Fuel

The amount of fuel you'll burn on a trek depends on the kind of stove you have and the amount of cooking you intend to do. You'll probably need to take along more fuel than the stove itself can hold.

Butane and propane cylinders are ready to pack just as they are, but if you use kerosene or white gas, carry it only in a container made especially for that purpose. Buy a high-quality metal fuel bottle with a secure lid. It's a good idea to get one that is colored red to avoid any chance of confusing it with your waterbottles. Wrapping several strips of tape around fuel bottles will enable you to correctly identify them in the dark.

Prevent gas fumes from spoiling your food by storing fuel bottles and cylinders in plastic bags, and then stowing them in an outside pocket of your pack.

Cookware and Utensils

You can be as selective as you want in putting together these "tools of the trade." You can splurge with new gear or make do with things from your home. You'll have to decide which way to go. You may even end up with a compromise; some of your own, and some from home. If you do decide to use things from your home kitchen, be sure to get permission. Many cooks don't want their precious utensils leaving the kitchen.

Outdoor cooking can be hard on good kitchen utensils. Pots and pans become dented, knives nicked and dulled, and eating utensils lost. Remember, too, that pots and pans from home probably have never been put over the direct flames of a fire, and so are bright and shiny outside as well as inside. You'll have to give them an extra good scrubbing to return them to their original condition.

Effect of Altitude on Cooking

It is commonly known that at higher altitudes water will boil sooner than at lower elevations. Actually, each 500-foot increase in elevation lowers the boiling point of water about 1° F. At sea level, water boils at 212° F, but at 5,000 feet, water boils at about 202° F. Since it is the heat that is needed to cook the food, changes in elevation need to be taken into consideration. Although some of these recipes have been cooked at 5,000 feet, most have been cooked only at 2,500 feet or lower.

If the food is being cooked in some liquid, a higher altitude will require additional cooking time to obtain the necessary heat. In the case of raw vegetables, most will require 5 to 10 percent additional time at 5,000 feet, and from 20 to 25 percent additional time at 7,200 feet than at sea level. Onions, beets, and carrots require about double the time at 5,000 feet than at sea level.

Meats which are cooked by simmering also require additional time. For elevations of 5,000 feet, it would be a good idea to allow 25 percent more time for cooking.

When baking cakes at 3,500 feet or higher, many recipes will need to be changed slightly. If you are using a packaged cake mix, you will find instructions for making these adjustments on most packages. Usually this involves adding flour to the mix, using some extra water, and possibly using an extra egg. It might also require baking the cake at a higher temperature. This would mean more coals under the dutch oven and a few more on the lid.

In baking breads or biscuits, the adjustment might be in terms of adding a little more liquid (as little as a tablespoon for each cup of flour mix) or reducing the quantity of sugar used (removing as little as one teaspoon).

A little experience is highly valuable in high-altitude cooking. In the East this is of little concern, but in the West there will be many times when this will need to be considered. It is usually possible to obtain additional information on high-altitude cooking from the various agricultural experiment stations or extension services in those states where this is important.

For additional information on stoves and ovens, see Appendix E.

A puncture or improper seal will mean loss of liquid. With little or no liquid in the package, the only result that can be expected is burned food. Be careful not to puncture the foil or otherwise break the seal.

When sealed, aluminum foil packages can be placed on a bed of coals. The coals should be somewhat beyond their prime. Turn packages as directed in the recipes. This might be every three to five minutes. A pair of gloves makes it relatively easy to turn packages. Tongs or pliers can also be used, but with these two utensils, there is some danger that the foil will be punctured.

When you remove the package from the coals, check to see if the food is done. When you open the package, do so carefully to ensure that the foil is not broken. If you started with a large enough piece of foil, you can usually reseal the package if you find that the food requires more cooking.

Consult the Appendix for steps in sealing food in aluminum foil.

Using Aluminum Foil to Conserve Heat

If one is using charcoal, aluminum foil is extremely valuable in controlling and conserving heat. In winter camping, there is considerable loss of heat because of the cold ground. This is also true when the ground is wet. This heat loss can be greatly reduced if one uses aluminum foil. With foil placed on the ground and the coals on the foil, more heat will be directed upward for cooking.

There are additional advantages in using aluminum foil as the base for your coals. If it is windy, you can turn the edges of the foil up to serve as a wind-break. There will not only be less heat loss, but the coals will last longer.

Another advantage is that frequently, after you are finished cooking, you can lift the aluminum foil up and properly dispose of your coals. You can frequently remove all evidence of the fire in this way.

There will be times when you will want to increase the heat in the dutch oven. Again, aluminum foil comes in handy. For example, there is a considerable loss of heat from the coals in the lid on the dutch oven if it is windy or if it is raining. By placing a piece of foil on top of the coals, with a stone or two to hold it down, you will reduce the loss of heat and force more heat into the oven. However, when you do this, you will need to reduce the number of coals in the lid and make more frequent checks on the cooking progress. Additional protection from strong winds can be obtained by wrapping aluminum foil around the dutch oven.

At times it is difficult to get a nice brown crust on what you are cooking. If the item is completely cooked and you still want to get the top browned, you can do this quickly by placing a piece of foil over the coals on the lid. In this case, do not remove any coals from the lid, but check in one or two minutes.

What To Do with Used Foil

Crumple the used aluminum foil up after you have used it. Open the crumpled foil up and place it on some hot coals. A hot fire will break the foil down. (You can see from this what happens when you make a crease in aluminum foil.)

SESSION 3 — COOKING WITH DUTCH OVENS

Learning Objectives: At the end of this session, each participant should be able to:

- Explain the basics of dutch oven use.
- Prepare dutch oven meals.

Background

Perhaps the most useful cooking utensil in camp is the dutch oven. It is the most practical utensil for baking and can also be used for stewing, frying, browning, and steaming. Turn the lid over, and you have a fine grid-dle for pancakes and eggs.

The dutch oven is less practical for trail use because of its weight, but it's hard to beat in camp. For an illustration of a dutch oven, see the Appendix. Recipes for dutch oven cooking are also included in the Appendix.

Selecting a Dutch Oven

Dutch ovens are made of cast iron or cast aluminum. The cast iron type is heavier—weighing about eighteen pounds in the twelve-inch (diameter) size—but it holds heat very well and maintains a more constant temperature than aluminum. Cast iron rusts easily, so the iron oven requires more care than aluminum.

Aluminum ovens are less than half as heavy as cast iron, and so might be the choice for backpackers. Because aluminum reflects heat well, an aluminum oven will require more coals than a cast iron oven to achieve the same degree of cooking heat.

Dutch ovens can be bought in sizes ranging from eight to sixteen inches in diameter. For a Scout patrol, the best size is twelve inches because it can be used for a dish for six to eight people. An excellent choice is the twelve-inch cast iron oven offered by the BSA Supply Division (No. 01044).

In choosing an oven, be sure it has three legs so that there is room for coals under it. The lid should have a lip or flange around the edge so that hot coals can be placed on it for baking. The lid should also have a handle the cook can hook with a lifter to remove the lid with coals on it.

The oven itself should have a bail of heavy wire so that it can be turned easily while it is hot. There should be a good seal between oven and lid so that little heat escapes during cooking.

Useful Tools

As accessories to your dutch oven, you need some type of tool to manipulate the hot lid and oven. Recommended are the hot-pot tongs available from the BSA Supply Division (No. 01215). The tongs can be used to grasp the lid, either by its flange or by the handle, and also to lift the oven's bail.

If you don't have tongs, you can make a lifter from two feet of coat hanger or similar wire. Bend it double and then shape it into an elongated "S" with hooks about two inches deep. With this lifter, you can remove the lid or lift the oven by the bail.

If your fire gets too hot, you can temper it by sprinkling a few drops of water on the coals. If you are using charcoal, douse the coals with water after you have finished cooking. Let the sun dry out the remaining charcoal to be used another time.

For a good method of igniting charcoal, see the Appendix.

Cooking Methods

Whatever you're cooking, the oven should be preheated by placing a few coals under and on top of the oven for a few minutes. This will bring the oven temperature near the optimum for cooking and will help to keep food from sticking to the bottom.

Baking

Since in baking you want to heat the air space inside the oven, put more coals on top than underneath the oven. Most experienced cooks say the rule is to have three-quarters of the coals on top and one-quarter underneath.

If you're baking pastries or a casserole, put three rocks or small pieces of metal on the oven's bottom and place the pie pan or baking dish on them. (Use only nonporous rocks that won't shatter or use unplated metal.) Supporting the pan or dish in this way will keep the bottom of the utensil from overheating.

If you prefer, you can bake cookies or biscuits directly on the oven's bottom. Just be sure that the oven is well greased and that you don't have too many coals underneath, or you may burn the food.

Muffins can be baked in a muffin pan, if you have one in your cook kit. Another way is to put cupcake papers in aluminum gelatin molds and pour in the batter. The cupcake papers can be burned in the fire, and the aluminum molds saved for another day.

Deep Frying, Browning, Boiling, and Stewing

For these cooking methods, there should be greater heat on the bottom than on the top. Experienced cooks recommend using twice as many coals underneath as on top. For deep frying and browning, leave the lid off.

Stacking Dutch Ovens

If you want to cook more than one dish in dutch ovens, you can do it by stacking the ovens on top of each other. The advantage is that the coals on the top of one oven heat the bottom of the one above. The chief disadvantage is that you have to remove the one on top to check the food in the lower oven. Up to three ovens can be stacked in this way.

Fire Pit Cooking

For delicious baked beans, and for slow-cooking any other type of one-pot meal that has plenty of liquid, try using a fire pit. (Before you start, though, make sure that digging is not restricted at your campsite.)

You will want to be able to restore the fire pit area to its original condition after cooking, so start by carefully removing the sod. With a shovel or backpacker's trowel, cut sod from a circle a few inches larger than your dutch oven. Work the tool beneath the sod and remove it in large pieces, laying

SESSION 4—UTENSILLESS COOKING

Learning Objectives: At the end of this session, each participant should be able to:

- Use different forms of cooking.

(Reprinted from *Boy Scout Roundtable Planning Guide*.)

Backwoods Cooking

Cooking without utensils, called backwoods cooking, is not only great fun—it also cuts down on the washup!

Hot Embers

Begin by building the fire with fairly large pieces of wood. Let them burn through to leave you with a bed of hot, glowing embers. This is nearly always the best type of fire for backwoods cooking. Remember, however, open fires are not allowed in many areas, and BSA policy encourages low-impact camping.

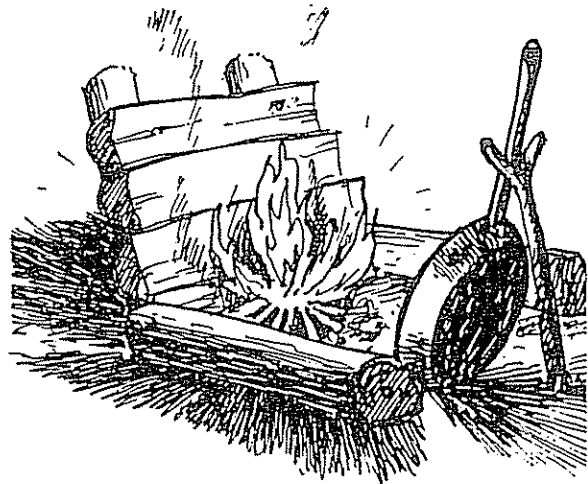
Skewers. Many types of food can be cooked on wooden skewers. Find a thin, green stick—one that bends but does not snap. Any wood will do except yew, holly, elm, and laurel, which are poisonous.

Peel the bark off and make a point at one end. The skewer can then be pushed through the food and hung over the fire or laid with one end on the ground and the other on the back of a reflector fire. Or you could simply sit and hold it, turning the food as it cooks.

Use this method to cook

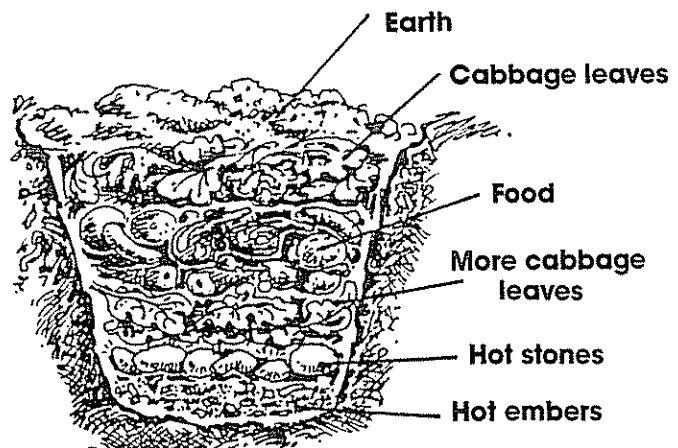
- | | | |
|------------|----------|------------|
| • Sausages | • Apples | • Tomatoes |
| • Twists | • Toast | • Onion |
| • Chops | • Bacon | |

Potatoes. Cut off the top of a potato. Scoop out the inside—but don't take too much or you might break the skin. Crack an egg into it or put small pieces of cheese inside. Replace the top and fix it in place with thin pieces of wood. Cook it in the embers for about an hour.

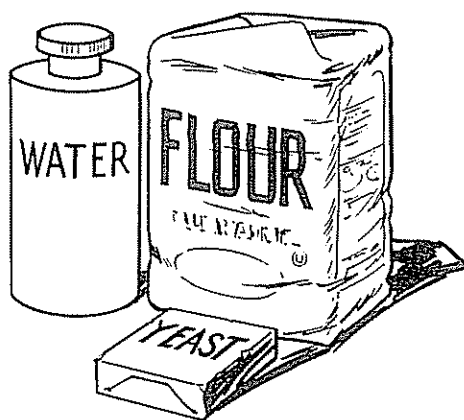


Reflector Fire. This type of fire is especially good for backwoods cooking because you can direct the heat straight at the food. Use logs or large stones (but not flints) behind the fire, held up with wooden stakes driven into the ground.

Take care not to sit opposite the reflector or you will be baked as well.



Fiji Oven. Dig a hole in the ground and build a fire at the bottom. Get it going well and put several large stones (not flints) on top. When the stones are really hot, lay some large leaves (such as cabbage leaves) on them. Next, pile in the food—sausages, chops, potatoes, and other vegetables—then cover with another layer of leaves. Finally cover well with earth and leave to cook for about 6 hours.



Several hours before cooking, pour the "starter" into a bowl and add 2 more cups of flour and more water. Set this in a warm place again, until it is bubbly. Save half of it for permanent "starter" mix and use the rest to make biscuits or pancakes. Each time you want pancakes or biscuits, add flour and water to the "starter" and then use half of it for your baking and save the rest.

For great biscuits try this recipe:

1 cup sourdough starter

$\frac{1}{4}$ tsp soda

1 egg

1 tsp melted fat

Enough flour to make a stiff dough

Mix ingredients until they're blended into a dough that you're able to knead. Roll dough flat on a floured surface such as foil or board. Cut into biscuit-size pieces. Let rise for an hour or so, then bake in your dutch oven, reflector oven, or greased skillet.

Mexican Tortillas

1 cup cornmeal

1 cup boiling water

1 tsp salt

Slowly add the boiling water to the cornmeal. Add the salt and mix well. Shape into thin flat cakes and bake on an ungreased griddle. When brown, turn over.

Swedish Meatballs

$\frac{1}{2}$ lb. lean pork, ground

1 lb. round steak, ground

$\frac{1}{2}$ cup chopped onions

2 tb butter

1 whole egg

1 egg yolk

$\frac{1}{2}$ cup bread crumbs

2 cups milk

Salt and pepper

Mix pork and round steak in a bowl. Cook onion in butter; add it to the meat. Beat the eggs and stir them in. Add bread crumbs and milk and season to taste. Form into small balls and fry until golden brown.

Irish Stew

2 lbs. mutton or lamb

6 medium-size potatoes, cut in quarters

6 medium-size carrots, cut in strips

6 small onions

1 small yellow turnip, diced

3 sprigs parsley

2 tsps salt

$\frac{1}{4}$ tsp pepper

3 tsps sugar

Flour

Water

Cut mutton or lamb into 1-inch cubes. Cover with cold water, measuring the quantity of water used. Cover the kettle and bring to a boil. Add the potatoes, carrots, onions,

Dinner in a Dutch Oven

Put 2 lbs. lean ground beef in a dutch oven and put one or two sliced potatoes, one or two sliced carrots, and one sliced onion per Scout over the beef. Season as desired. Bake for 1 hour or until meat and vegetables are done.

Variations:

- Add a can of corn (drained).
- Add a can of tomato paste to the meat and mix before adding vegetables.
- Use stew meat instead of ground beef.
- Twenty minutes before cooking is finished, lay camp-made biscuits on top.

