Boy Scout Projects

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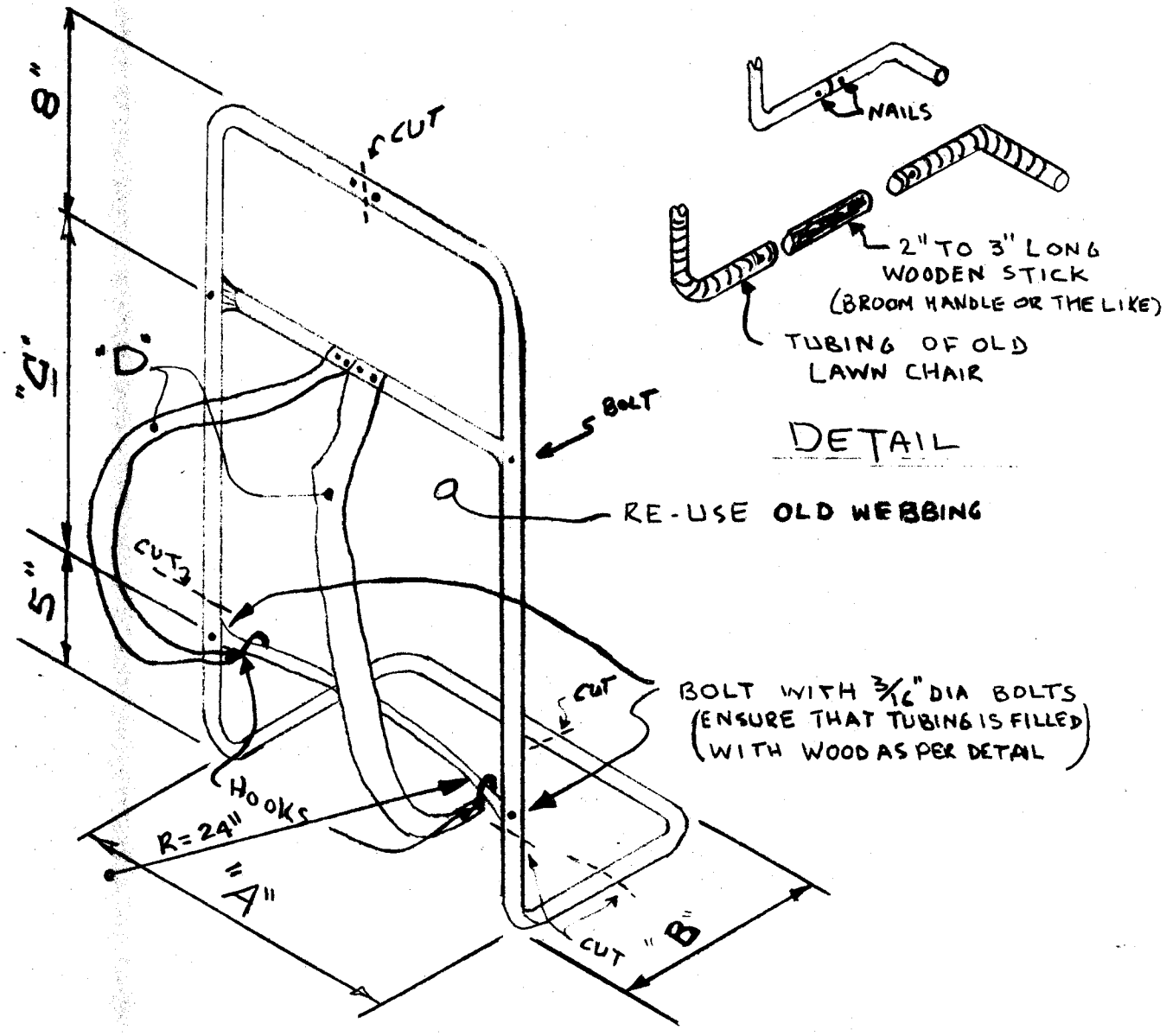
		A	B	C	D	Remarks
Designed and Drawn by A. Heddema R.R. 6 Dunnville, Ontario, Canada	Cubs	12"	7"	12"	1" x 22"	From HALDIMAND HINTS February 1974
	Scouts	15"	8"	14"	1½" x 24"	
	Venturer	18"	9"	16"	2" x 26"	
	Very Large	20"	10"	18"	2" x 28"	



NOTE: 1. Cut corners from old lawn chair at dotted lines (see detail)

2. Use aluminum tubing from old lawn chair

3. Assemble before inserting nails

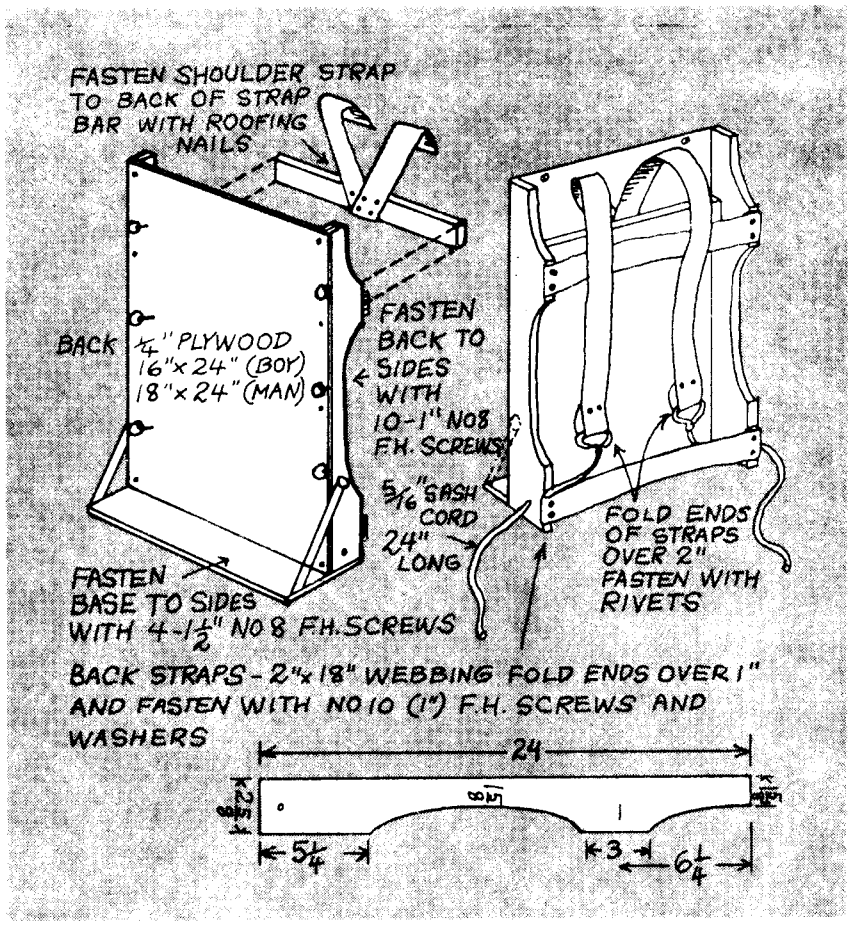
4. Use canvas strapping

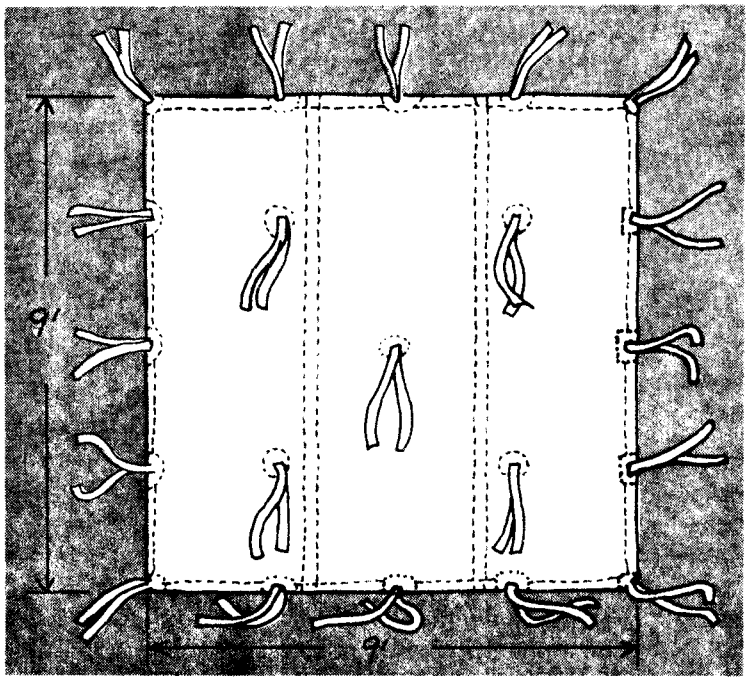
HOMEMADE BACKPACK

Make Your Own Tent and Pack

MATERIALS FOR ONE PACK FRAME:

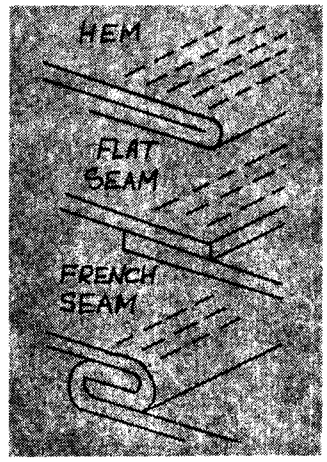
BRACES: 2 PCS STRAP METAL 1/8" x 1" x 6"
SIDES: 2 PCS 3/4" x 2 3/8" x 24" PINE
STRAP BAR: 1 PC 3/4" x 1 1/2" x 14 1/2" PINE
BACK: 1 PC 1/4" x 16" x 24" PLYWOOD
BASE: 1 PC 3/8" x 7" x 16" PLYWOOD*
SHOULDER STRAPS: 1 PC 2" WIDE x 48" WEBBING
BODY STRAPS: 2 PCS 2" WIDE x 18" WEBBING
FASTENINGS:
4 – 1 1/2" NO8 F.H. (WOOD) SCREWS
12 – 1" NO 8 F.H. (WOOD) SCREWS
4 – 3/4" NO 8 R.H. WOOD SCREWS
8 – 1" NO 10 F.H. WOOD SCREWS
8 – 3/16" WASHERS
4 – 1/8" x 5/16" ALUMINUM OR COOPER RIVETS & BURRS
5 – 3/4" ROOFING NAILS
6 – SCREW EYES
ROPES FOR STRAP: 2 PCS 5/16" SASH
ADJUSTMENT: 24" LONG CORD.
NOTE: MEASUREMENTS GIVEN ABOVE ARE FOR A BOY-SIZE FRAME FOR A MAN-SIZE FRAME, INCREASE WIDTH OF BACK TO 18", LENGTH OF STRAP BAR, AND BODY STRAPS
*preferably exterior grade

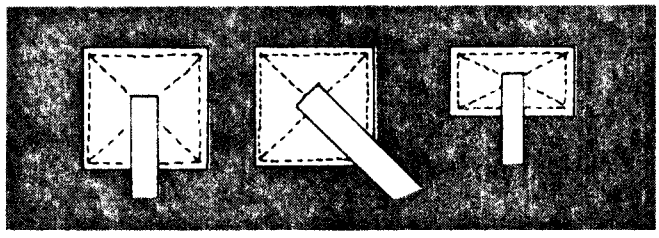




Size of the trail tent can vary upward from the minimum of 9' x 9' size shown. This is a simple tent to make, since all cuts and seams are either parallel or at right angles.

Material should be hemmed all around. Either the flat or the French seam may be used to secure two edges of material together. The flat seam is easier, but the French seam is stronger & more waterproof.





Ties are sewed to the tent over small squares of reinforcing in the form of additional tent material.

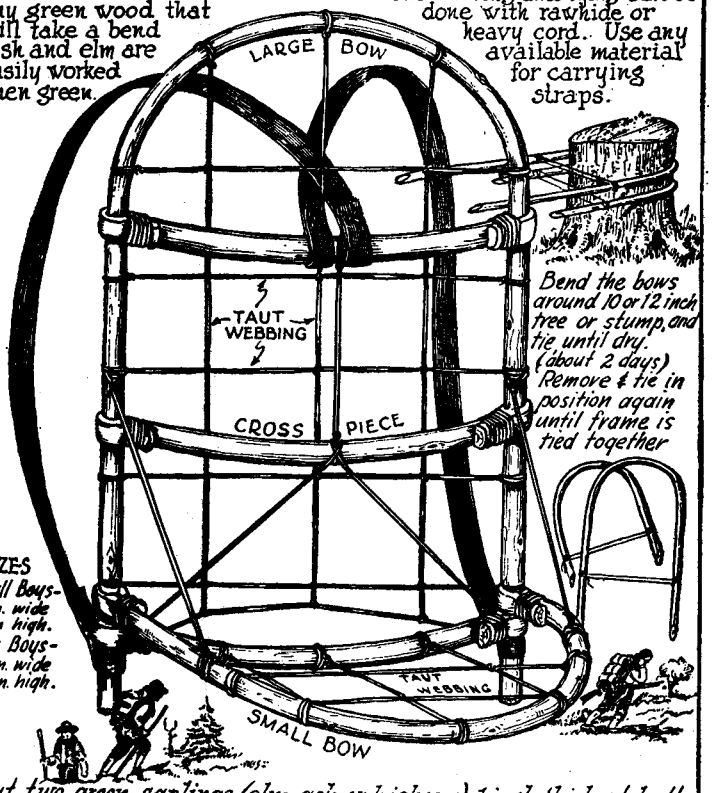
Reprinted from THE CANADIAN LEADER

CHIPPEWA PACK FRAME

PLATE BY W. BEN. HUNT – HALES CORNERS, WIS.

This frame can be made of any green wood that will take a bend. Ash and elm are easily worked when green.

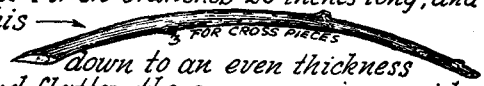
The webbing and tying can be done with rawhide or heavy cord. Use any available material for carrying straps.



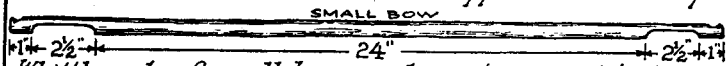
Bend the bows around 10 or 12 inch tree or stump, and tie until dry. (about 2 days) Remove & tie in position again until frame is tied together

SIZES
Small Boys- 10 in. wide 20 in high.
Big Boys- 12 in. wide 22 in. high.

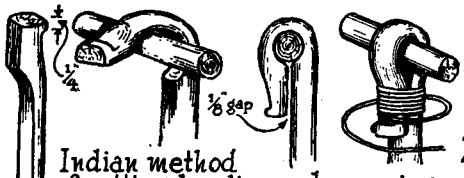
Cut two green saplings (elm, ash or hickory) 1 inch thick at butt, before peeling, one 4½ ft. long and one 3 ft long. Also get three naturally bent 1 inch branches 20 inches long, and bent about like this →



Whittle them all down to an even thickness (about ¾ inch) and flatten the concave or inner side of the cross pieces. Keep ends of small bow and the cross pieces moist. The cross pieces can be laid in water and the ends of the small bow wrapped in wet burlap.



Whittle ends of small bow as shown, (the 3 ft piece) to this size and the ends of the cross pieces to size shown below



Indian method of cutting, bending and wrapping.

There should be about 1½ to 2 inches of space between the taut webbing and the highest point of the cross piece.

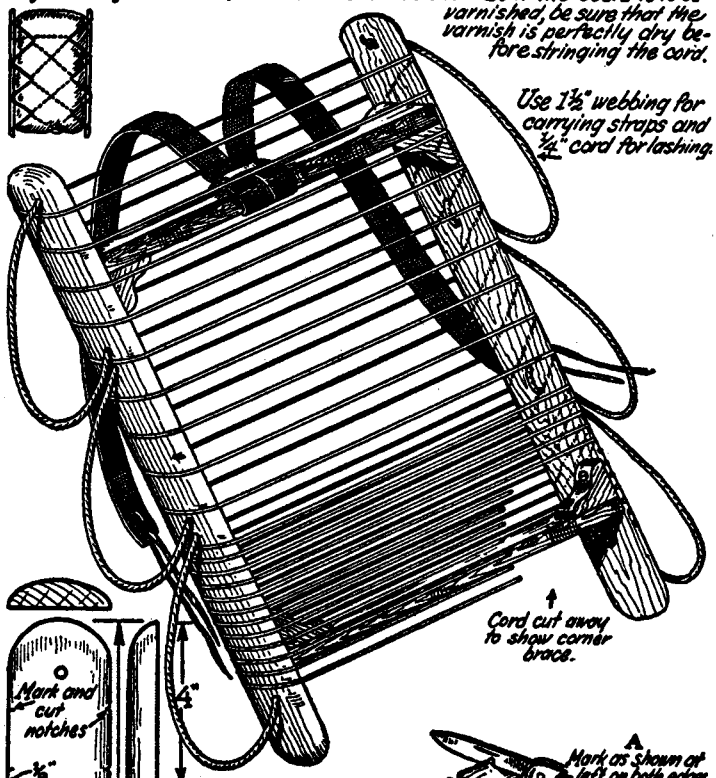
To make bending easier, heat may be applied to the parts to be bent. Heat turns the moisture in the wood to steam, making it more pliable.