Polish Sausage and Cabbage

(serves 6 to 8)

2 large onions

6 to 8 potatoes

1 medium cabbage

2-3 lbs. Polish sausage

Salt and pepper

Slice onions and arrange to cover bottom of dutch oven. Slice the potatoes, layer them on top of onions and cover with water. Add salt and pepper to taste. Cover and place on coals until water starts to simmer. Cut cabbage into wedges. When the water is simmering, add the cabbage wedges and sausage and return to heat. Simmer until potatoes are tender and cabbage is wilted.

Ham Loaf

1 lb. ground ham

1 lb. lean ground pork

1 lb. ground beef

2 cups crushed graham crackers

1 cup milk

2 eggs

Mix ingredients, form into loaves, and place in small loaf pans. Place the pans on an inverted pie pan in the dutch oven. Bake 1 hour or until done. For a sauce on top of the loaves, mix one can of tomato soup, $\frac{1}{3}$ cup vinegar, and 1 cup brown sugar.

Vegetable Kebabs

You will need (quantities are for six servings):

- 12 new potatoes
- 1 green pepper
- 12 small onions
- 12 small tomatoes
- 12 button mushrooms
- Butter or margarine
- 1 red pepper
- Salt, garlic, and pepper to taste

Method:

- Prepare six thin green sticks from ash, hazel, or willow (not holly or yew). Skewer the cleaned and prepared ingredients as desired onto them. Leave the tomatoes to one side.
- Melt some margarine or butter with some salt, pepper, or garlic as required, and brush it over the kebabs.
- Support the kebabs over glowing embers and cook for about 5 minutes. Turn occasionally. After 5 minutes, add the tomatoes and cook for 5 more minutes.

Method:

On a piece of foil, approximately 10 inches square, lay two strips of bacon about 1 inch apart.

- Place some of the green beans across the bacon and add thick slices of onion.
- Next, place two slices of potato, the minced beef, some more onion, and then the remainder of the potato.
- Fold any ends of bacon over in order to cover the sides of the food "pile," and carefully slide the whole dinner into a foil bag.
- Place in hot embers, cook for 15 minutes on each side.

Fish in Newspaper

You will need:

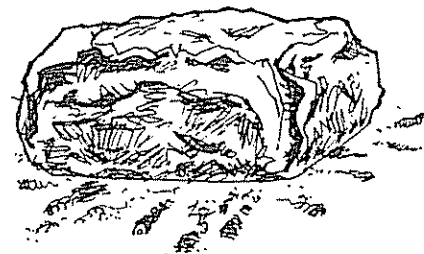
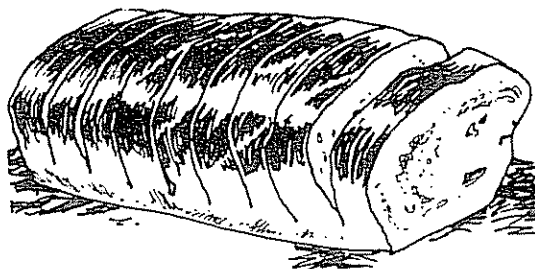
- One fish (cod, haddock, and so on) per person
- Greaseproof paper
- Newspaper
- String

Method:

- Prepare the fish (remove the innards and discard) and place on a sheet of greaseproof paper, which is folded to completely surround the fish.



- Take six sheets of newspaper and make up a parcel with the fish in the center, tying it all up securely with string.
- Place the parcel in a bowl of water until the paper is soaked through.
- Remove the package from the water and squeeze excess water out gently.
- Place the damp parcel on hot embers, turning every 5 minutes. The fish should be cooked by the time the paper begins to char.



Garlic Bread

You will need (quantities are per portion):

- A 6-inch length of French bread
- 1½ oz of butter or margarine
- Half a crushed clove of garlic or a pinch of powdered garlic or garlic salt

Method:

- Cut the bread into thick slices, making sure that you do not cut through the bottom crust (see illustration).
- Mix the butter with the garlic and spread generously onto both sides of each slice.
- Press the slices back together and wrap loosely in two thicknesses of foil.
- Place on hot embers for about 15 minutes. Turn regularly.

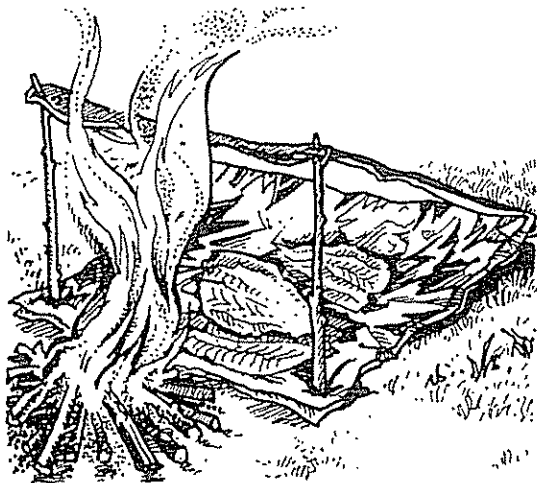
Variation:

1 oz of grated cheese could be mixed with the butter before it is spread onto the bread.

Instant Oven

You will need:

- A piece of foil about 5 feet long
- Two sticks 12 inches long



Method:

- Fold the sheet of foil in half and peg one end to the ground with the bottom of a stick in each corner at this end.
- Fold the foil in half and bring the free end up, attaching it to the top of the two sticks, at a 45 degree angle, as shown.
- Place the food on the bottom half of the foil and light your fire by the open end of the reflector oven.



Hot Cross Buns

You will need (quantities are for eight buns):

- 8 oz self-raising flour
- 2 oz brown sugar
- 2 eggs
- 2 oz butter or margarine (melted)
- 2 oz dried fruit or chopped apple
- 1 pinch of mixed spice
- 1 cup of milk

Method:

- Mix the dry ingredients together.
- Add the beaten eggs, milk, and melted butter, mixing to result in a smooth batter.
- Using a smooth rock as a mold, make eight foil dishes. Grease them well with butter or margarine.
- Divide the mixture into the dishes (they should not be more than a third full).
- Cut thin slivers of apple, with the skin on, and make a cross on the top of the buns.
- Bake in your camp oven for about 20 minutes.

Bacon-in-a-Bag

You will need:

- A paper bag
- Two slices of bacon
- A piece of string
- Patience!

Method:

- Place the bacon in the bag and tie the top securely with string.
- Suspend the bag from a stick. Cook over hot embers and shake the bag continuously for about ten minutes.



Spit Roast

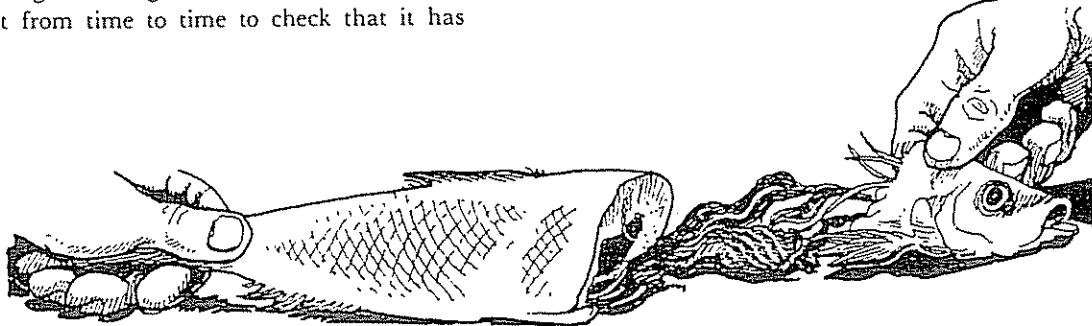
You will need (quantities are for eight servings):

- One 5-lb. turkey or large roasting chicken
- ½ lb. stuffing
- 8 small potatoes
- Chopped herbs
- Oil or butter
- One cup apple juice



Method:

- Wash the bird well, inside and out, removing the giblets.
- Cut off the legs and wings of the bird and place on two layers of foil. Baste with oil or butter and sprinkle a small amount of chopped herbs and some apple juice on the legs and wings and wrap in foil.
- Place the stuffing and the scrubbed potatoes inside the body cavity and baste with oil or butter. Sprinkle herbs on the top and mount the prepared bird on a spit made from a 1-inch diameter length of green stick, over glowing embers. A metal spit will speed up the cooking process.
- Cook for about 1 hour from this point, adding the parcel containing the legs and wings to the fire after 35 minutes. Test the meat from time to time to check that it has cooked.

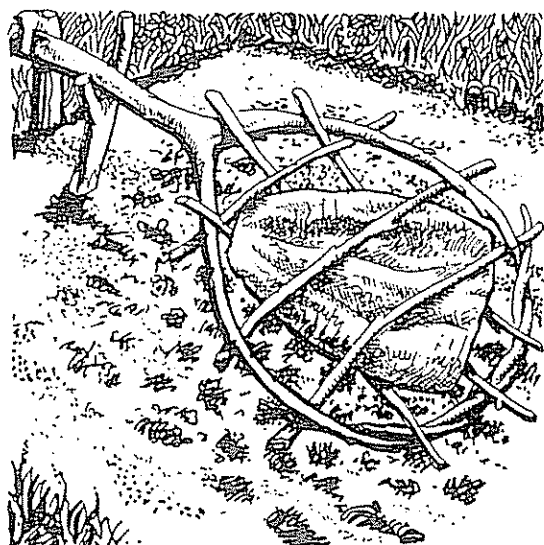


Preparing Fish

Before you cook freshly caught fish, it is important that you clean and prepare them properly. The following procedure is straightforward and requires only the use of a sharp knife and a clean, firm cutting surface---plus a bit of courage!

Method:

- Wash the fish thoroughly in clean water.
- Remove the scales by scraping with the back of the knife (that is, not the sharp edge), working from the tail toward the head.
- Cut the spine at the point just behind the gills and tear the head off with a steady, slow, forward motion. If you are careful, the fish's innards will come out with it.
- Slice the belly open from tail to gills and thoroughly clean the inside.
- Finally, cut off the fins and tail and cook as desired



Broiled Fish

You will need:

- A supply of green sticks
- One fish per person

Method:

- Prepare the fish as shown above.
- Strip the bark off the green sticks you are to use and seal them by placing them briefly over hot coals.
- Find a large Y-shaped green stick (ash, hazel, or willow are suitable, not holly or yew) and weave it into a tennis racket shape as illustrated.
- Open out the gutted fish and place it upon three sticks laid lengthways on the "racket."
- Lay a further three or four sticks across the top of the fish, at right angles to the other sticks, tucking the ends underneath the sides of the "racket" as shown, to keep the fish in place.
- Prop the broiler a short distance above glowing coals and cook for about 20 minutes. Turn occasionally.

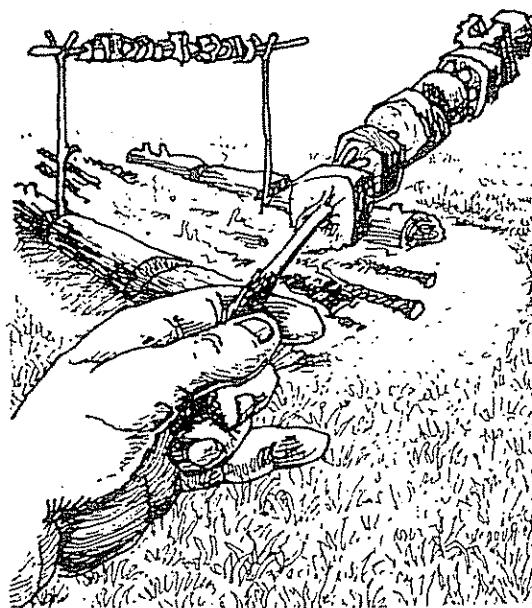
Shish Kebabs

You will need:

- Lamb (the shoulder cut may be the most suitable)
- Peppers, onions, apples, tomatoes, cucumber, celery

Method:

- Cut the meat and vegetables into 1-inch cubes.
- Prepare a green stick to act as a skewer by removing the bark from the end on which the food is to go (the thinnest end) and sealing it by placing over the hot embers briefly.



- Thread the ingredients, as desired, onto the stick and place it over glowing embers. Turn occasionally. It is advisable to manufacture some form of support at either end of the skewer in order to keep it in position — and to prevent your hands getting burned!

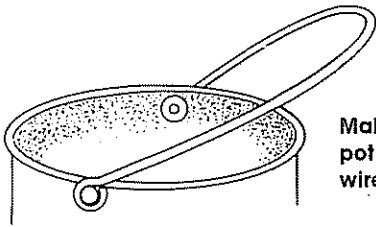
Egg in Orange

You will need:

- One large orange per person
- One egg per person

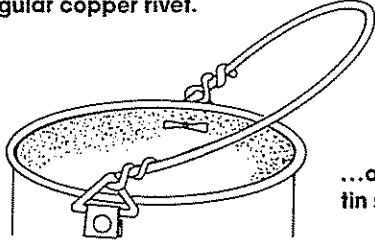
Method:

- Cut the top third off the orange and carefully scoop out (and eat) the flesh of the orange from the bottom section.
- Break the egg into the orange and place in among hot embers until you can see that the egg is cooked.

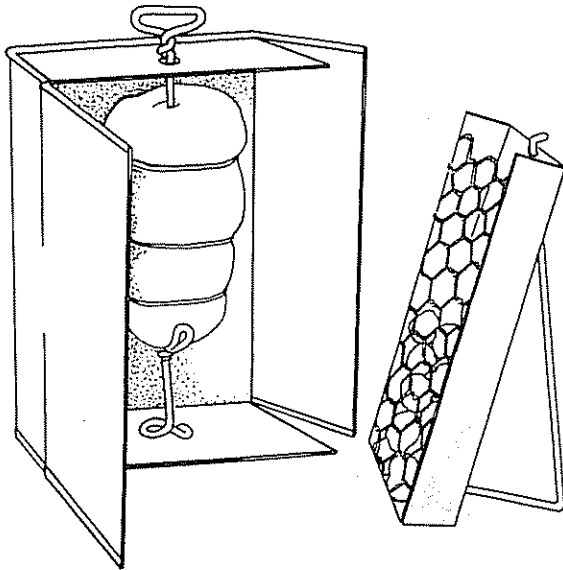


Make a handle for your pot from clothes hanger wire.

Attach handle with a regular copper rivet.

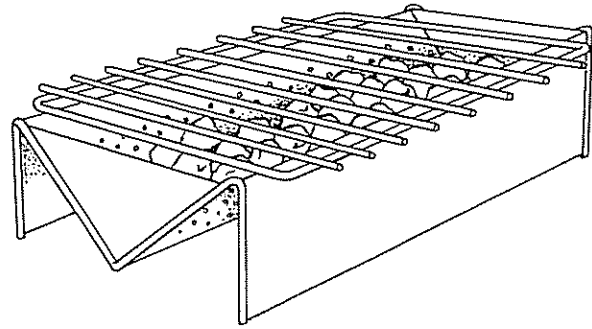


...or use wire triangles, tin strips and split rivets.

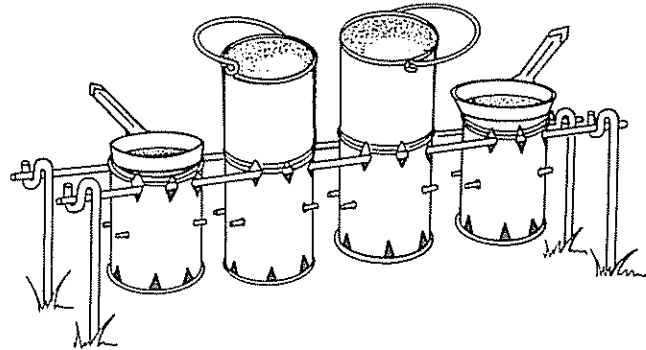


Roast beef in camp — yum-yum!

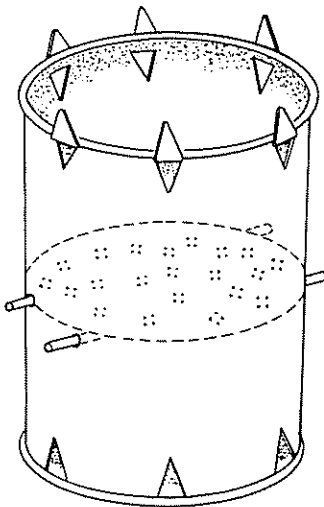
Stove is open at top to enable you to replenish charcoal.



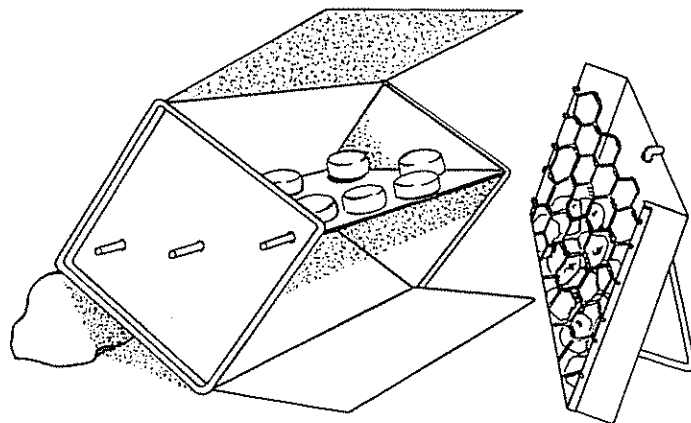
A five-gallon can cut and shaped like this makes an excellent charcoal stove.



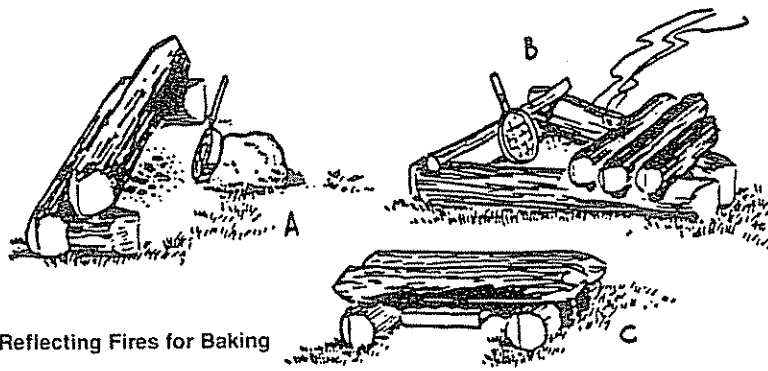
You can use iron rods for holding a battery of stoves.



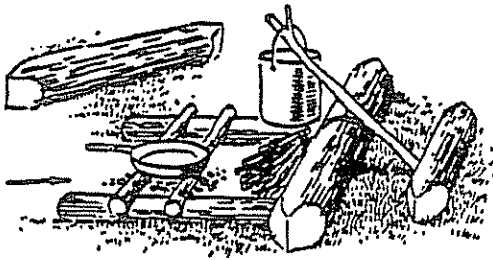
To save charcoal, put a grate in your stove.



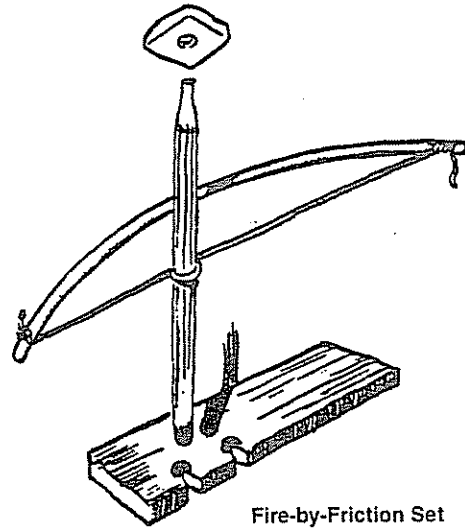
Here's a good reflector oven for baking. The heat comes from burning charcoal in a shallow bake pan. Chicken wire holds charcoal in place.



Reflecting Fires for Baking



Backlog Fire



Fire-by-Friction Set

APPENDIX C — SEALING FOOD IN ALUMINUM FOIL

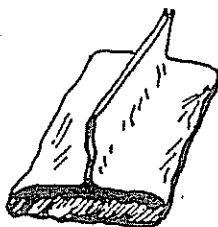
1. Cut piece of foil that will be large enough to make your seal. If you are using regular, not heavy-duty, foil, have a piece large enough to fold in half for double thickness. A good idea is to cut one piece first and check the size before you cut all you need. Do not skimp on the amount of aluminum foil you use to make your seal.



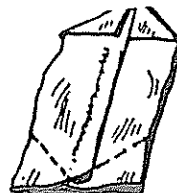
2. Place food in center of foil.



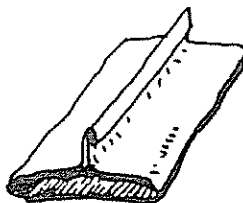
6. Fold the top down flat. Also press ends together.



3. Bring sides of foil up over the food loosely.



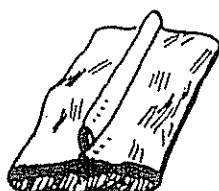
7. Fold corners over, as shown by dotted lines.



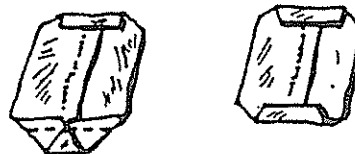
4. Fold the top half inch down on itself. This can be creased.



8. Fold pointed ends over, about one-half inch, as shown by dotted lines.



5. Fold the top down again on itself. Do not crease.

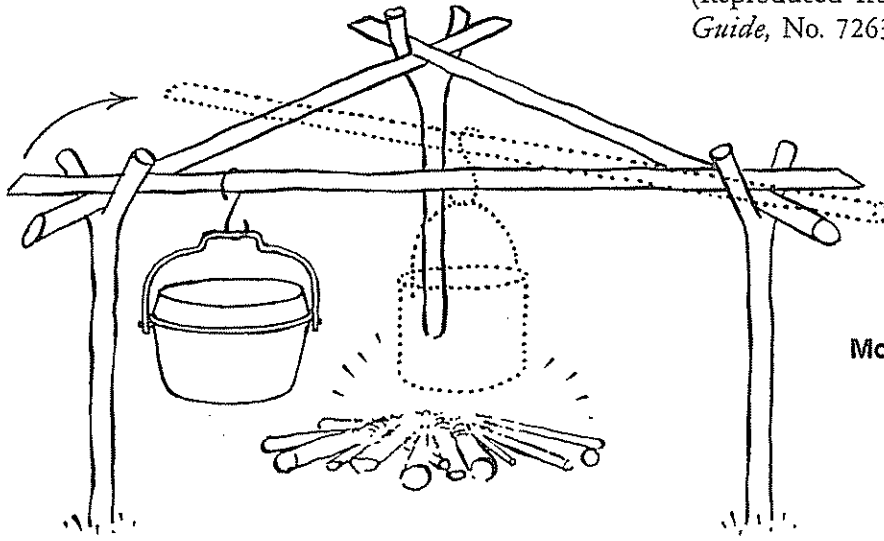


9. Fold ends over again.

10. Put foil package on the coals.

APPENDIX E—COOKING METHODS

(Reproduced from *Boy Scout Roundtable Planning Guide*, No. 7263.)

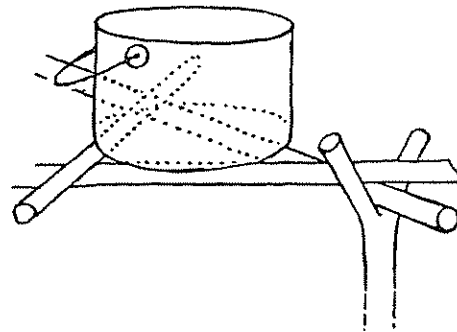


Move any stick over

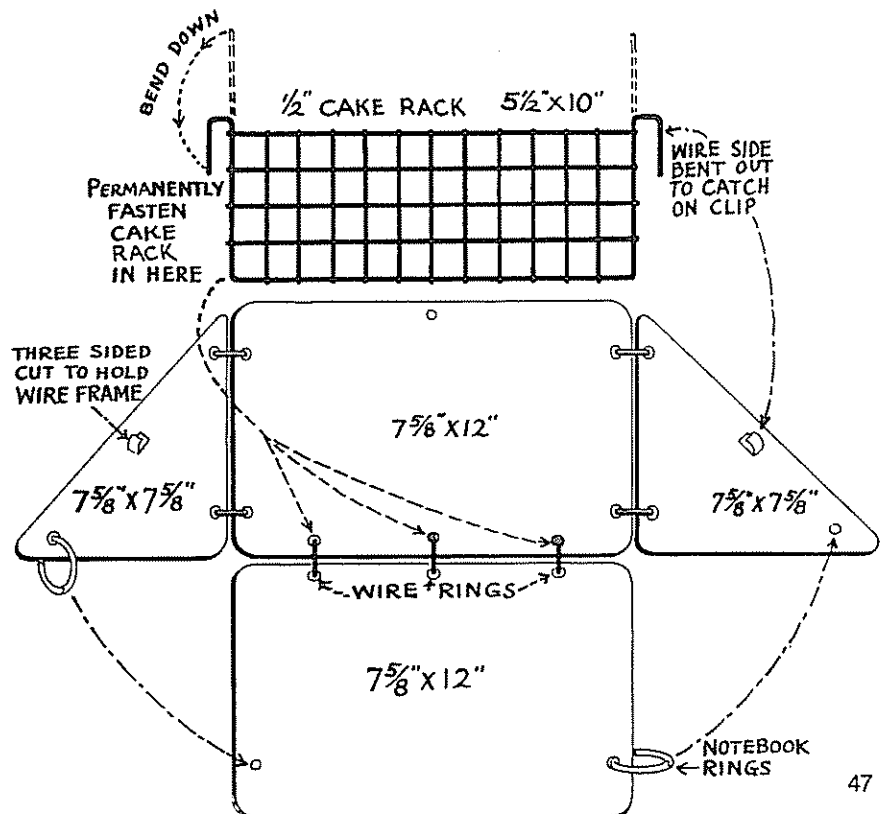
The Bangor Dixie Crane

Rarely seen today, the Bangor Dixie Crane is the best of them all, say the veterans.

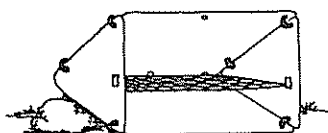
As the dotted "ghost" lines show, any of the top suspension sticks can be moved, so that dioxies and billies can be moved over any part of the fire, for boiling or simmering. Also, utensils can be placed on other sticks, laid across as shown.



Rodgers Reflector Oven



This reflector oven folds flat and is lightweight.



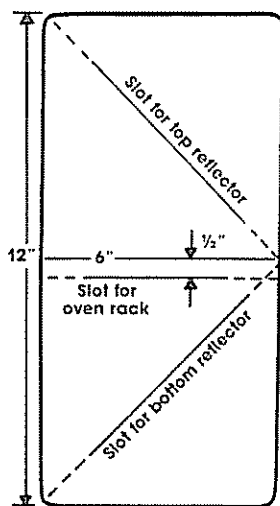
Backpacker's Oven

When you must carry all your equipment, ounces and space become important. Here are two ovens. Each fits into an envelope and weighs only 15 ounces. One oven fits together by sliding the reflector and rack tongues into the slots of the sides—this oven is rigid. The other model features a hinged back that lets you reposition biscuits in comfort from the back. Aluminum is sold in 36-by-36 inch sheets—enough for three ovens. Of course, if you prefer larger ovens, you can make only two.

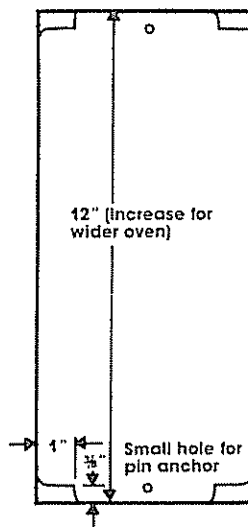
1. Make a fray jig for the side pieces. The jig should extend beyond the bench and be large enough to clamp securely

to the bench. Frame the sides with lath or scrap plywood, but leave an opening in the front for a saber saw. Drill holes for the saw blade and cut slots in the jig. Make stop marks on the frames for the saw guides.

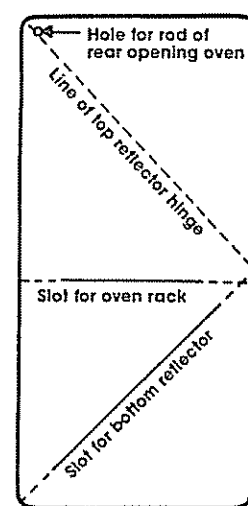
2. The top reflector pivots on a threaded rod that is rolled into the top edge. When the oven is taken apart, thread the nuts on the rod. The walls, trapping the tongues in the slots, are not needed because they can be replaced by small pointed sticks.
3. The rigid oven has no moving parts. If you must change the position of a biscuit, you must either move the oven or work close to the fire. There are no small parts to pack.



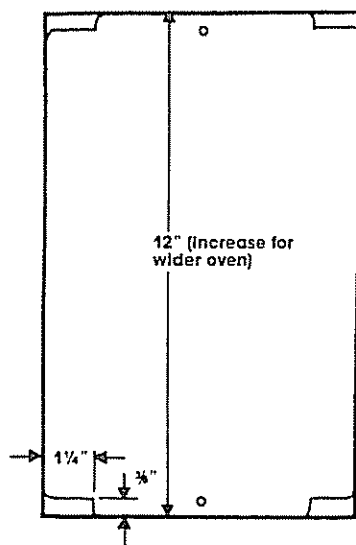
Side of reflector oven
(two needed for rigid oven)



Oven rack
(one needed)



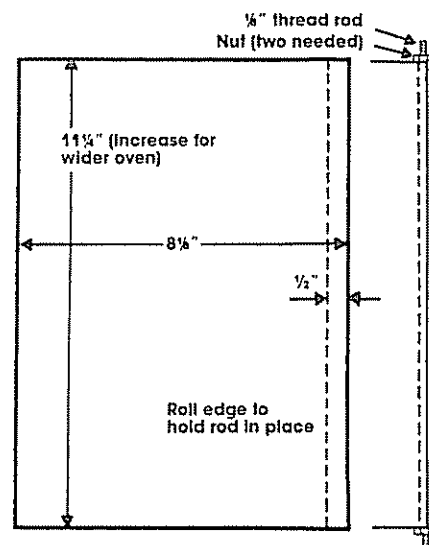
Side of rear opening oven
(two needed)



Top and bottom reflectors
(Two needed for rigid ovens)

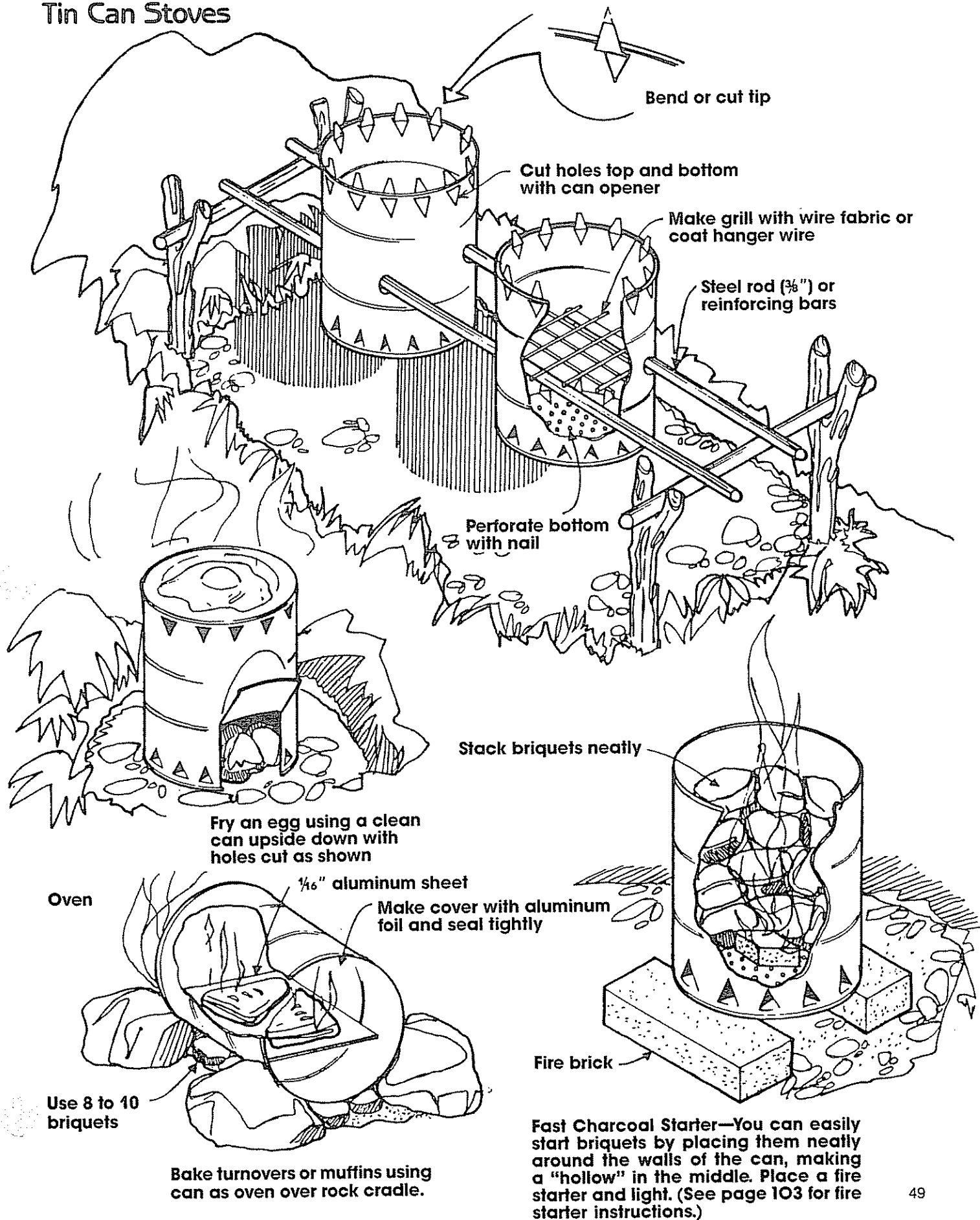
or

Bottom reflector
(One needed for top hinged ovens)



Top reflector
(one needed for rear opening oven)

Tin Can Stoves



Camp Can Craft

The sketches show some of the uses of the different size tin cans for camp can craft. Although only one sketch is given, some of the devices shown have several uses, depending upon the size of the can chosen and how it is used. Always be careful to crimp or file edges smooth. Handle carefully.