Green wood shrinks when dry and the wrappings have a tendency to become loose. So make temporary wrapping first and in a few days tie permanently.

LIGHTWEIGHT PACK BOARD

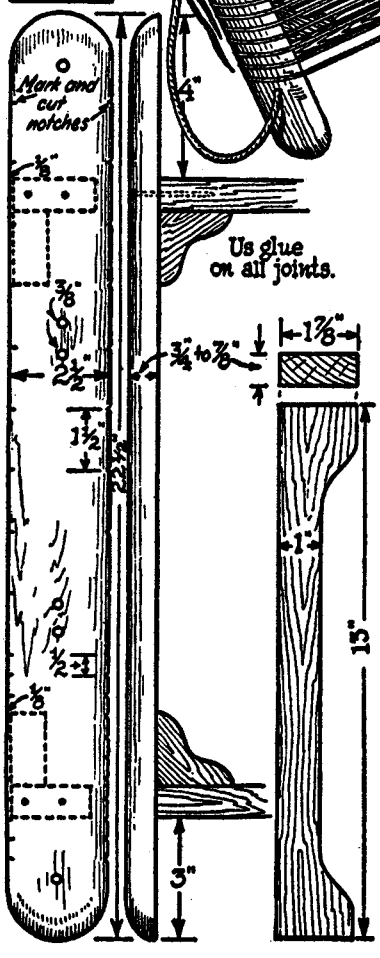
If you're looking for a lightweight pack board, this is it. I sketched it at Irvine Ranch, from one made by L.E. Wells of Las Vegas, Nev., and when I got back home, I made one. This one was made of white pine. Any light wood will do. The ⅛" cotton cord costs about one cent per foot and you'll want about 75 ft. Better buy 100 ft. as it will come in mighty handy for a lot of things around a camp.

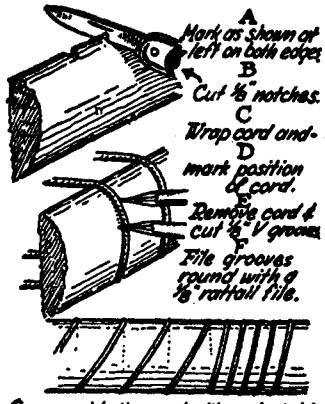
Since only the cord rests on the wearer's back, air can circulate between the pack board & the back, keeping the back cool in summer, and also preventing chafing. Therefore, the cord must slide a bit. So if the board is to be varnished, be sure that the varnish is perfectly dry before stringing the cord.



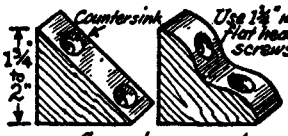
Use 1½" webbing for carrying straps and ¼" cord for lashing.

Cord cut away to show corner brace.





On one side the cord will go straight across & on the other it will look like this.



Corner braces can be made of wood with grain running as shown or you can buy metal braces. Drill holes in wood braces slightly larger than screws.

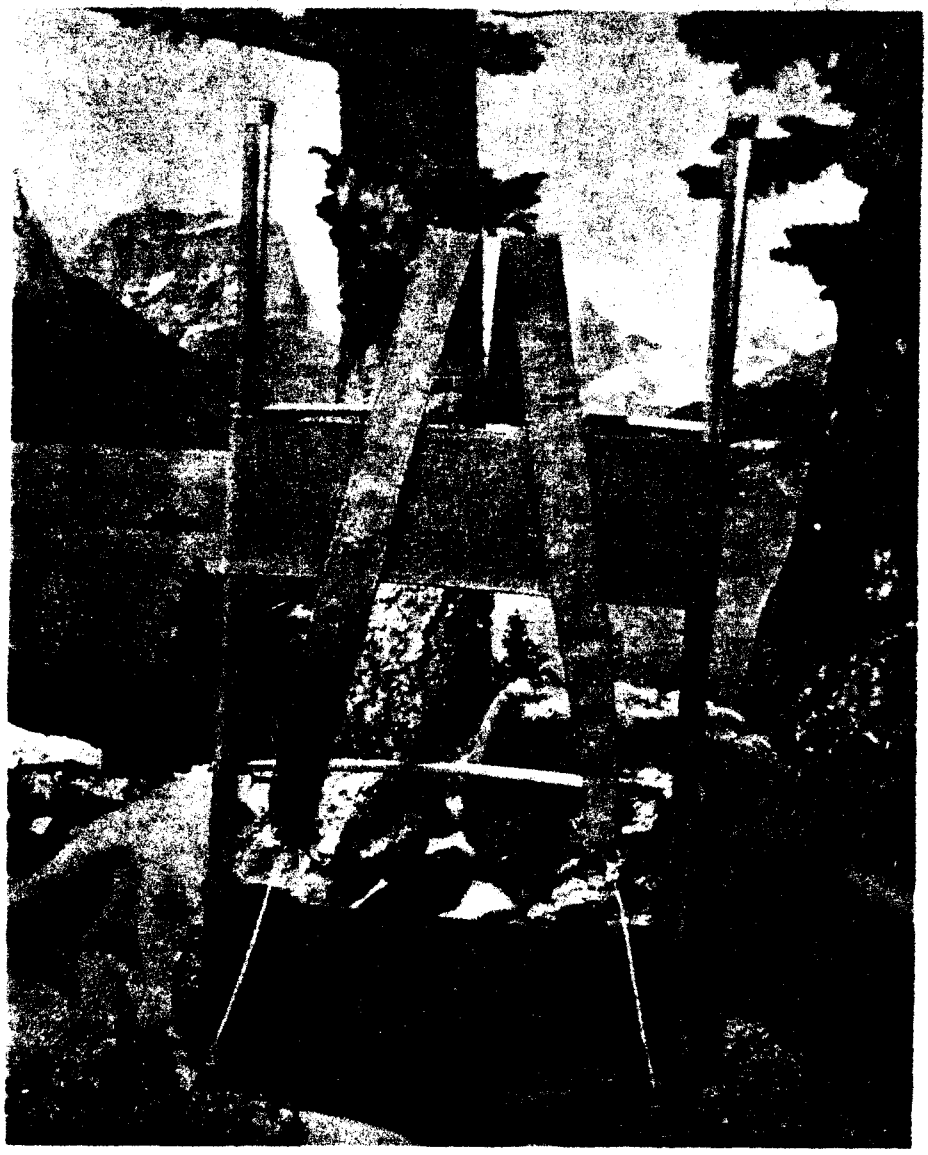
Use ¾" flat head screws for metal braces.

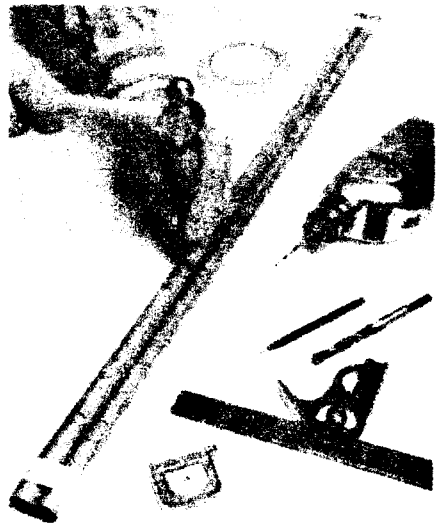
Finish to suit your own taste but let the finish dry thoroughly before wrapping cord. Cord must slide.