You can make everything you need to cook with on a patrol hike or troop camp and a lot of other interesting and useful gadgets to boot. No, it doesn't cost a thing—just a little thought, planning, and time. Sure, you can still get them! It depends on the kind you want as to where you look. The number 10s and the 5-gallon squares you can get from a restaurant, hotel or filling station; the big round ones from a fish store or a bakery; the little ones you can have your boys bring from home. All you need is a can opener, a pair of tin snips, a pair of pliers, a little wire, a nail for a punch, a metal file, emery cloth, and an old pair of gloves to protect the hands. Be careful of sharp edges. Crimp edges over with a pair of pliers and pound them down, or strike the edges with a file and round them off with emery cloth.

Uses for the 5-gallon square (1):

- Troop or patrol water can (1)
- A simple reflector oven (2)
- An improved reflector (3)
- A dishpan, sterilizing basin, or foot-bath (4)
- A stove (5)

Uses for the No. 10 and associates (38):

- Charcoal stove (using triangular can opener)

- Stove (inverted) (36)
- Nesting pails save space (37)
 - Water bucket
 - Stew kettle
 - Fire bucket (painted red)
- Double Boiler (34)

Crimp an edge and choose size (35):

- Coffee pot
- Tea pot
- Water pitcher
- Milk pitcher
- Syrup pitcher

Cut it down to size:

- Stew pan (25)
- Cereal bowl (25)
- Saucer (25)
- Sugar bowl (26)
- Plate (27)
- Serving dish (26,20)
- Pot cover (27)

By special design:

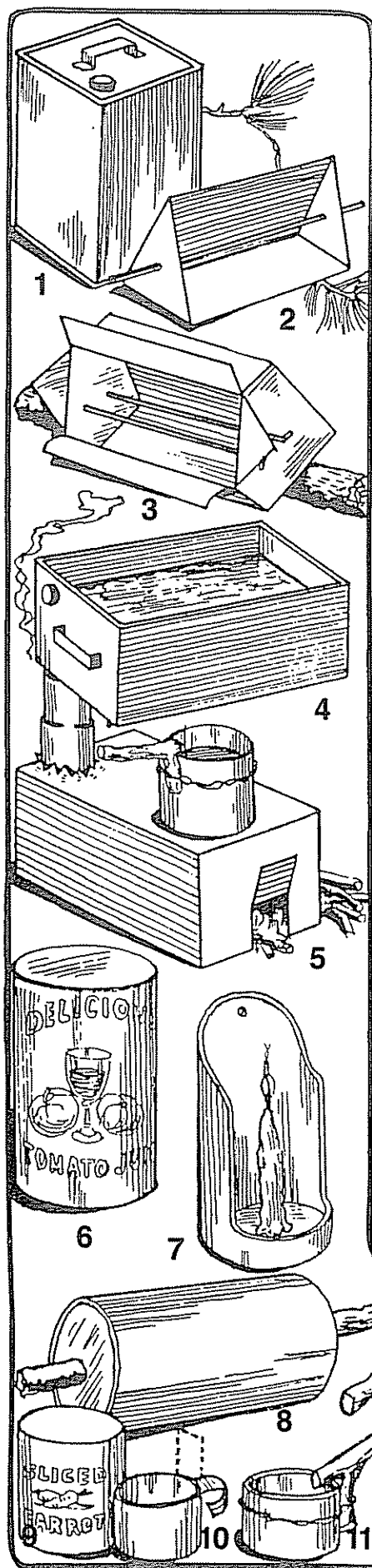
- Frying pan (24)
- Griddle (27)
- Skillet (24)
- Grill (from opened side of No. 10) (16)

Jobs for the No. 2½ and No. 3 (9):

- Cup (10)
- Dipper (11)
- Dipper (12)
- Potato masher (9)

From a flat piece:

- Pancake turner (17)
- Grater (19)



With a small can (13):

- Biscuit cutter (14)
- Broom holder (23)
- Salt and pepper shaker (15)

A job for the long ones (6):

- Sconce (7)
- Rolling pin (8)
- Stove pipe (5a)

A vote for the 11th point of the Scout Law:

- Patrol wash can (32)
- Soap dish (33)
- Shower (29)

Special devices:

- First aid can (contains band-aids, Unguentine, and antiseptic right where a boy can get at it for minor scratches and burns) (31)
- Troop or patrol mailbox (30)
- Shower (29)
- Strainer (29)
- Flour sifter (29)
- Sterilizer (when it contains cutlery or dishes and is dipped in larger can of boiling water) (29)
- Sundial (28)

Specialized design:

Bucket stove (same as 36, made from an old bucket)

Introducing the fish can (not shown in sketch):

- Dish pan
- Dish sterilizer
- Bread can
- Refrigerator—when weighted at edge of stream

By their size ye shall know them:

- Sugar scoop (18)

- Flour scoop (18)
- Dirt scoop for latrine (18)

At night they serve:

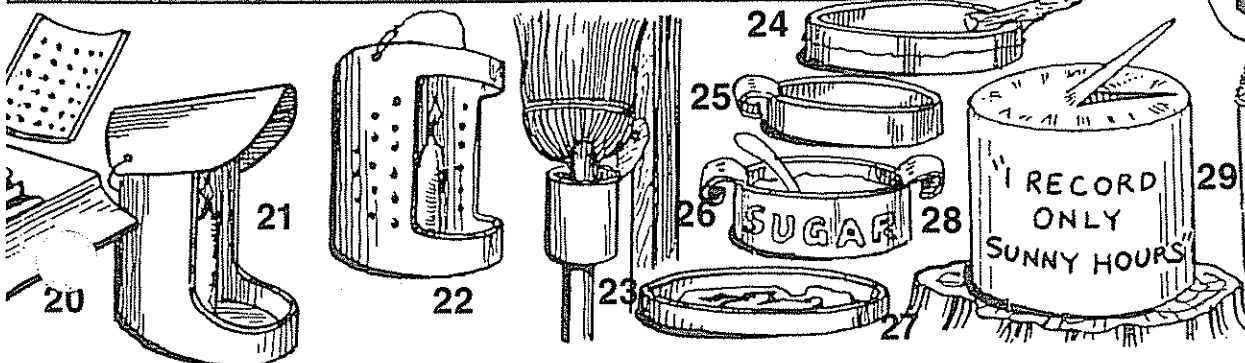
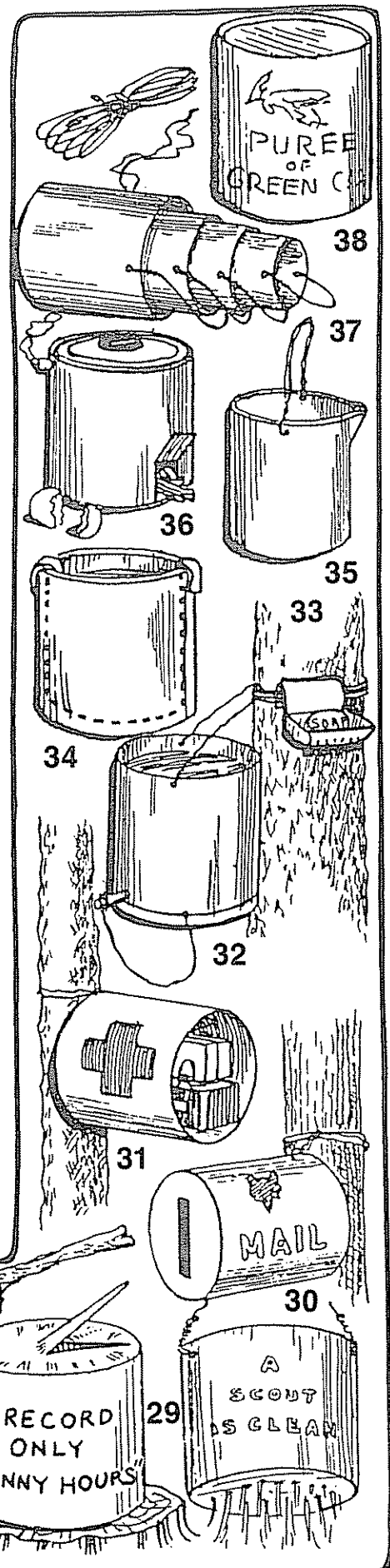
- Candle lanterns (21-22)
- Scone (7)

If your troop is new, you need camp can craft so that you can get out on that hike right away! If it's old, leave your equipment at home and give your Scouts a chance to use their imagination and try their initiative.

After the camp is over, you can burn 'em, bash 'em, and carry 'em out. If they're well made and fit together snugly, you can save them for future hikes. This project will also give you a swell display for parents' night or your Scouting Anniversary Week window display. What you say is true—it's "old stuff" to us, but don't forget that it's brand new to at least a third of our boys each year.

The tin can will prove to be a good friend in many other ways to the alert camper. If the ends are removed and the sides mashed flat, it can be used for joining board or strengthening corners; small pieces can be fashioned into spinners, spoons, and lures for fishing. A No. 10 can even be opened to make a coat hanger—just cut it to shape. Small pieces may be used as scrapers. Large flat pieces may be laid directly on the coals and used for pan-frying meat. With experimentation and application, we soon develop a new appreciation for this often discarded and forgotten friend. When confronted with a problem or a need in camp, remember:

*When placed in the hands of
devising man,
If the problem is solvable,
the tin can can.*



Temperature Chart

Determine the approximate temperature of a fire by the number of seconds you can hold your hand over the coals. Be careful not to burn yourself.

Approximate Temperature	Type Fire	Seconds
250-325 degrees	Slow	6-8
325-400 degrees	Medium	4-5
400-500 degrees	Hot	2-3
Over 500 degrees	Very Hot	1



Paper Cup Hard-Boiled Egg

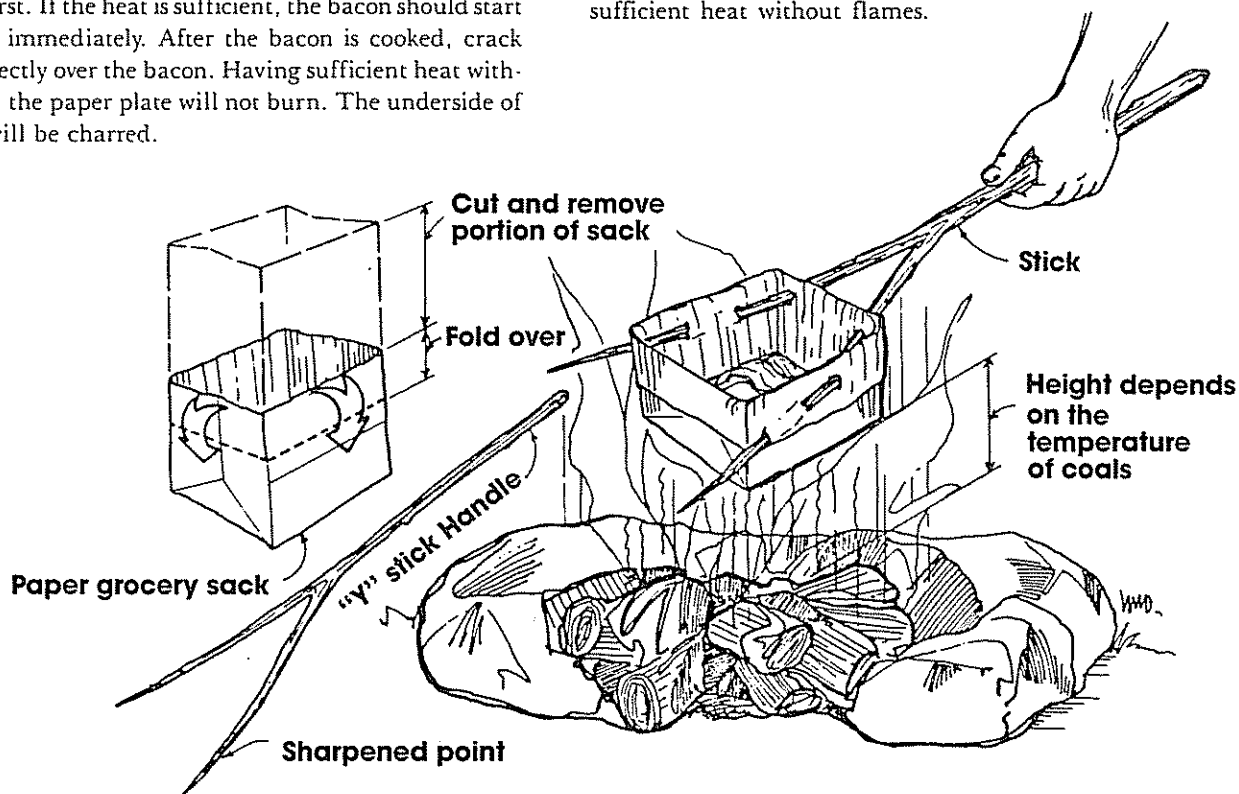
Fill an unlined, unwaxed hot paper cup with water ($\frac{3}{4}$ full). Allow water to boil. Place egg into cup. You may use aluminum foil to cover cup, but be sure to puncture the foil to vent steam. Use caution when removing egg. A pair of metal tongs should be nearby.

Paper Plate Bacon and Egg

Using an unlined, unwaxed paper dining plate, place bacon in first. If the heat is sufficient, the bacon should start simmering immediately. After the bacon is cooked, crack the egg directly over the bacon. Having sufficient heat without flames, the paper plate will not burn. The underside of the plate will be charred.

Grocery Sack Bacon and Egg

Prepare and fold the brown grocery sack as shown. Be sure the sack is clean and empty. Find a suitable "handle" and make a pan, as shown. Place the bacon in the sack first. Cook the bacon, and then place your egg. Cooking time depends on the heat of the prepared coals. Be sure to have sufficient heat without flames.

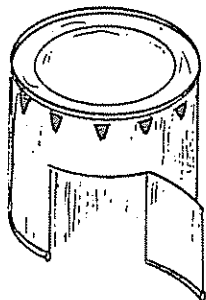


Always be sure to have sufficient heat and no flames

**BREAKFAST OVER HOT COALS
USING PAPER GOODS**

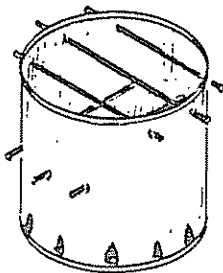
More Things to Make for Camp

HOBO STOVE

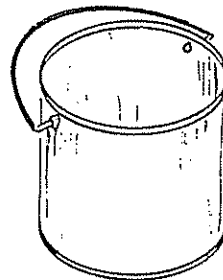


Punch out with triangular beverage can opener.

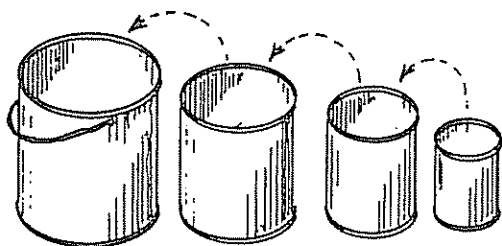
TIN CAN CHARCOAL STOVE



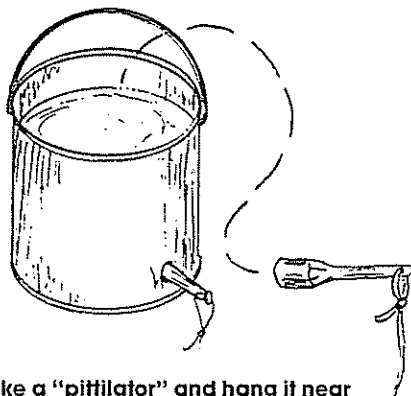
Use coat hanger wire through holes punched with nail.



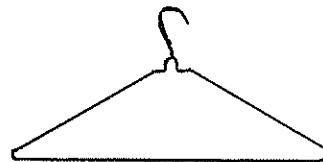
Holes punched in cans and fitted with coat hanger wire bails make good camp pots.



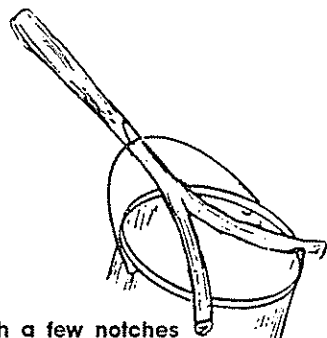
NESTING TIN CAN POT SET



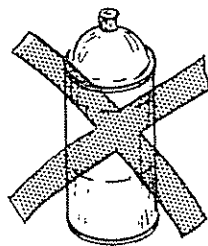
Make a "pittilator" and hang it near the latrine for hand washing.



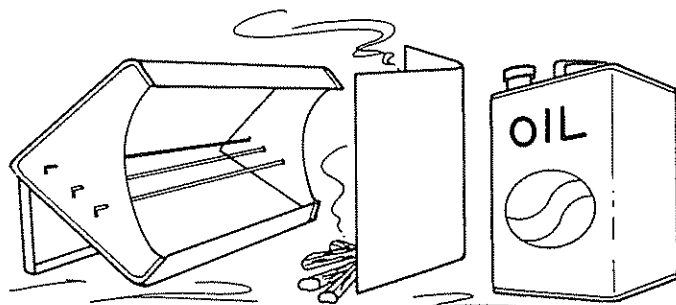
Coat hanger wire has endless uses around camp.



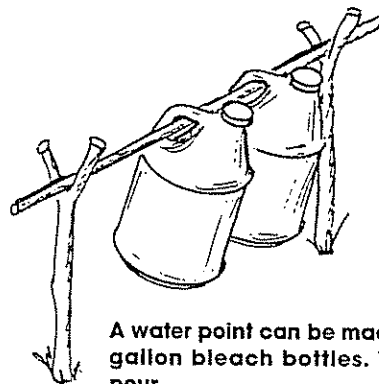
A forked stick with a few notches makes a good pot pourer.



Don't use insect spray or spray repellent in camp. It'll take the waterproofing out of the tents!

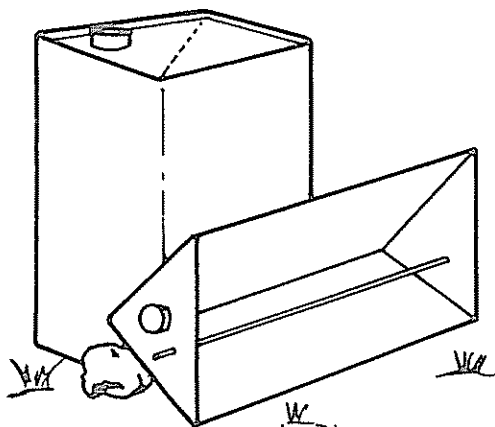


Reflector oven and windbreak from one 5-gallon tin.



A water point can be made from 1 1/2 gallon bleach bottles. Tip 'em to pour.

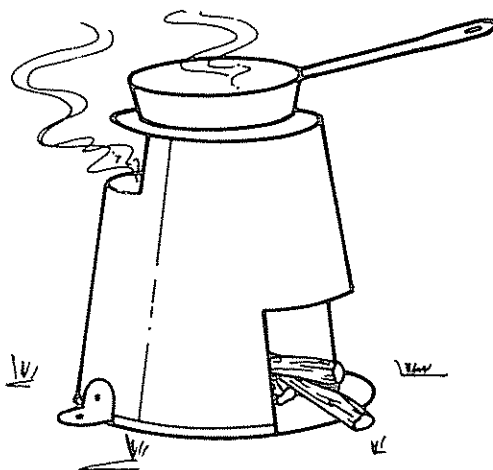
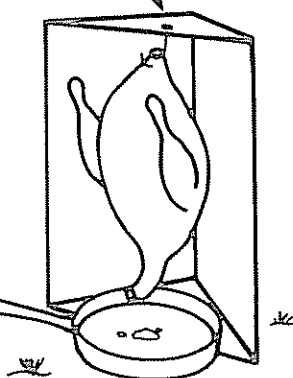
Tin Can Cookery



**TWO-WAY
REFLECTOR**

Nail Hook

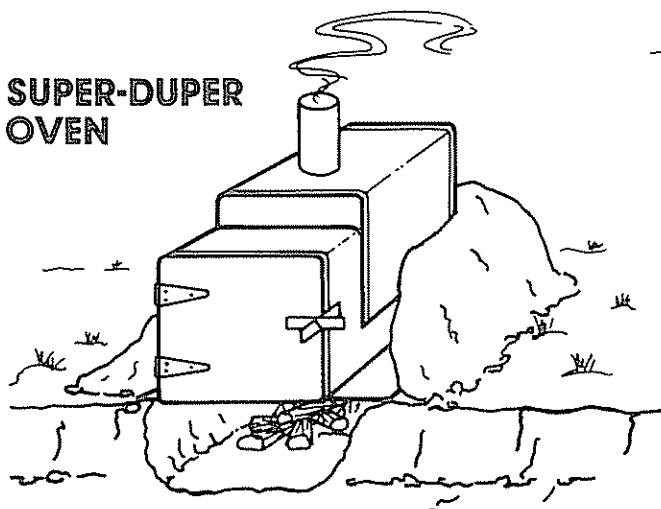
Pan to
catch
grease



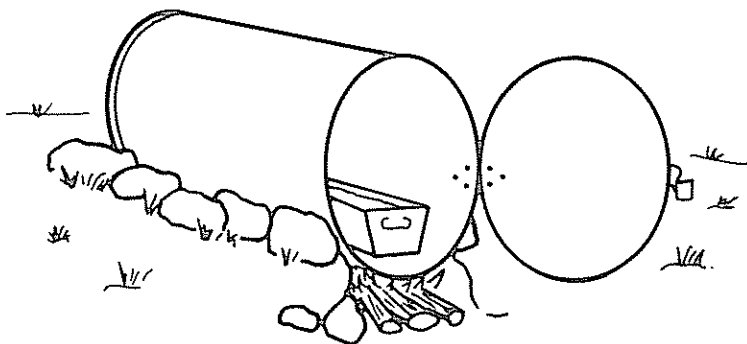
BUCKET STOVE

This bucket stove is so efficient that you only need small kindling wood and pencil-size sticks.

**SUPER-DUPER
OVEN**

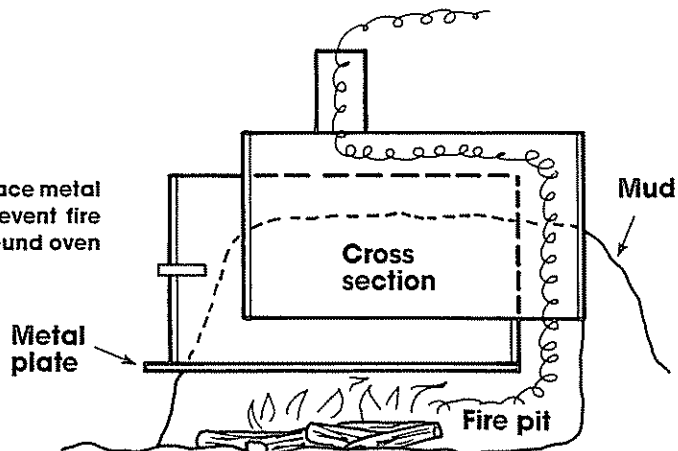


Made from two 5-gallon oil cans with a tin can chimney.

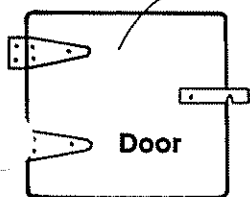


**CIRCULAR TIN CAN OVEN
WITH HINGED LID**

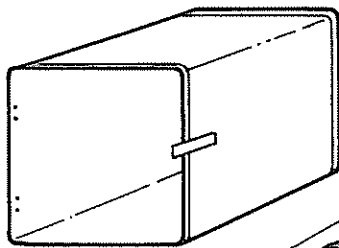
Works best if fire pit is dug into small bank. Place metal plate over pit and place oven on top to prevent fire from direct contact with oven. Pack mud around oven to make air tight.



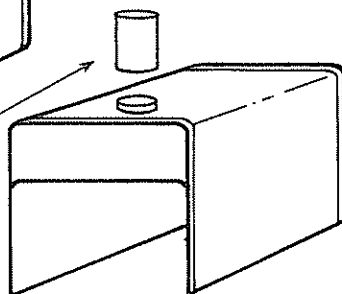
Rivet hinges



Door



Tin can
chimney
fits over
lip on
top of
outer shell



Top surface can be used
for cooking.

Box Oven Baking

Box oven cakes are fun to make and delicious to eat in the out-of-doors. You don't need to wait for a special occasion to make one.

Materials

Cardboard box, approximately 12" x 16" x 14" deep for large cake; 12" square for smaller cake.

Aluminum foil

Scotch or masking tape

Knife

4 to 6 empty 12-oz beverage cans

Charcoal

Plastic roasting wrap (optional)

Cake pan

Cake mix and/or ingredients

Canned frosting

Decorator frosting with fancy tip, tube or push-button can

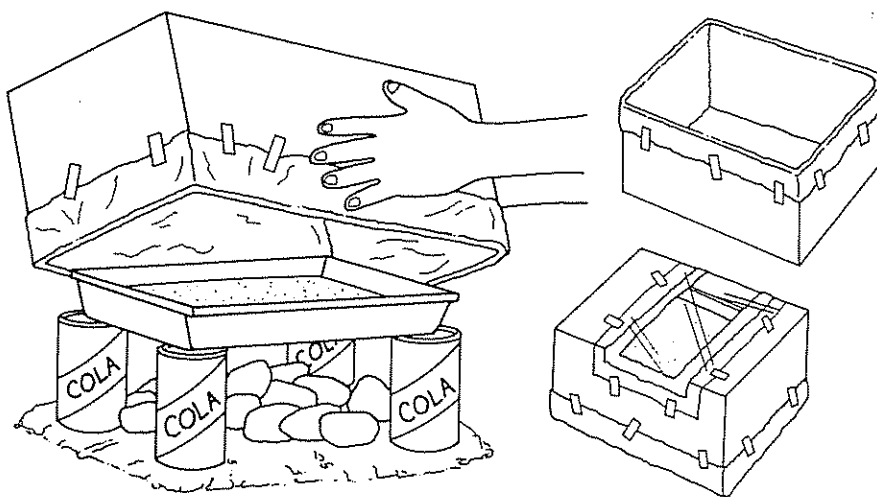
Directions

For a 9-inch by 13-inch cake, cut the top flaps off a large box. Line the inside of the box with aluminum foil, bringing the foil around the edges and down the outer side about 4 inches. Anchor with tape. If you want to watch what is happening in your oven, cut a square hole in the solid top of the oven box, and tape clear plastic roasting wrap tightly over the hole.

Fill four empty beverage cans about half full with sand or dirt, and place them in the charcoal pit so each can will support a corner of your cake pan.

Light 14 pieces of charcoal; then mix your cake.

When the charcoal is giving off even heat, spread the coals, set cake pan on the beverage cans, and place cardboard



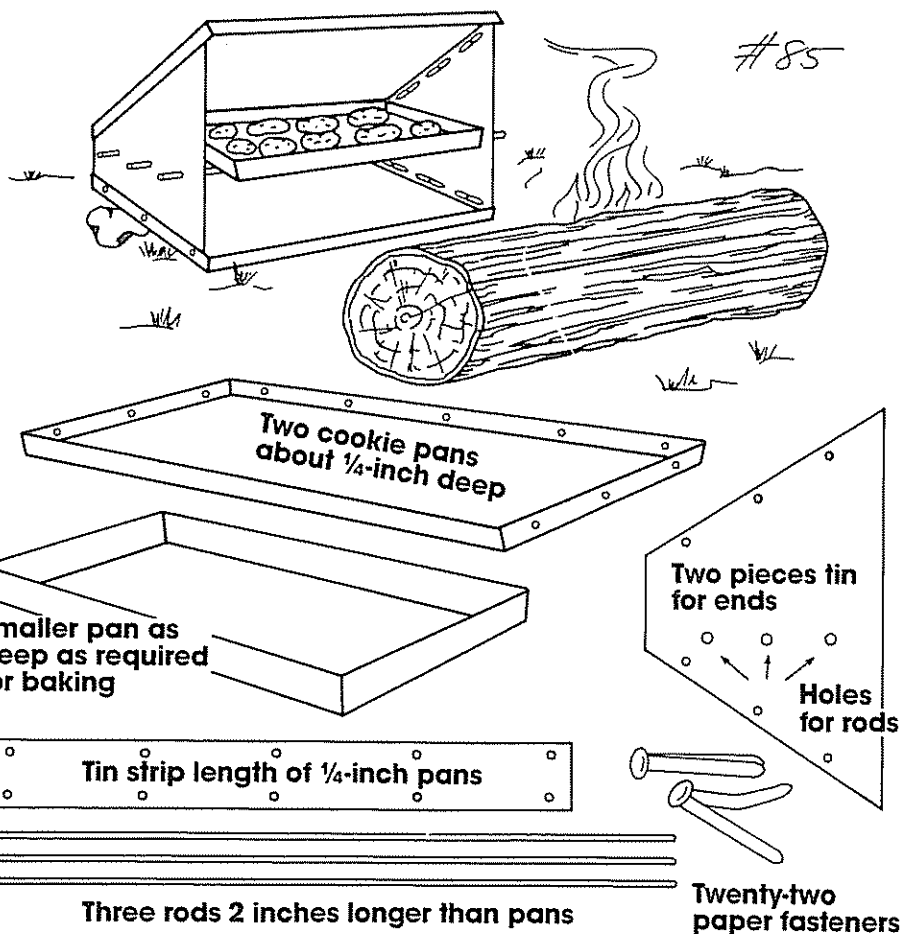
box oven over the pan. Make a small gap for air at each end of the oven by scraping some dirt away. Air circulation is needed to keep the charcoal burning.

Bake cake for the length of time

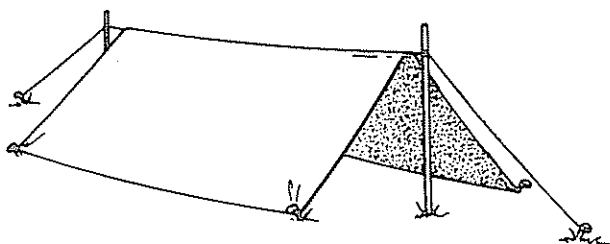
specified in the recipe. Do not peek! Lifting the box will cause the oven to lose heat.

If you use an 8-inch square pan and a 12-inch square box for the oven, light only 12 pieces of charcoal.

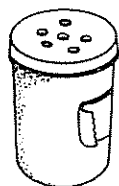
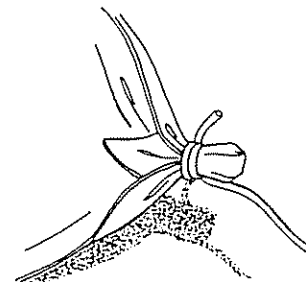
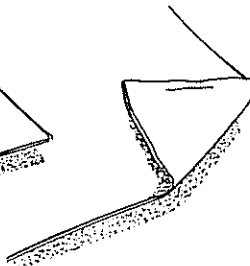
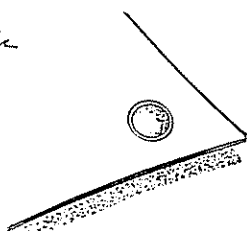
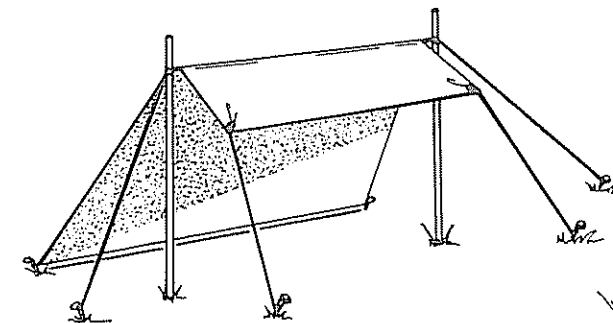
COOKIE PAN REFLECTOR OVEN



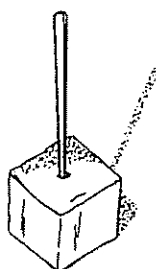
Odds and Ends



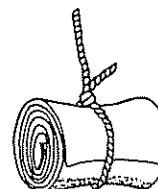
Builder's plastic can be used for ground cloths and to improvise tents and flies. Tie a small stone in the corner with the tent rope. It won't easily rip out.



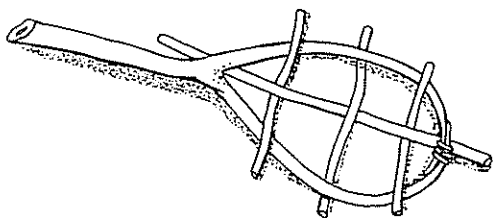
Film cans make good personal salt and pepper shakers. Close the top with tape—stick it on the side when in use.



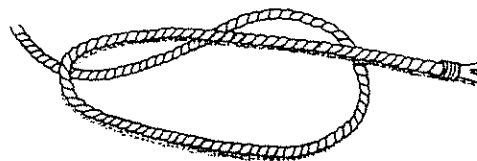
Dip with toothpick.