SCOUT PROGRAM

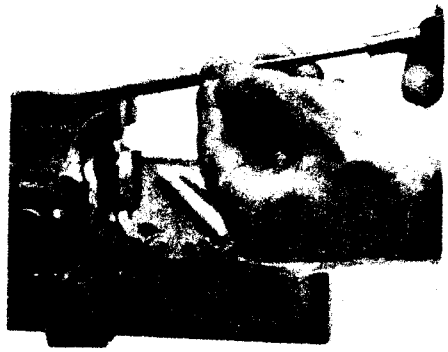
A FEATHERWEIGHT ALUMINUM PACK FRAME

BY GLENN WAGNER

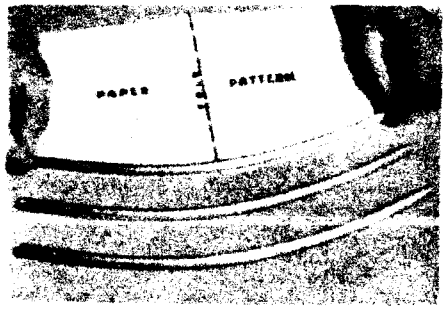




Fasten tubes together (above) with masking tape to make layout and drilling easier. Indent hole centers with a center punch so the drill won't wander. Drill ⅛" holes about ½" deep (below) in bow rod ends. Then pre-cut threads in holes with self-threading sheet-metal screws.



For the bow contours, make a paper pattern from the drawing on the opposite page, folding the paper first to get two identical sides. Bend rods carefully until they fit the pattern.



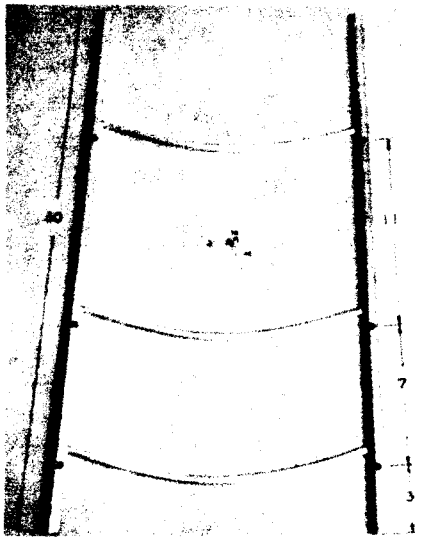
Backpacking can be more fun with this featherweight aluminum pack frame. Its unique construction, using "do-it-yourself" aluminum tubing and rod (available in 6-ft. lengths at hardware stores), combined with self-tapping sheet-metal screws, make it exceptionally sturdy. The photos, sketches, and full-size assembly detail show how it's made.

You'll need: two 30" lengths of ¾" O.D. aluminum tubing for the posts; three 14½" lengths of ⅜" O.D. aluminum rod for the bows; six ½"-6 pan head self-tapping sheet-metal screws; four ¾" vinyl tubing caps (hardware or department stores); two pcs. 4" x 30" denim for shoulder straps; two pcs. 10½" x 24" denim for back straps; four ⅛" x 1" x 5" ash or oak battens; two 32" lengths (back straps) and two 14" lengths (shoulder straps) of ⅛" braided Venetian-blind cord.

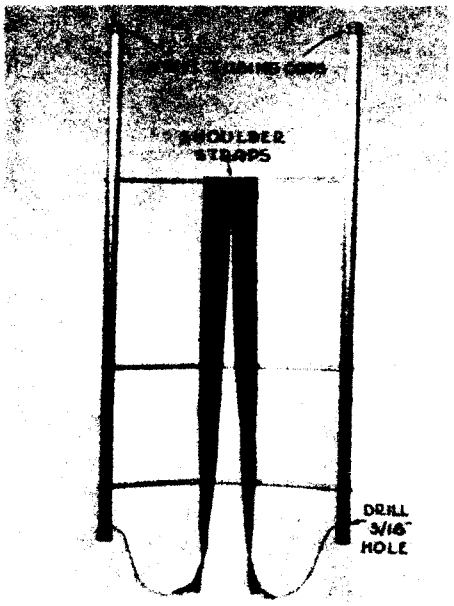
You'll also need to use a sewing machine to stitch the shoulder and back straps. Sewing is easier if you press the seams flat with a steam iron before stitching. And drilling the tubing holes is easier with a drill press. ◆

This 17-ounce pack frame you can build at home will help ease your load when you're out on the trail.

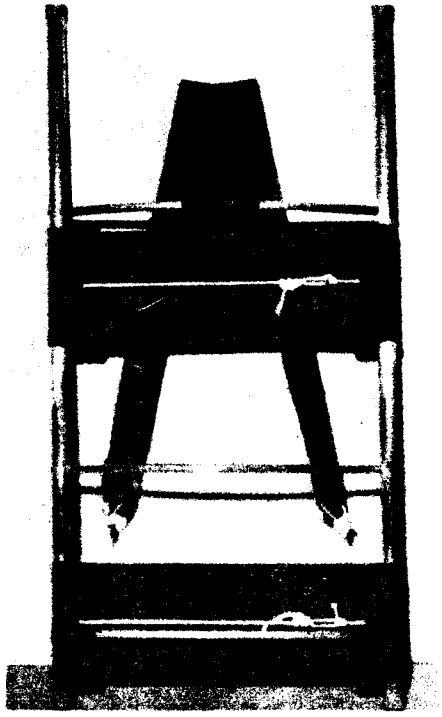
Wood battens are slipped into the back strap loops. They equalize the tension of the Venetian-blind adjusting cords across the width of the cloth strips (see the drawing below for the details on making the back straps and battens). A bowline nonslip loop is tied at one end of the cord (above). A rear view of the pack frame (below) shows how the back straps are anchored into position with adjustable Venetian-blind-cord ties, using a taut-line hitch.

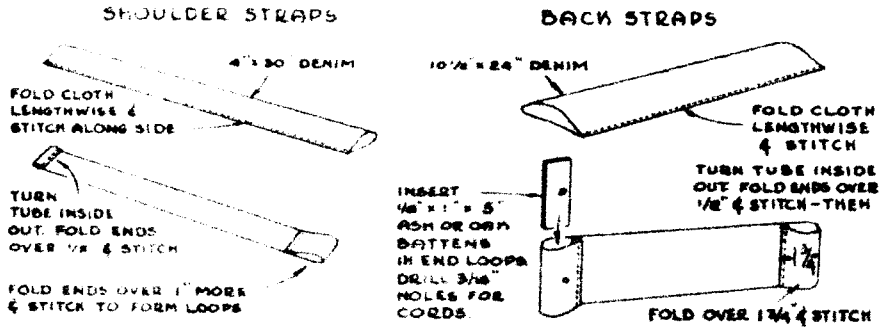


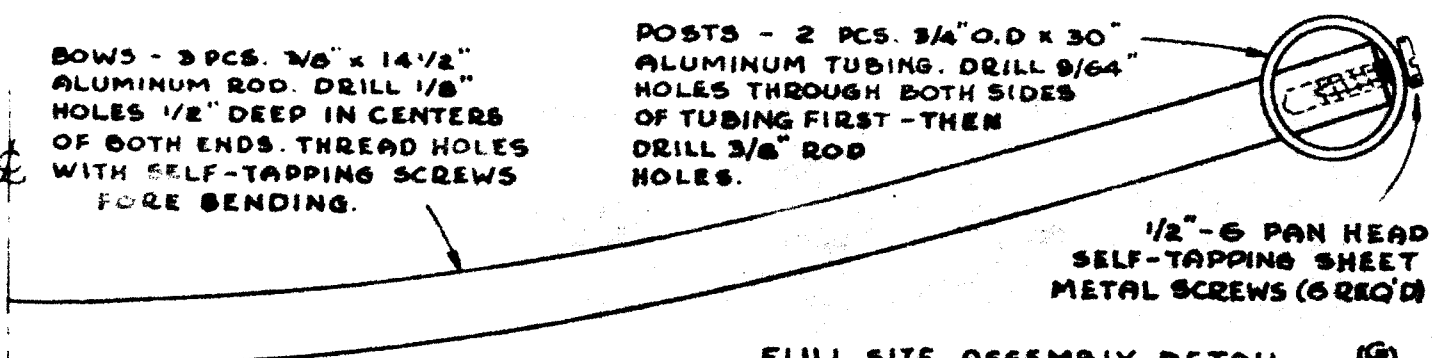
These are the complete parts before assembly. The dimensions shown indicate the locations of the bow rods. Note from the full-size drawing at the bottom of the page that the posts have 3/8" holes in one side for rods, and 9/64" holes for metal screws in the other side. Drill all holes 9/64" first.



Denim shoulder straps (see drawing below) slide on the top bow during the frame's assembly (anchor them with a little Pliobond glue if desired). Attach bottom loops to the frame with adjustable cords.







FULL SIZE ASSEMBLY DETAIL

Whistle Slide

BY TOM DWYER

The handiest neckerchief slides, like this one, do more than hold your neckerchief snugly around your neck. This slide is also a whistle. Use it to call for help or for fun with your patrol. Each end whistles a different tone, so you can make up a "secret" patrol signal.

To make your own, begin with a 5" length of ¾" x ¾" clear pine or other soft wood. Use a ¼" drill bit to drill a 2" hole in one end and a 2½" hole in the other.

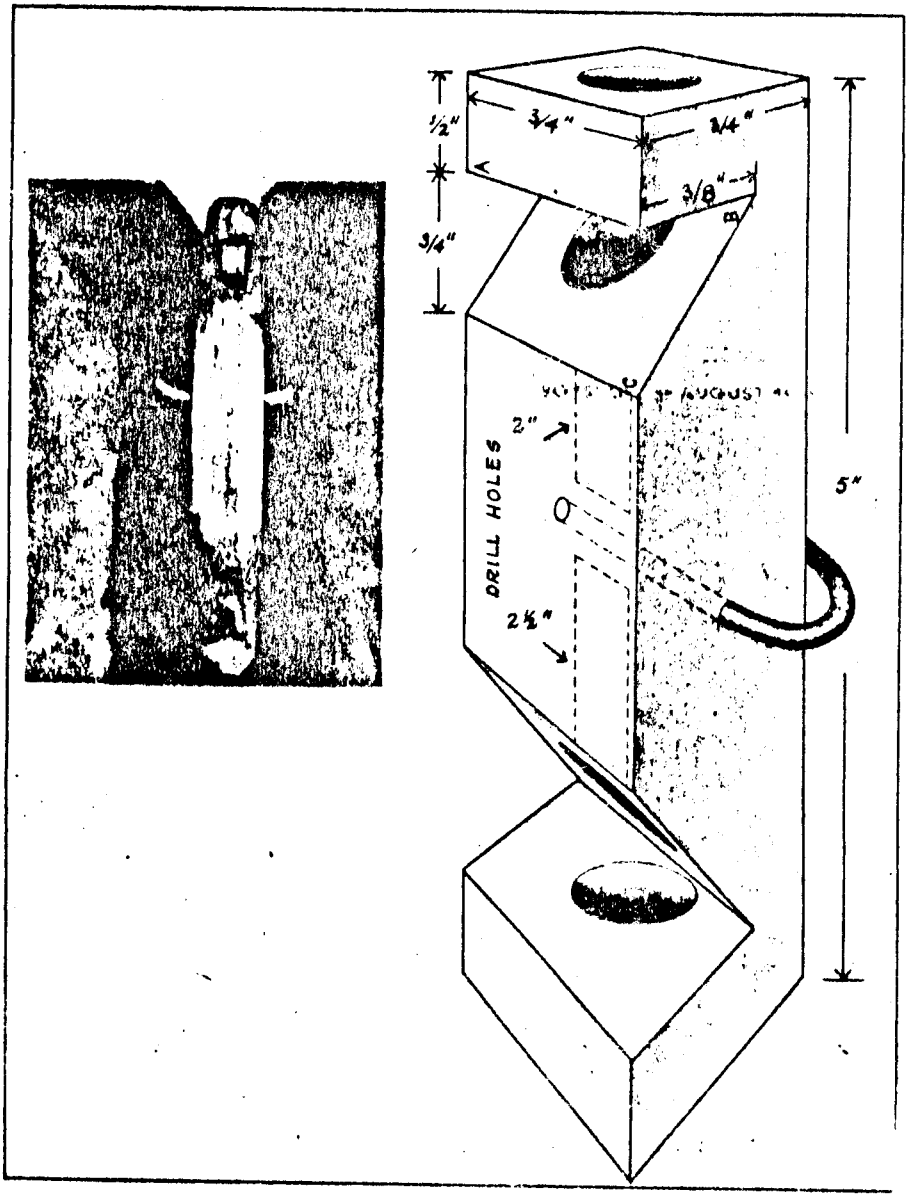
Now, using the illustration as a guide, make a line ½" from one end (A). Make a second line ¾" from the first (C).

Use a coping saw to cut ⅜" deep at the first line (B). With your Scout knife or a hobby knife, carefully remove the wood between A, B, and C.

Do the same thing at the other end of the whistle. With both ends carved, flatten one side of two dowels, each ¼" in diameter by ½" in length. Insert one piece of dowel into each end of your whistle and adjust in or out for the clearest sound.

Use your knife to shape the whistle, as shown in the photo.

To make it into a neckerchief slide, drill a 5/32" in diameter hole through the side of the whistle. Glue the ends of a 3½" length of rawhide or nylon cord into the hole. ✱