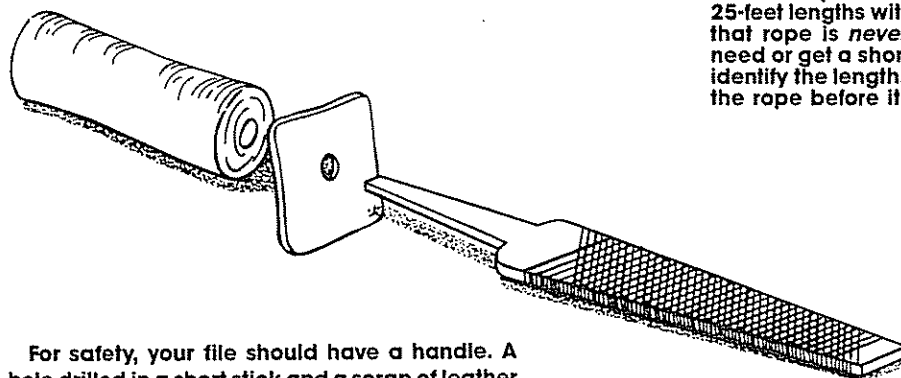
Cubes of Celotex or short rolls of newspaper dipped in paraffin make good fire starters. Use a match to light. Warning: Use a double boiler to melt paraffin to prevent fire.



A "tennis racket" broiler is a great way to broil a small steak or fish.



Rope is expensive and here's how to conserve it. Cut rope into 15-, 20-, and 25-foot lengths. Whip the ends. Paint the whippings on the 15-foot lengths with red paint. Three letters in red—each letter stands for 5 feet. Paint the 20-foot lengths with blue (4 letters \times 5 feet is 20 feet), and the 25-foot lengths with green paint. Set the standard that rope is *never* cut—tuck in what you don't need or get a shorter piece. Scouts can instantly identify the lengths, and you'll probably wear out the rope before it's all cut up!

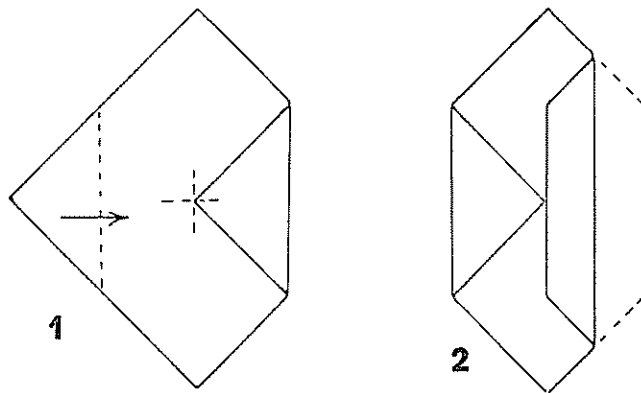


For safety, your file should have a handle. A hole drilled in a short stick and a scrap of leather do a fine job.

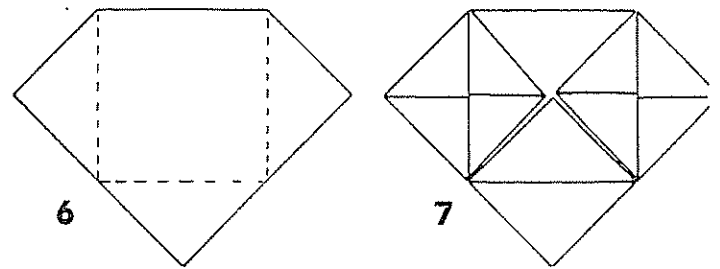
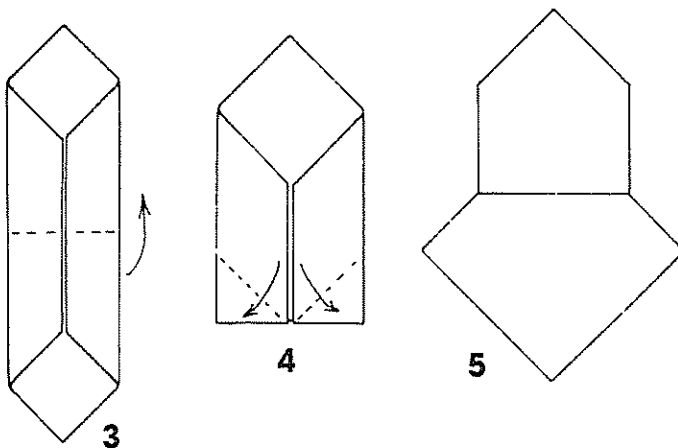
Prefabricated Aluminum Foil Cooking Utensils

Here is a cooking utensil that can be made on the spot or of which a number can be prefabricated and carried flat in a pocket ready to open out when required. Made from a piece of foil 12-inches square, the utensil is large enough to boil two eggs or make a cup of tea for one. A piece 18-inches square will hold $1\frac{1}{2}$ pints but will need a flat bed of embers to seat nicely. All foil cooking utensils are better made from a doubled sheet rather than a single piece.

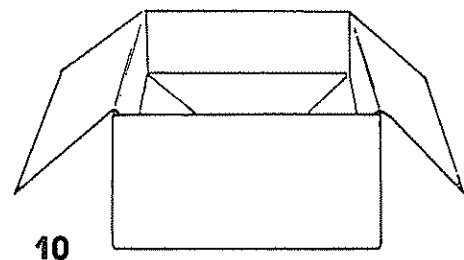
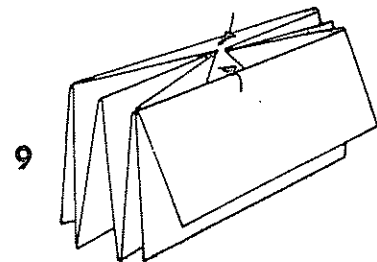
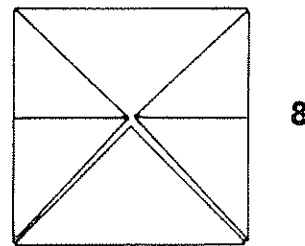
Here is a project that can be perfected during that odd quarter of an hour between more strenuous activities in the winter program.



Cut a square of foil, say 12" x 12", then (1) Fold two opposite corners to the center; (2) Fold each of the folded parts in half to the center; (3) Fold in half as indicated; (4) Insert forefingers in the pockets formed and ease out; fold the upright edges against the bottom edges to produce the creases; (5) Carefully pull down both pockets; (6) Turn over and repeat on the other side; (7) Fold the three corners to the center, turn over and repeat 6 and 7 on the other side; (8) This is what it should look like.

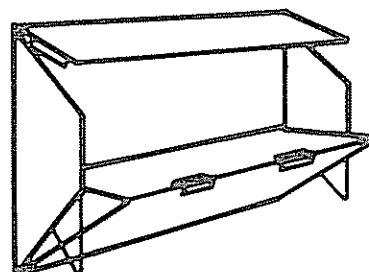
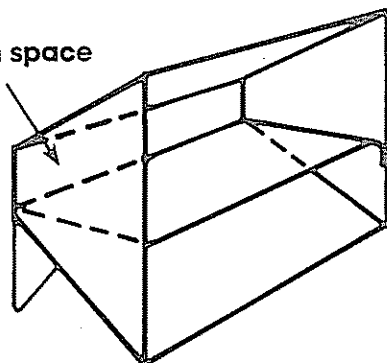


(9) Fold in half; (10) Insert the forefingers in the opening indicated by the arrows and gently open out to give you your foil cooking container, complete with two "handles."



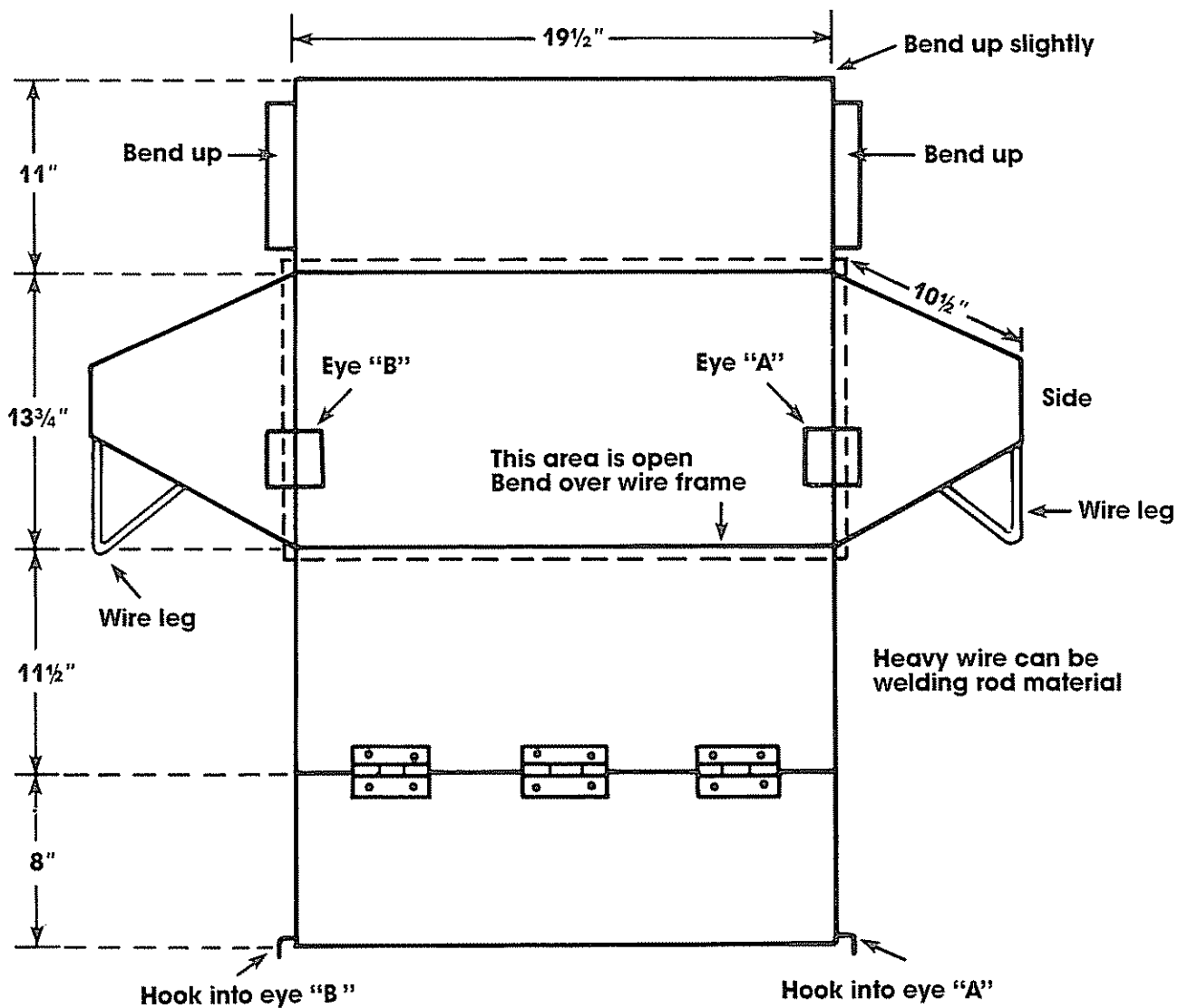
Reflector Oven

Open space



Back view

Use aluminum or
heat duct material



APPENDIX F—RECIPES

Meats, Poultry, Fish

Hurry Hash

Ingredients:

- 1 10½-ounce can condensed cream of mushroom, celery, or other cream soup
 - 8 biscuits, rusks, or melba toast
 - 2 sliced hard-boiled eggs
 - ¼ cup milk
 - 1 pound ground beef or sliced weiners
1. Brown the ground beef or weiners in a skillet.
 2. Heat the soup slowly in a kettle, stirring, and adding milk gradually.
 3. When smooth and hot, add meat and eggs.
 4. Heat thoroughly. Season to taste.
 5. Serve over biscuits, rusks, or melba toast. Serves 4.
-

4-Pound Boneless Beef Roast*

Oven time: Preheat 10 minutes to 325°

Bake 2 to 2¼ hours

1. Remove the lid of dutch oven after preheating, and place roast in oven.
 2. See that all parts of the roast touch the bottom of the dutch oven long enough to sear it, to hold the juices in.
 3. Add salt and pepper.
 4. Place lid on oven and leave for at least an hour.
 5. Add 6 new pieces of charcoal on top and 2 pieces underneath.
 6. Let cook for 45 minutes more.
 7. Add 2 pieces of charcoal on top and 2 more underneath.
 8. Let cook the full time.
-

Tasty Beef Roast*

Oven time: 30 to 45 minutes per pound at 350°

Ingredients:

- 1 3 to 5 pound beef roast
 - 1 can cream of mushroom soup
 - 1 package dry onion soup mix
1. Brown roast.
 2. Pour half of the can of mushroom soup around the meat.
 3. Pour onion soup mix over meat, then the remaining mushroom soup over all.
 4. Let bake to desired doneness.

Variation

Round steak may be used, adding 1 stick margarine melted on top of steak.

Beef Round*

Oven time: 70 to 80 minutes at 350°

Ingredients:

2 pounds round steak
1 cup flour
2 cups milk
1 egg, beaten
1 teaspoon salt
¼ teaspoon pepper

1. Cut steak into 1-inch cubes and place in dutch oven.
 2. Make a batter by mixing flour, milk, beaten egg, salt, and pepper.
 3. Pour batter over steak and let bake until meat is tender.
-

Chili*

Oven time: 45 minutes at 350°

Ingredients:

1½ pounds ground beef, browned and drained
2 No. 303 cans tomatoes
2 teaspoons salt
½ teaspoon pepper
1 small onion, diced
1 tablespoon chili powder
1 No. 303 can spaghetti sauce
1 No. 303 can kidney beans
1 cup water
1 tablespoon sugar

1. Brown beef with onions, salt and pepper, and drain.
 2. Add remaining ingredients and bake.
-

Chili Bean Stew

Ingredients:

2-3 pounds ground beef
1 tablespoon butter
2 cans (15 oz.) chili beans

1. Brown beef in butter in open oven.
2. Stir in beans and cook slowly 15 minutes in covered oven. Serves 8.

Variation

Brown one medium onion, finely chopped, with the beef.

Meat Loaf*

Oven time: 50 to 60 minutes at 350°.

Ingredients:

2 pounds ground beef
1 small can evaporated milk or ½ cup milk
2 packages dried onion soup mix

1. Mix all ingredients together and form loaf in dutch oven.
 2. This recipe is flexible and may be doubled or cut down to fit need.
-

Oven Pot Roast

Ingredients:

2 pounds beef pot roast	4 sliced carrots
4 peeled potatoes, cut into 2-inch cubes	Small amount of flour
	Water
4 small onions	

1. Dredge roast in flour and brown on all sides in hot oil in dutch oven or skillet. If in skillet, move to roasting pan. If in dutch oven, leave there. Add water to a level of about ½ inch.
 2. Cover dutch oven and put coals underneath and on lid. Put roasting pan, if used, in a regular oven.
 3. Simmer for 2 to 3 hours, adding water as needed. Replace coals on top of dutch oven as the old ones burn up.
 4. Add potatoes, onions, and carrots for last 45 minutes of cooking time.
Serves 4.
-

Old West Pork Chops

Ingredients:

4 ¾-inch thick pork chops	1 chopped green pepper
3 tablespoons vegetable oil	1 cup uncooked converted rice
1 large onion cut into 4 slices	1 8-ounce can tomato sauce
1 teaspoon chili powder	2 teaspoons salt

1. Brown chops well on both sides in oil in skillet. Remove.
 2. Stir in chili powder and cook for 2 minutes. Add green pepper, rice, tomato sauce, 1¼ cups water, and salt.
 3. Heat to boiling.
 4. Pour into a 2-quart baking dish or 12-inch dutch oven. Arrange pork chops over the rice mixture. Put an onion slice on top of each chop.
 5. Cover and bake in a moderate oven for 1 hour or until liquid is absorbed.
Serves 4.
 6. If using dutch oven, put coals under oven and on the lid. Check by inspection to see when liquid is absorbed. Serves 4.
-

Pork Chops Old Home Style*

Oven time: Preheat 15 minutes at 350°.
Bake 50 to 60 minutes.