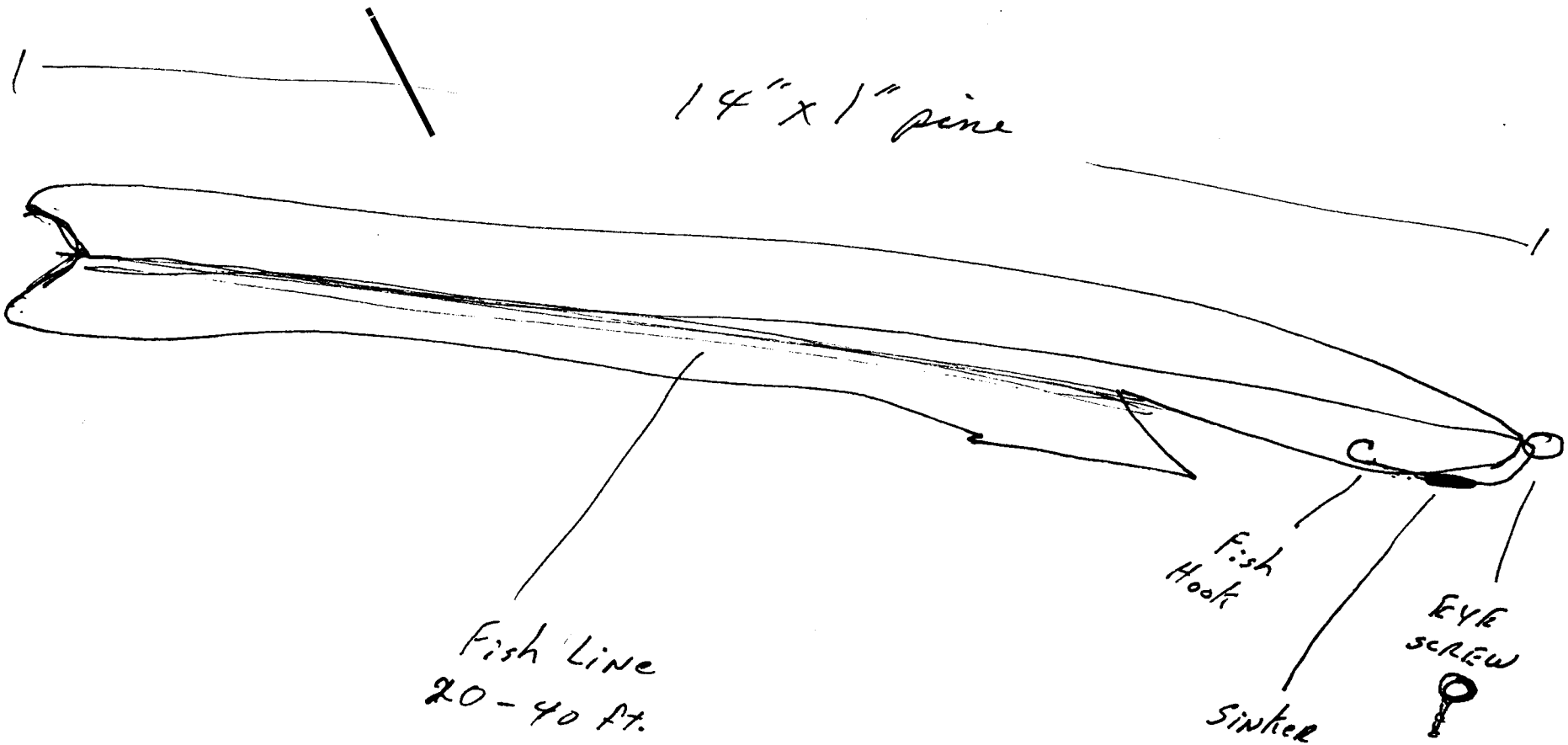


CRAFT BOOK LIST

Creative Nature Crafts	K. Benson, C. Frankson
Scout Pioneering	John Sweet
A Guide to Nature in Winter	D. W. Stokes
Roughing it Easy	D. Thomas
Reading the Woods	V. Brown
Knowing the Outdoors in the Dark	V. Brown
Field Book of Natural History	Palmer & Fowler
Peterson Field Guides	
Crafts of the Woods	B. S. Mason
Woodcraft	B. S. Mason
Nature Crafts	E. Jaegar
Bushcraft	R. Graves
Living Like the Indians	A. A. McFarlan
Plantcraft	R. Mabey
Tom Brown's Field Guide to Nature and Tracking	T. Brown

Visit your local LIbrary for these and other books on the outdoors.

ICE Fishing Kit



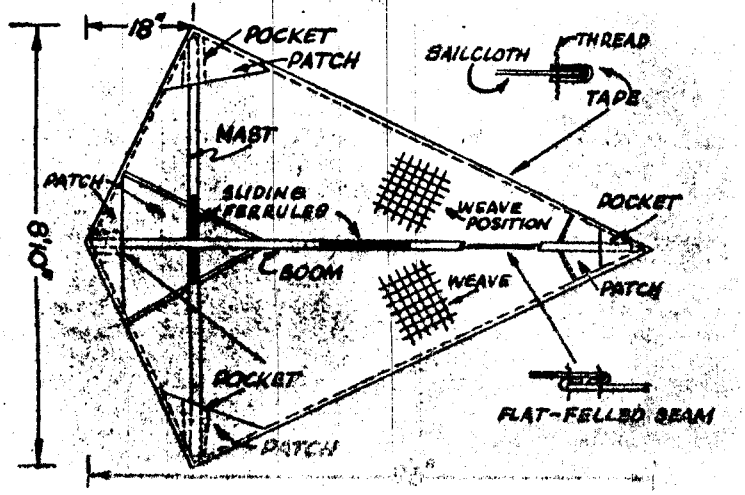
Skating WITH WINGS

STRETCHING out ahead of you is the smooth, glassy surface of a frozen lake. A frosty, nippy wind blows steadily across the blue ice. It's all a perfect setting for skate sails. Few sports can offer anything to compare with the excitement of speeding along with your skate sails picking up the wind.

It's easy to make your own sail. Here's a design that's simple to build and can be adapted to your own needs for a sail. The size depends on the weight of the skater. Roughly, a good formula to follow is one square foot of canvas in the sail for every two and a half pounds of your weight. An average boy needs about 38 square feet for ordinary pleasure sailing. Experts use about 50 per cent more sail for racing.

The safest method of sailing is by cross-wind tacking. It gives you more control because your forward speed can be checked simply by coming up into the wind. This is a good idea when the course is unfamiliar. With practice you can sail into the wind, reversing direction by grabbing the mast on each side of the boom with your hands, ducking your head and swinging the sail to the other side.

. . . is a sport you'll find hard to top for excitement and new thrills on ice •



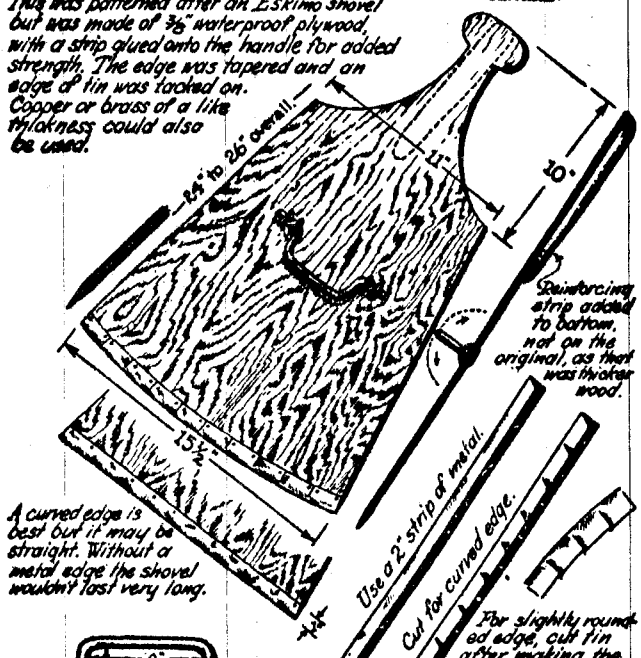
ESKIMO SNOW SHOVEL

Up in Eskimo Land, where wood and metal are scarce and weight is a big factor, they made this short, handy snow shovel. They used any kind of wood that drifted in, usually a soft wood. The edge was reinforced with a piece of whalebone "sewed" on, and the handle was of bone or ivory.

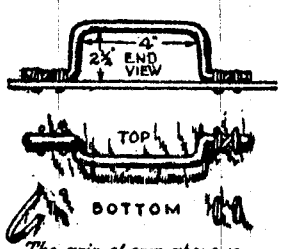
Spell for cleaning up for a Campsite.

From the Museum of Winnipeg, Canada.

This was patterned after an Eskimo shovel but was made of ⅜" waterproof plywood, with a strip glued onto the handle for added strength. The edge was tapered and an edge of tin was tacked on. Copper or brass of a like thickness could also be used.



A curved edge is best but it may be straight. Without a metal edge the shovel wouldn't last very long.



The grip shown above is made of ⅜" copper tubing or ½" iron rod. It should be "hinged," since a rigid handle would soon break the plywood. Fasten it with rawhide or copper wire.

Use ⅜" or ¾" nails. Place the edge flat on a piece of soft wood and drive the nails thru both top & bottom of tin. Then turn ends over. (Clinch them.) Whether the plywood is waterproof or not, give it a couple of coats of boiled linseed oil or light creosote.

Scouting is action, and the dictionary definition of motive is 'that which leads to action.'

Cub Scientist

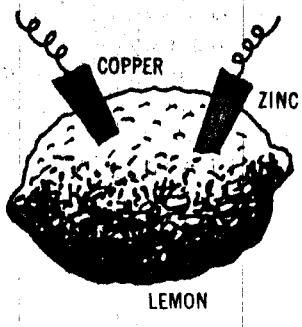
SCIENCE IS FUN

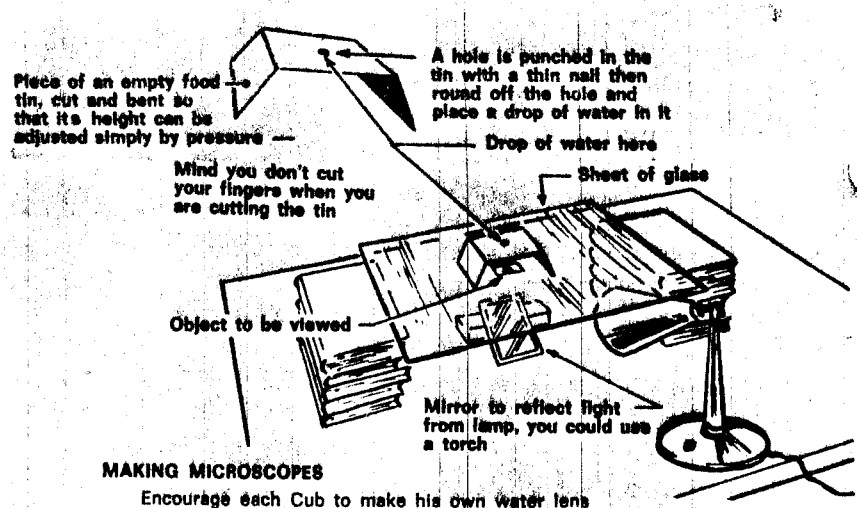
Cub Science should primarily be a field science, a study of life and surroundings, a science of outdoor exploration and personal discovery. As such it can be carried on at any time of day or night.

We have only given a few examples of science projects that could be undertaken by Cubs. Check your local library for books on science projects.

Lemon Battery

Get two strips of metal (3" x ¾") — one copper and the other zinc. Copper is easy to find but you may have to get the zinc from a used dry cell battery. Roll the lemon on the table to break up the inside tissues. Clean the metal strips and push them into the lemon about a quarter-inch apart. Make sure they do not touch. Connect to a galvanometer (an instrument for measuring a small electric current) and see the compass needle move.





MAKING MICROSCOPES

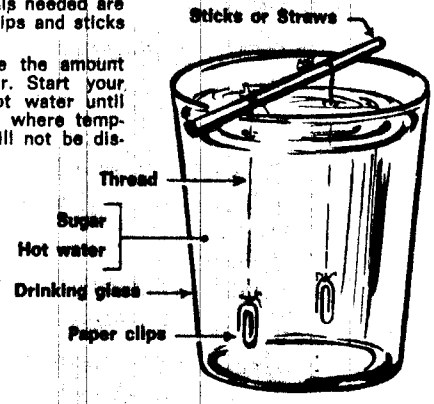
Encourage each Cub to make his own water lens microscope. Materials needed are a sheet of glass, a frozen fruit juice can, a mirror, a source of light and supports. (See illustration above)

Other simple microscopes can be made from inexpensive glass beads. These can give a magnification of 70 or more. Examine pollen, spores, pond water and other samples collected on rambles.

GROWING CRYSTALS

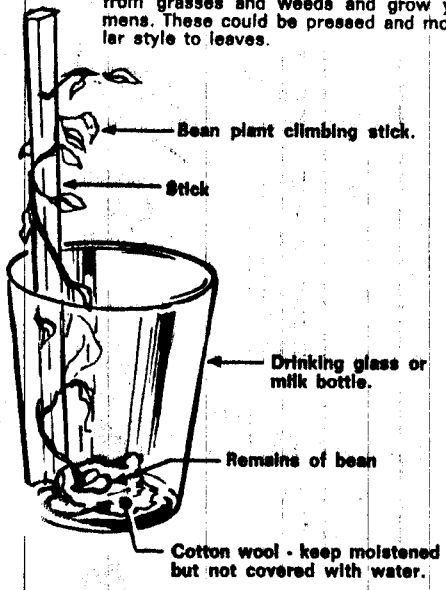
A Crystal is any solid that has geometric shape due to an orderly arrangement of the atoms. Encourage Cubs to grow sugar crystals - the finished product is rock candy and can be eaten. Materials needed are sugar, hot water, glass, thread, paper clips and sticks or straws.

A tip - most people underestimate the amount of sugar which will dissolve in water. Start your solution with sugar and slowly add hot water until all sugar is dissolved. Place in location where temperature is constant, and the solution will not be disturbed.



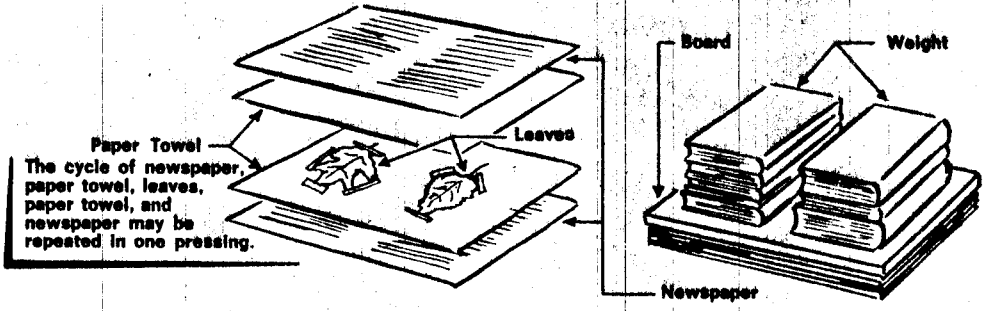
GROWING PLANTS

Many Cubs have grown beans or peas in the style shown below. Why not go further and collect seeds from grasses and weeds and grow your own specimens. These could be pressed and mounted in a similar style to leaves.



MAKE A "HERBARIUM"

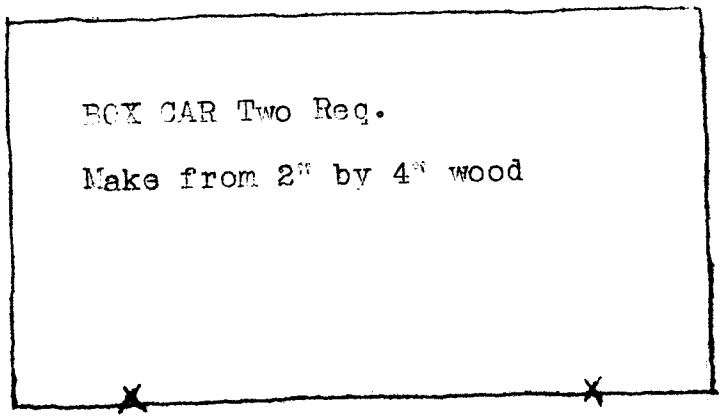
"Herbarium" - a systematic collection of pressed leaves. Pressing leaves is a simple process but the leaves are fragile. After collecting and pressing (as described above) a dried leaf should be mounted on its own piece of paper. Hold leaf in place with 1/8" wide strips of cloth tape or marking tape. Avoid transparent tape as this will dry in time and the specimen may be lost. Store sheets in a box, with mothballs to discourage insects from making a dinner of the collection.

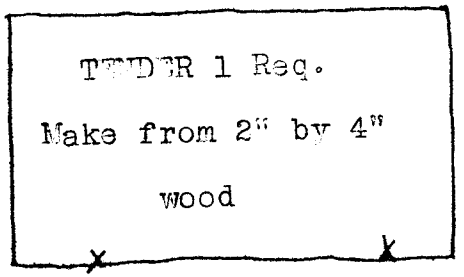


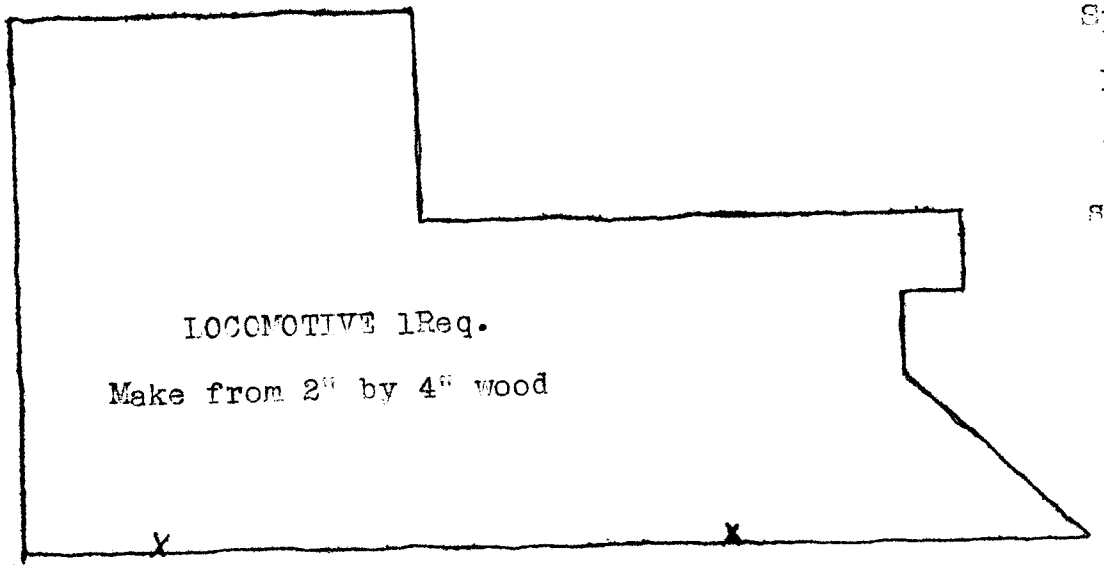
A lot more great ideas can be found in the Cub Book.