Ingredients:

6 pork chops, $\frac{3}{4}$ inch thick	$\frac{1}{4}$ cup water
salt and pepper	3 medium-size potatoes, quartered, peeled or unpeeled
1 tablespoon cooking oil	1 can mushroom soup
3 tablespoons margarine	$\frac{1}{2}$ cup water
4 cups seasoned croutons	

1. Place chops in hot dutch oven with 1 tablespoon cooking oil, sprinkle with salt and pepper.
 2. Melt margarine in dutch oven lid.
 3. Mix croutons with margarine, adding $\frac{1}{4}$ cup water.
 4. Shape croutons into small balls and lay on top of chops.
 5. Place potato quarters around chops.
 6. Pour mushroom soup over top, add $\frac{1}{2}$ cup water and bake.
-

B.B.Q. Pork Chops "Dutch Oven"**

Oven time: 75 to 90 minutes at 350°

Ingredients:

6 pork chops	$\frac{3}{4}$ cup catsup
1 tablespoon cooking oil	1 cola drink (8 oz.)
salt and pepper	

1. Brown chops with cooking oil in dutch oven bottom.
 2. Mix catsup and cola with salt and pepper and pour into oven over chops.
 3. Bake until chops are done.
-

Campfire Pizza

Ingredients:

2 cups biscuit mix
1 can or bottle pizza topping sauce
1 $\frac{3}{2}$ -ounce package sliced pepperoni
8 ounces shredded mozzarella cheese
1 4-ounce can sliced ripe olives (drained)
1 4-ounce can sliced mushroom stems and pieces (drained)
Heavy-duty foil to line and cover pie plates with three thicknesses, top and bottom

1. Prepare biscuit dough for pizza crust recipe on package.
 2. Divide dough into four pieces. On waxed paper or foil, roll each part into a thin circle. Sprinkle with dry biscuit dough to keep roller from sticking. Roller can be an unopened can.
 3. Prepare four metal pie plates by lining each with heavy-duty foil. Lightly oil the foil.
 4. Put prepared pizza crust on foil in each plate. Pour pizza topping over crusts, spreading evenly out to edges.
 5. Top with chopped pepperoni, mushrooms, and olives, spreading evenly. Sprinkle shredded cheese over top of each pizza, covering well.
 6. Cover with the three layers of heavy-duty foil, crimping around the edges of the pan so that it doesn't sag.
 7. Place on grill over coals. Lift a few coals from below with tongs, and gently put on the foil cover.
 8. Grill over medium hot coals 25 minutes, adding fresh coals to top as needed. Check one. If crust is brown around edges and pizza sauce is bubbling lightly, the pizza is done. Serves 4.
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Sausage-Rice Oven Dish*

Oven time: 30–40 minutes at 350°

Ingredients:

- 2½ pounds ground sausage
- 1 medium green pepper, chopped
- 1 medium onion, chopped
- 1 cup celery, chopped
- 2 cups rice, cooked as to direction on box
- 3 packages dry chicken noodle soup mix
- 1 small can pimentos, chopped
- 1 can of chicken soup
- 1 package almonds, slivered

1. Brown sausage and drain.
 2. Add green pepper, onion, and celery and simmer in open dutch oven for 15 minutes.
 3. Add cooked rice and dry soup mix.
 4. Add pimentos, cream of chicken soup, and almonds and bake.
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Baked Chicken*

Oven time: Preheat 15 minutes.

Bake 30–40 minutes at 350°.

1. Place 4 or 5 medium-size quarters of chicken in dutch oven.
 2. Add salt and pepper.
 3. Cut up and add ½ stick margarine and bake.
 4. Chicken is done when leg breaks from thigh easily, or white meat is tender.
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Oven Hash *

Oven time: Preheat bottom of dutch oven 15 minutes.
Bake 20–30 minutes at 350°.

Ingredients:

2 cups cooked beef, cubed	salt and pepper
2 cups cooked potatoes, cubed	¼ cup cooking oil
1 large onion, chopped	½ cup water

1. Pour cubed beef, cubed potatoes, and chopped onion into dutch oven, adding salt and pepper and stirring in the cooking oil.
 2. Brown hash 10–15 minutes in open oven, stirring occasionally.
 3. Add water to mixture and stir.
 4. Place lid on oven and bake 20–30 minutes.
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Chicken with Tomato *

Oven time: 60–75 minutes at 350°

Ingredients:

6 chicken breasts	1 small can sliced mushrooms
1 teaspoon seasoned salt	⅓ teaspoon oregano
dash lemon pepper	½ teaspoon celery seed
1 large can whole tomatoes	1 clove garlic
1 medium onion	

1. Skin and bone chicken breasts and place in dutch oven, salt and pepper.
 2. Cut tomatoes in quarters, saving juice, and place quarters on top of chicken.
 3. Cut onion into slices and place on top.
 4. Drain mushrooms and add mushrooms to oven.
 5. Mix oregano, celery seed, and minced garlic in tomato juice, pouring over all in oven.
 6. Bake for 1 hour.
 7. Open oven and baste chicken with liquid in oven.
 8. Bake with oven open another 10 minutes.
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Baked Trout or Other Fish *

Oven time: 30–40 minutes at 350°

Ingredients:

4 pounds trout filets
8 strips bacon
salt and pepper
1 small onion, chopped

1. Place layer of filets, skin down, in bottom of greased dutch oven.
2. Cross with strips of bacon, then repeat layers as necessary.
3. Sprinkle chopped onion on top.
4. Add salt and pepper.
5. Let bake until fish flakes easily.

Variation:

If desired, sprinkle lemon juice on fish before baking.

Vegetables

Green Beans with Mushrooms*

Oven time: 30–40 minutes at 350°

Ingredients:

- 2 cans green beans
- 1 small onion
- ½ teaspoon celery salt
- 1 small can mushrooms
- 1 cup crushed seasoned croutons
- 1 tablespoon margarine

1. Drain green beans and pour into dutch oven.
 2. Add onion and celery salt.
 3. Pour mushrooms with liquid over beans.
 4. Crush croutons and mix with melted margarine.
 5. Pour over top of mixture and bake until crumbs are brown.
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Broccoli-Cheese Bake*

Oven time: 35–40 minutes at 350°

Ingredients:

- 1 package frozen chopped broccoli
- 1 can cream of mushroom soup
- 1 cup sharp cheddar cheese, shredded
- ¼ cup salad dressing, mayonnaise type
- ¼ cup milk
- 1 egg, beaten
- ½ cup bread crumbs
- 1 tablespoon margarine, melted

1. Cook broccoli as directed on package. Drain.
 2. Mix mushroom soup, cheese, salad dressing, milk, and beaten egg; pour over cooked broccoli in dutch oven.
 3. Mix melted margarine and bread crumbs.
 4. Sprinkle crumbs over top of broccoli mixture, and bake.
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Cheesed Broccoli*

Oven time: 45–60 minutes at 350°

Ingredients:

2 packages (10 oz.) frozen broccoli, or fresh equivalent†
2 cups mild or sharp cheese, diced or grated

1. Follow directions on package for frozen broccoli, cooking in dutch oven.
 2. When done, add cheese on top.
 3. Remove half the coals from the top and bottom of dutch oven and let broccoli remain in oven about 5 minutes for cheese to melt.
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Easy Cabbage Bake*

Oven time: Bake 15–20 minutes at 350°.

Ingredients:

½ cup water
¼ teaspoon salt
2 teaspoons instant beef bouillon
1 medium head cabbage

1. Bring water to boil in which you have dissolved beef bouillon and salt.
 2. Add cabbage cut into quarters.
 3. When water is boiling again, bake 15–20 minutes.
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Noodles Romanoff*

Oven time: Open oven 15 minutes; bake 75 minutes; 300°.

Ingredients:

2 sticks margarine
3 green peppers, chopped
2 packages dry onion soup mix
1 16-ounce package noodles
1 pint sour cream
1 16-ounce carton small-curd cottage cheese

1. Cook margarine, green peppers, and onion soup mix in open oven for 15 minutes, stirring occasionally.
 2. Cook noodles as directed on package.
 3. Mix noodles and margarine mixture with sour cream and cottage cheese and bake.
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Baked Potatoes

A good way to cook this native American vegetable is as follows:

1. Bake the large potatoes in their skins in hot ashes, not glowing coals, until they become pretty well blackened on the outside. They're done when a thin sharpened stick will run through their middles easily.
2. Rake out, break in half, and serve at once with margarine and salt.

Here's a more complicated way to go about this on occasion in camps near civilization:

1. Cut well scrubbed potatoes lengthwise into 3 slabs.
2. Lay thin slices of onion, salted and peppered, between these sections.
3. Then reassemble each potato, wrap in a sheet of heavy foil or several thicknesses of lightweight foil, and bake in a nest of ashes among hot coals for about a half hour or until done, turning once during this period.

Potatoes may be scrubbed, rubbed with melted fat or salad oil, pricked with a fork, (or prepared as above and held together with skewers), and baked in a hot oven or reflector baker. This method is handiest when combined with some other cooking, as about an hour of baking is required.

Boiled Potatoes

Scrub enough potatoes, choosing those of equal size as far as possible so they'll cook uniformly. Cover with boiling water, seasoned with one teaspoon salt for every three potatoes. Simmer, covered, 20 to 30 minutes or until an inserted fork indicates they're tender. Drain, peel if you wish, season with salt and pepper, and cover to keep warm and to prevent sogginess.

Or, particularly if you're in a hurry, peel. Cut into uniform pieces. Drop into cold water for a short time to prevent darkening. Cook, covered, in a small amount of boiling salted water until done. Then handle as above.

Potato Cakes

An easy way to make potato cakes is to shape cold mashed potatoes as desired, then to cook them slowly in margarine or drippings, turning once, until they are tan and crusty.

Frying Pan Potatoes

1. Start three slices of bacon in a cold frying pan and cook until crisp.
 2. Remove the bacon and pour all but a tablespoon of the drippings into the camp shortening can.
 3. Add a chopped onion, and brown.
 4. Break up the bacon and return it to the pan.
 5. Slice four potatoes and add to the pan.
 6. Flatten out the slices and cover them at once with a minimum amount of water.
 7. Bring this to a simmer and keep the potatoes cooking until they've started to break into pieces and to thicken the liquid.
 8. Add hot water, if necessary.
 9. Salt, pepper, and eat as soon as the potatoes are ready.
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Hashed Brown Potatoes

1. Heat 4 tablespoon margarine, cooking oil, or other shortening in the frying pan.
 2. Add enough potatoes, peeled and cut very fine (and grated).
 3. Add salt and pepper.
 4. Then press down and cook over low heat until brown and crisp on the bottom.
 5. Loosen this crust with a knife.
 6. Then cover the frying pan with a plate and invert quickly, so that the potatoes will come out with the brown underside on top.
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Potato Pancakes

Here is an old German way of making potato pancakes which are especially delicious outdoors, particularly when served with such wild fare as roast goose or venison pot roast.

Ingredients:

1½ pounds raw potatoes, peeled	2 eggs, beaten
2½ tablespoons flour	3 slices bacon, diced (optional)
1 teaspoon salt	vegetable shortening

1. Grate the potatoes and drain off the juice.
 2. Add the remaining ingredients to the potatoes and mix well.
 3. In a pan, heat enough shortening to cover the bottom by ¼ inch. The shortening should be sizzling hot.
 4. Drop the potato mixture from a spoon into the hot fat.
 5. Fry, turning once, until golden brown on both sides.
 6. Dry on absorbent paper and serve with applesauce.
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Roast Corn

You'll want sweet, young corn for this.

1. Carefully strip the husks down to the end of the ear, leaving them attached.
2. Pull off the silk.
3. Soak the corn in cold salted water for 30 minutes.
4. Drain.
5. Then brush the kernels with margarine or butter and sprinkle them with salt and a little pepper.
6. Pull the husks back up around the corn and twist tightly together.
7. Make a hollow of coals at the edge of the campfire, cover it with an inch of ashes.
8. Lay in the corn, cover with more ashes and then hot coals, and roast about 30 minutes.
9. Peel the husks back again and use as a handle.

If you're where there is green corn, probably aluminum foil is available, too. If you want, wrap and twist each ear tightly in foil before consigning it to the ash-insulated coals. This way you can poke the corn around occasionally to assure more even cooking, and even take a look, while it is roasting to taste.

Scalloped Potatoes*

Oven time: 1¼-1½ hours at 300°

1. Place 4 cups thinly sliced potatoes in dutch oven.
 2. Salt and pepper.
 3. Add 1 tablespoon minced onion or several slices of onion.
 4. Place dabs of margarine on top—about ¼ stick.
 5. Add 1¼ cup milk.
 6. Let bake until potatoes are done.
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Baked Potato Slices*

Oven time: 35–50 minutes at 350°

Ingredients:

4 to 5 medium potatoes
½ stick butter or margarine
salt and pepper

1. Wash potatoes thoroughly and slice with skins on into ½-inch slices.
 2. Warm dutch oven and spread bottom with layer of margarine or butter and salt.
 3. Spread slices of potatoes over the bottom and pile up if necessary, salting and peppering as layers are added.
 4. Place remaining butter or margarine on top layer with salt and pepper.
 5. Bake until potato slices are tender.
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Popcorn*

To pop popcorn, preheat the dutch oven to very hot. Use cooking oil or pop dry and the results will be equally fine.

1. Place popcorn in oven and let pop until it stops.
 2. Then remove the oven from heat at once and pour into another container for serving.
 3. Pour melted butter over the top and salt to taste.
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Breads

Baking Powders

When liquid is added to baking powder, gas is released. This is the same harmless carbon dioxide that gives such beverages as ginger ale their bubbliness. Its function in breadstuffs is to raise the dough. Without some such effervescence, you'd end up with a chunk of hardtack.

Directions on the particular can if the contents are fresh, experimentation if they are not, will provide a functional yardstick if you've any doubts. Double-action baking powder, the so-called combination type which releases part of its gas when heated, packs more power than either the tartrate or the calcium phosphate varieties. The recipes that follow are geared to it.

The ideal, insofar as flavor and digestion are concerned, is to use the smallest amount of baking powder that will raise the breadstuff enough for your liking.

How to find out if the baking powder in your camping outfit is still active? Stir a teaspoonful into one half cup of hot water. If the mixture doesn't bubble diligently, better use sourdough instead.

Mixing the Dough

The easiest and most economical way is to carry a small sheet of thin plastic. Bark may also be used, but at best, it's a nuisance. Wax paper or foil is an answer for motorized campers.

Prospectors, trappers, and other professional outdoorsmen still widely continue the pioneer practice of mixing bannock directly in the flour sacks. Just make a small hollow in the flour. Drop the salt and baking powder into this. Then stirring with the fingers of one hand, add the water gradually until the resulting dough has picked up all the flour it needs. Press and pat into shape. Cook.

Homemade Dry Mix

The following basic mix, given here in one-person portions, will stay fresh for six weeks or more in camp if kept sealed, dry, and reasonably cool.

Ingredients:

1 cup all-purpose flour	¼ teaspoon salt
1 teaspoon double action baking powder	3 tablespoons margarine

1. If this mix is being readied at home, sift the flour before measuring it.
 2. Then sift together the flour, baking powder, and salt.
 3. Cut in the margarine with two knives, with an electric mixer at low speed, or with a pastry blender, until the mixture resembles coarse meal. For increased food value, add 2 tablespoons of powdered skim milk for every cup of flour.
 4. Place in plastic bags.
 5. Seal with a hot iron or with one of the plastic tapes. A large quantity can be made at once, of course, and divided into smaller portions.
 6. Before using, it is a good idea to stir the mixture slightly.
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Dry Mix Products

Dutch Oven Biscuits

Hard to say how many of these you'll need, especially with butter and honey. There's something about a dutch oven biscuit that's special.

1. Start with 2 cups biscuit mix.
2. Mix dough as described on the box, using the water recipe. Roll out dough and cut into 2-inch circles with cookie cutter or empty soup can, cleaned and with both ends removed.
3. Preheat your dutch oven, both oven and lid.
4. Put about $\frac{1}{8}$ inch of vegetable oil in the oven. Put each round of dough into the hot oil, and turn over so that it has oil on both sides.
5. Fill the bottom of the oven with a single layer of dough circles. Continue preheating the lid while filling the oven.
6. Put on the lid; add a few coals on top. If the oven was well preheated, you probably won't have to put it on more than two or three coals.
7. Check progress by lifting the lid with a hook or tongs. When biscuits are golden brown, they're ready to eat with butter and honey. Put on another batch while eating the first.

Variation:

All ingredients called for in dutch oven biscuit recipe

$\frac{1}{4}$ cup dry onion soup mix

1. Mix onion soup and biscuit mix while still dry.
 2. Proceed to mix dough and make biscuits as in regular recipe.
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Hot Trail Bread

1. When the fire is going and everything else is ready, quickly add enough water to basic mix to make a firm dough.
 2. Shape into a long, thin roll, no more than an inch thick.
 3. Wind this ribbon on a preheated green hardwood stick the diameter of a rake handle, so trimmed that several projecting stubs of branches will keep the dough in place. A particularly sweet wood for the job is birch.
 4. Hold the bannock in the heat, occasionally turning it, for a couple of minutes.
 5. Once a crust has been formed, the stick may be leaned between the fringes of the fire and some reflecting surface such as a log or rock for the 15 minutes or so required to form a tasty brown spiral. Or you can just shove a sharpened end of the stick into the ground beside the fire and turn this holder now and then while readying the remainder of the meal.
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Frying Pan Bread

1. When ready to go, add to mix about $\frac{1}{3}$ cup of cold water for an easily handled dough.
 2. Cook like regular bannock.
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Drop Biscuits

1. Mix with a little less than $\frac{1}{2}$ cup cold water to make a soft dough.
 2. Drop by the spoonful atop a hot greased metal surface and bake in a very hot oven or reflector baker for 10–15 minutes.
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Fruit Cobblers

Proceed as with the above biscuits, but drop a spoonful of dough atop a frying section of apple, apricot, or other cooked dry fruit.

Muffins

1. Add 1 tablespoon sugar, 1 well-beaten whole or reconstituted egg, and $\frac{1}{2}$ cup milk.
 2. Stir just enough to dampen all the dry ingredients.
 3. Fill greased muffin rings, improvised if necessary from aluminum foil, about two-thirds full.
 4. Bake in a hot oven about 20 minutes.
 5. Eat at once.
 6. For a dessert, cook with a teaspoon of marmalade or jam atop each muffin.
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Shortcake

1. Add 1 tablespoon of sugar to make half a dozen medium-size shortcakes, which will assure a pleasant change of diet in berry season.
 2. Mix with $\frac{1}{3}$ cup cold water to form an easily handled dough.
 3. Flatten this to $\frac{1}{4}$ -inch and either cut squares with a knife or punch out ovals with something like a can top.
 4. Brush half of these with melted margarine.
 5. Cover each with one of the remaining pieces.
 6. Bake in reflector baker.
 7. Serve hot with fruit.
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Corn Bread

1. Add a previously mixed 1 cup cornmeal, 1 tablespoon sugar, 1 beaten egg, and 1 cup milk, stirring only until blended.
 2. Bake in hot oven or reflector baker about half an hour.
 3. Corn bread, like biscuits and baked potatoes, should be served as promptly as possible.
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Flapjacks

1. Add $\frac{1}{2}$ cup milk, with which a whole or dried egg has been mixed, to the homemade dry mix.
 2. Stir only enough to moisten the flour.
 3. Cook like regular flapjacks.
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Dumplings

1. Stir in $\frac{1}{4}$ cup of cold milk or water.
 2. Proceed as with regular dumplings. These can also be dropped by the tablespoonful atop a meat or vegetable casserole and baked in a hot oven approximately 20 minutes.
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Coffee Cake

1. Stir 3 tablespoons sugar into the mix.
 2. Combine a scant $\frac{1}{4}$ cup milk with 1 egg, fresh or dried, and stir well into the mix.
 3. Pour into shallow greased pan.
 4. Sprinkle something such as nutmeg, cinnamon, powdered instant coffee, and sugar over the top if you want.
 5. Bake in a hot oven or reflector baker about 25 minutes. Delicious!
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Sourdough

Sourdough Starter

The starter can be readied at home. Once you have it, you have begun growing your own yeast. That's what you are actually using when you bake with sourdough. Here's the sure, simple way to begin.

Ingredients:

- 2 cups flour
- 2 cups lukewarm water
- 1 yeast cake or package of dry yeast

1. Mix the flour, lukewarm water, and yeast thoroughly.
2. Then set overnight away from drafts in a warm place. By the next morning, the mixture should be putting forth bubbles and a pleasant yeasty odor. This over-all process needn't stop for as long as you're going to be in the wilderness.

For best results, keep the starter in a well washed and scalded glass or pottery container. Never leave any metal in contact with it. Keep the starter as much as possible in a cool spot. In fact, if you want to store the starter or part of it for a period of months, just freeze it.

The sourdough starter can also be kept fresh and clean by drying. If you want to carry it easily and safely, work in enough flour to solidify the sponge into a dry wad. A good place to pack this is in the flour itself. Water and warmth will later reactivate the yeast plants for you.

Sourdough Bread

If commencing from the beginning, set your starting sponge as already directed. The commercial yeast is used only to get the starter going. From then on, the mixture will grow its own yeast. When doubling a recipe, by the way, you needn't double the starter.

1. Take your starter. Add enough flour and lukewarm water in equal volumes to make about 3 cups sponge.

2. Let this stand in a warm location overnight or from 6–8 hours, whereupon it should be bubbling and giving off an agreeable yeasty odor.

From here on, the general procedure remains the same. Take out, in this instance, 2 cups sponge. Place the remainder aside. That's your next starter. No matter what the recipe, at this stage always keep out about a cup of basic sourdough.

To these 2 cups of sponge add the following:

4 cups flour
2 tablespoons sugar
1 teaspoon salt
2 tablespoons shortening

1. Mix the flour, sugar, and salt.
2. Make a depression in the center of these dry ingredients.
3. Melt the shortening if it is not already liquid.
4. Blend it and the sponge in the hollow.
5. Then mix everything together. A soft dough should result.
6. If necessary, add either flour or fluid. The latter may be water or milk.
7. Knead for 3 or 4 minutes on any clean, floured surface.

Too much pushing and pressing lets the gas escape that's needed to raise the stuff. Just bang the dough together in a hurry, cut off loaves to fit your greased pans, and put them in a warm place to rise.

The dough, once it has plumped out to double size, should be baked some 50–60 minutes in a moderately hot oven or reflector baker that, preferably, is hottest the first 15 minutes.

Sourdough Muffins

Add 2 cups flour and 2 cups lukewarm water to your sourdough starter. Set overnight away from drafts in a warm place. The next morning take out the original starter and handle as usual. To the remaining sourdough add:

1½ cups whole wheat flour	1½ teaspoons baking soda
½ cup sugar	1 cup raisins
1 teaspoon salt	½ cup liquid shortening
¼ cup skim milk powder	2 eggs

1. Mix flour, sugar, salt, powdered milk, and soda.
 2. Add either the raisins or perhaps blueberries or some similar wild fruit.
 3. Make a cavity in the center of these blended ingredients.
 4. Mix the egg and the liquid shortening in this depression.
 5. Then stir only just enough to moisten everything.
 6. Pour into greased muffin tins and bake in a hot oven or reflector baker for 20 minutes or until done.
 7. If the muffins become ready before the rest of the meal, loosen and tilt them in the pan, so that air can circulate around them, and lean them near the heat where they'll stay warm.
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Sourdough French Bread

The nutty, toasty crustiness of this bread really goes well with the substantial fare on which hearty outdoor appetites thrive. To make 2 loaves you'll need:

1 cup water	2 tablespoons sugar
½ cup milk	1½ tablespoons shortening
4 cups flour	1½ cups sourdough starter
2 teaspoons salt	

1. Bring water to a boil and mix with milk.
2. Cool to lukewarm.
3. Mix the flour with the salt and sugar in a large container. Make a bowl-like depression in the center.
4. Mix the lukewarm liquid with the sourdough starter in this well.
5. Blend with the dry ingredients until you get a soft dough, but do not knead.
6. Cover and move to a warm place to rise until about double in bulk. This should take some 2 hours.
7. Then turn out on a lightly floured mixing surface. This may be an easily carried sheet of plastic.
8. Roll half the dough into a large rectangle. Fold the 2 long sides toward the middle. Then roll together like a jelly roll. Do the same with the other half of the dough.
9. Sprinkle 2 tablespoons of cornmeal lightly over the nearest thing you can come by in the way of a large greased baking sheet. Aluminum foil can be used. So can two large frying pans.
10. Place the loaves with their smoother sides uppermost. With a sharp knife make diagonal slits every couple of inches across the top of each loaf.

Now for the crust, take:

1 teaspoon cornstarch
1 teaspoon cold water
½ cup boiling water

1. Mix the cornstarch and cold water.
 2. Pour into the boiling water in a pan. Bring to a brief boil.
 3. Allow to cool. Then brush the loaves with it.
 4. Now cover the loaves and place in a warm spot to double once more in bulk, which will usually take about another hour.
 5. Afterwards, brush the loaves a second time with the cornstarch mixture.
 6. Commence baking in a hot oven or reflector baker for 15 minutes to set the crust.
 7. Then brush the loaves a third and final time with the cornstarch preparation.
 8. Reduce the heat to moderate and continue baking 30 minutes or until the bread is done and golden brown. Baking the bread longer, with less heat, will make for even thicker crust. The dutch oven really does a job with this bread.
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Other Breads

Hush Puppies

1. Mix 2 cups yellow cornmeal, $\frac{3}{4}$ cup flour, 2½ teaspoons baking powder, and 1 teaspoon salt with 1 cup water to make a medium thick dough.
 2. Drop spoonfuls into deep hot fat.
 3. Cook until a rich brown. Hush puppies are particularly good with fresh fish. In fact, many people prefer cooking them in fat where fish and onions are also being fried.
-

Golden Corn Bread

Ingredients:

1 cup yellow cornmeal	1 egg
1 cup flour	1 cup milk
$\frac{1}{2}$ teaspoon salt	$\frac{1}{4}$ cup melted shortening or oil
2 teaspoons baking powder	

1. Mix the cornmeal, flour, salt, and baking powder as thoroughly as possible.
 2. Beat the egg and add the other liquids to it.
 3. Then combine everything, stirring just enough to moisten.
 4. Pour into a greased pan. Bake in a hot oven for half an hour.
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Frypan Corn Bread

Get this cooking a half hour before come-and-get-it time. For two hungry people you'll want:

1 cup cornmeal	2 teaspoons baking powder
1 cup flour	2 eggs
2 tablespoons sugar	4 tablespoons liquid shortening
1 teaspoon salt	1 cup milk

1. Combine the dry ingredients. If using fresh eggs, beat them separately.
 2. Blend the eggs, shortening, and milk.
 3. Then quickly mix everything.
 4. Pour the batter into a warm, well greased frying pan.
 5. Cover and place immediately over low heat.
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Dumplings

Nothing sets off a hearty outdoor stew like steaming hot dumplings. These are a cinch to make, and they have the additional advantages of not requiring separate cooking or extra washing. The following recipe should satisfy two ravenous campers. About a dozen minutes before mealtime take:

2 cups flour	2 tablespoons margarine
2 teaspoons baking powder	1 cup milk
1 teaspoon salt	

1. Mix the dry ingredients.
 2. Work in the margarine or other solid shortening.
 3. Make a bowl-like hollow in the center.
 4. Have everything ready to roll, for these dumplings should be cooked only 8 to 10 minutes, and then the meal should be served immediately. Have the broth simmering above enough meat and other solids so that the dumplings will not sink below the surface.
 5. Now pour the milk into the well in the middle of the dry ingredients.
 6. Mix quickly and gently with a folding, rather than a stirring or whipping motion.
 7. Moisten a large spoon in the broth. Use it to place large spoonfuls, apart from one another, atop the stew. Cover tightly.
 8. After several minutes, you may if you want turn each dumpling carefully and speedily.
 9. Re-cover immediately and continue simmering until light and fluffy.
 10. Then serve without delay. If any dumplings remain for second helpings, place them in a separate hot dish so they won't become soggy.
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Desserts

Apple Dumplings

Ingredients:

1 cup biscuit mix
 Milk to make dumplings according to recipe on box
 1 27-ounce can applesauce
 ¼ cup sugar

1. Heat applesauce in kettle, adding ½ cup water and stirring until applesauce has consistency of thick soup.
 2. While applesauce is heating, mix dumpling dough, with sugar added to the mix.
 3. When applesauce comes to a boil, drop dough by teaspoonfuls into applesauce, covering the top. Cover kettle and simmer until dumplings swell up.
 4. You can brown dumplings by covering your kettle lid with heavy-duty aluminum foil to protect it, and putting a few coals on top. Serves 4.
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Cinnamon Biscuits

Ingredients:

2 cups biscuit mix
 ¼ cup sugar
 1 teaspoon cinnamon

1. Mix dough and roll out as described in dutch oven biscuit recipe.
 2. Mix sugar and cinnamon and roll each circle of dough in mix to coat thoroughly.
 3. Cook as described in dutch oven biscuit recipe. Makes about 12.
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Dutch Oven Cobbler

Ingredients:

2 cups biscuit mix	2 16-ounce cans fruit—peaches, cherries, blueberries, etc.
¼ cup sugar	

1. Preheat the oven and lid.
 2. Prepare the biscuit dough using water recipe on box while oven is heating. Roll out and shape to size of dutch oven.
 3. Pour the fruit, juice and all, into the dutch oven. Put the dough on top of the fruit. Sprinkle sugar on top of dough.
 4. Put on the lid and add coals on top. If the oven was thoroughly preheated, you don't need coals underneath. The canned filling only needs to be heated through.
 5. Check progress by lifting lid. When dough is golden brown, the cobbler is done. Serve hot. Serves 8.
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Apple Betty

Ingredients:

1 box cornflakes	½ cup sugar
16-ounce can applesauce	Cinnamon

1. Put ¼-inch layer of applesauce in deep pan or kettle. Sprinkle some sugar and cinnamon on the applesauce.
2. Add ¼-inch layer of cornflakes.
3. Add another layer of applesauce, sugar, and cinnamon.
4. Continue alternating layers until all applesauce is used. Serves 4.

This can be eaten without cooking, but if you want it hot, dot the top with butter or margarine and heat through in an oven or over low heat on grill.

Gingerbread*

Oven time: 35 to 45 minutes at 350°

Ingredients:

¼ cup margarine	1½ teaspoons soda
¼ cup shortening	1 teaspoon cinnamon
½ cup sugar	1 teaspoon ginger
1 egg	½ teaspoon cloves, ground
1 cup molasses	½ teaspoon salt
2½ cups flour	1 cup water

1. Cream margarine, shortening, and sugar.
 2. Beat eggs and molasses together.
 3. Mix flour, soda, cinnamon, ginger, cloves, and salt together.
 4. Heat water to boiling.
 5. Mix all other ingredients together, then add hot water, blending until smooth.
 6. Pour into greased dutch oven and bake.
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Chocolate Dumplings

Ingredients:

- 1 cup packed brown sugar
- 2 1/3 cups biscuit mix
- 6-ounce package semisweet chocolate pieces
- 2 tablespoons dry milk
- 1/4 cup granulated sugar
- 1/2 teaspoon cinnamon

1. Stir together brown sugar and 1/3 cup biscuit mix in large skillet.
 2. Gradually stir in 3 cups water.
 3. Add chocolate pieces and cook over low heat, stirring constantly until chocolate melts and the mixture thickens slightly.
 4. Mix remaining 2 cups biscuit mix, dry milk, granulated sugar, cinnamon, and 1/2 cup water into a stiff batter.
 5. Drop batter by tablespoonfuls onto simmering chocolate mixture. Cook 10 minutes uncovered. Cover and cook 10 minutes more.
 6. To serve, put dumplings on a plate and spoon hot chocolate over them. Serves 6 to 8.
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Easy Fruit Cake*

Oven time: 1 1/2 hours to 2 hours

Ingredients:

- 1 1/2 cups water
- 1 package or jar mincemeat
- 2 eggs, beaten
- 1 large can condensed milk
- 2 cups mixed candied fruits
- 1 cup pecans, chopped
- 2 1/2 cups flour
- 1 teaspoon soda

1. Pour water into dutch oven.
 2. Break mincemeat into water.
 3. Bring to boil and hold for 1 minute.
 4. Remove from heat and fold in beaten eggs, condensed milk, fruit, and nuts.
 5. Stir flour and soda together, sprinkle, and fold lightly into mixture and bake.
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Pie Crust Pastry*

Ingredients:

2 cups flour
 $\frac{3}{4}$ teaspoon salt
 $\frac{2}{3}$ cup shortening
water

Rule for good pie crust: The crust is an important part of the pie and is very simple to make if you follow the steps suggested:

1. Have shortening cool.
 2. Have water cool.
 3. Cut shortening into flour until mixed coarse and granular.
 4. Cold water should be added a little at a time, just enough to hold the mixture together, tossing with fork until all granules are moistened.
 5. Press into ball and divide into two parts.
 6. Roll out dough on cloth or lightly floured board, using short strokes toward the edges, to about $\frac{1}{8}$ -inch thickness.
 7. Do not turn dough over while rolling.
 8. If dough sticks, lift with knife or spatula and dust board with small amount of flour.
 9. Make bottom dough 3 inches larger than dutch oven bottom, allowing it to come up sides to tuck in for pie.
 10. Make top dough 1 inch larger to allow for creasing around edge.
 11. Fold dough in half, lifting carefully to place in oven.
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Pumpkin Pie*

Oven time: 50–60 minutes at 375°

Ingredients:

Pie crust pastry
1 can (1 pound) pumpkin
1 small can sweetened condensed milk
 $\frac{1}{4}$ teaspoon cinnamon
 $\frac{1}{2}$ teaspoon ginger
 $\frac{1}{2}$ teaspoon nutmeg
 $\frac{1}{2}$ teaspoon salt
1 egg

1. Prepare one crust with pastry mix and place in dutch oven.
2. Crimp edge with fingers or fork.
3. Mix all ingredients together, pour into crust and bake.

*These recipes reprinted from *Cooking the Dutch Oven Way* by Woody Woodruff. Other recipes in this appendix are reprinted from *Wilderness Cookery* by Bradford Angier and from the Boy Scouts of America's *Cooking* merit badge pamphlet and *Introduction to Family Camping*.

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