St. Peters Boy Scouts Hobby Shop

Project # 3 Childrems Toys







Material 2" by 4" wood

Spools for wheels

Paint assorted colours

nails

small washers & cup hooks

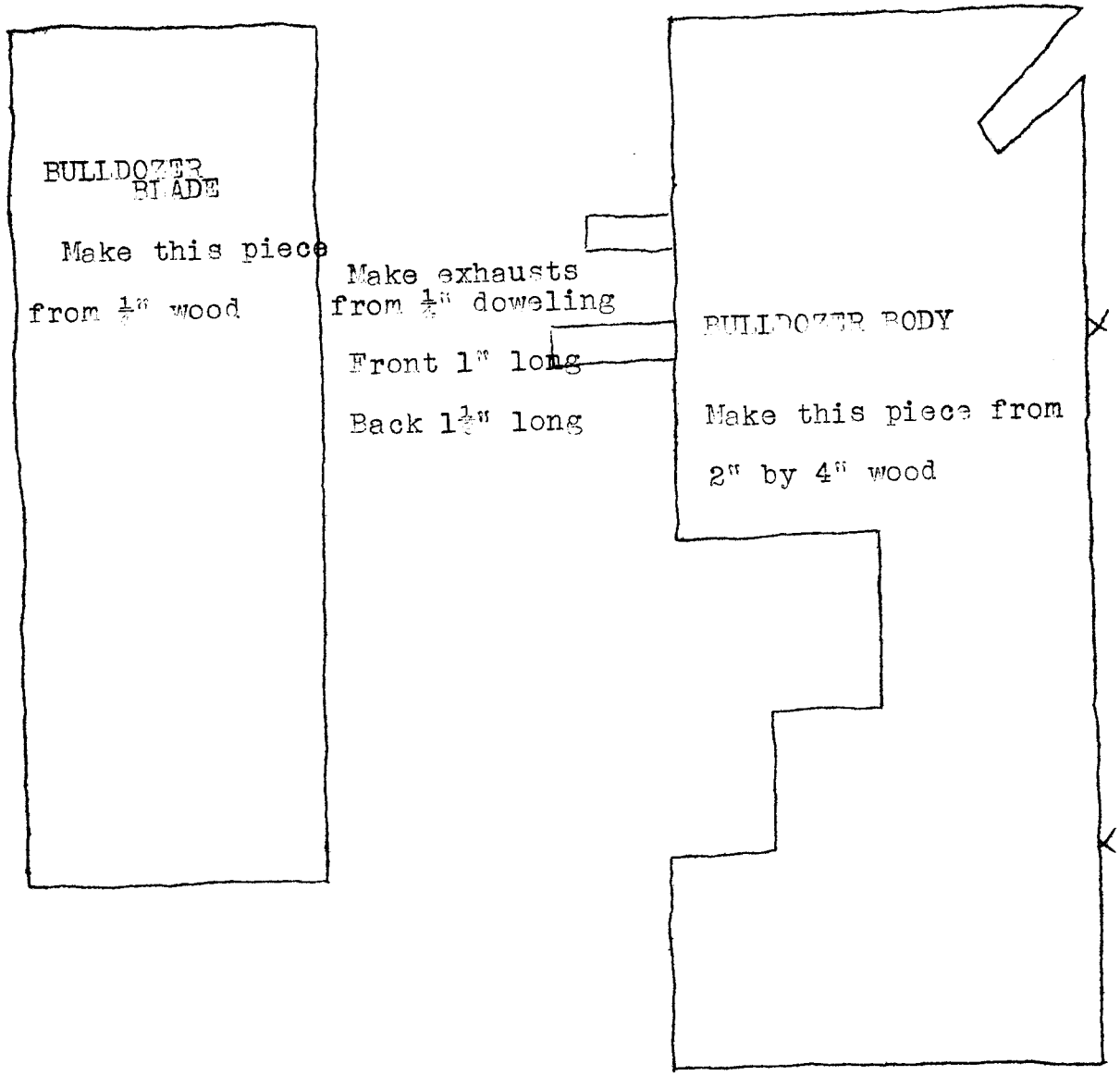
Tools Coping Saw

Files

Sandpaper

St. Peters Boy Shep Scouts Hobby Shop

Project # 3 Childrens Toys



Material 2" by 4" wood

½" wood

paint assorted colours

spools for wheels

rubber band for track

½" doweling

Tools Coping Saw

Files

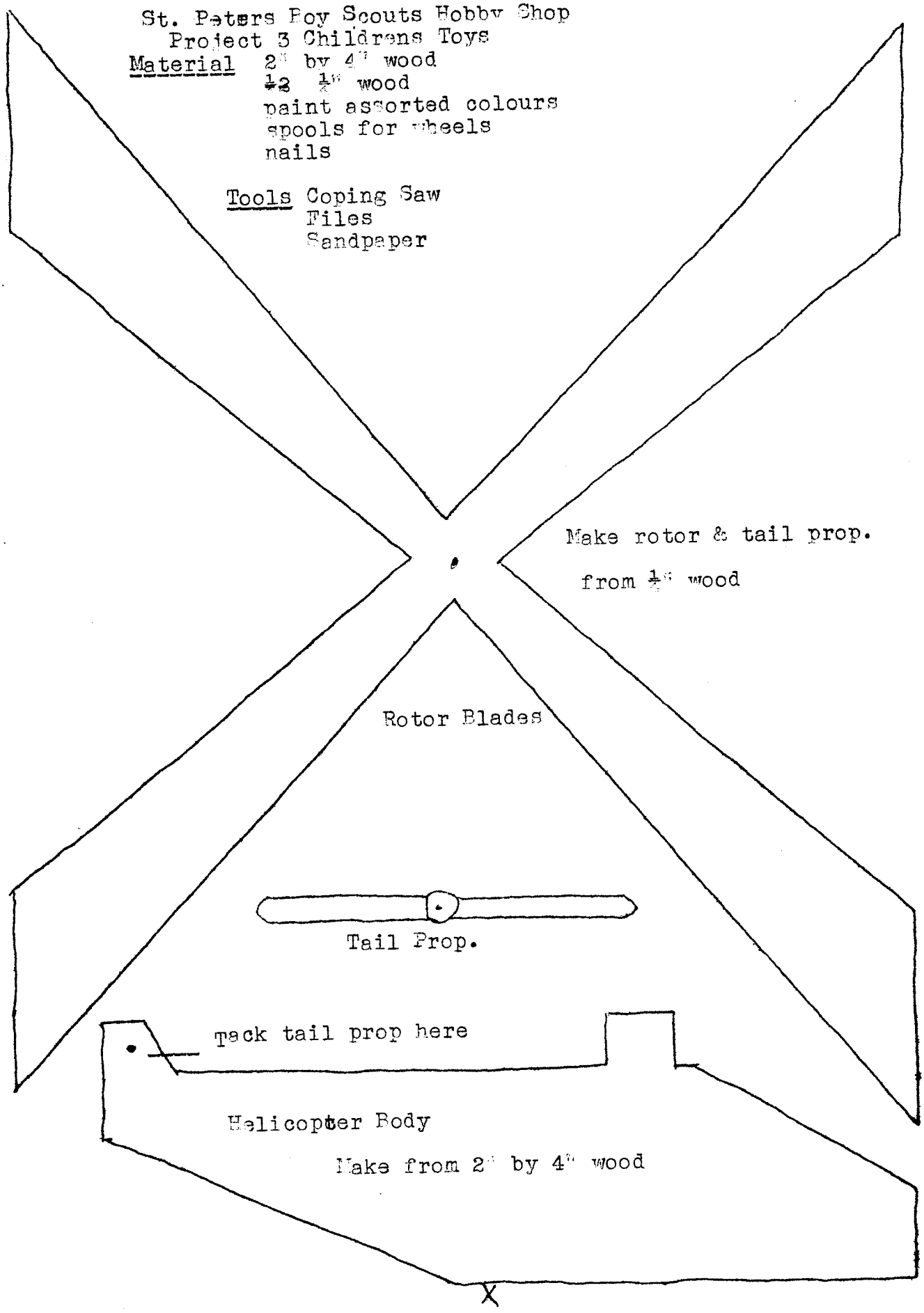
Drills

Sandpaper

St. Peters Boy Scouts Hobby Shop
Project 3 Childrens Toys

Material 2" by 4" wood
½ ¼" wood
paint assorted colours
spools for wheels
nails

Tools Coping Saw
Files
Sandpaper

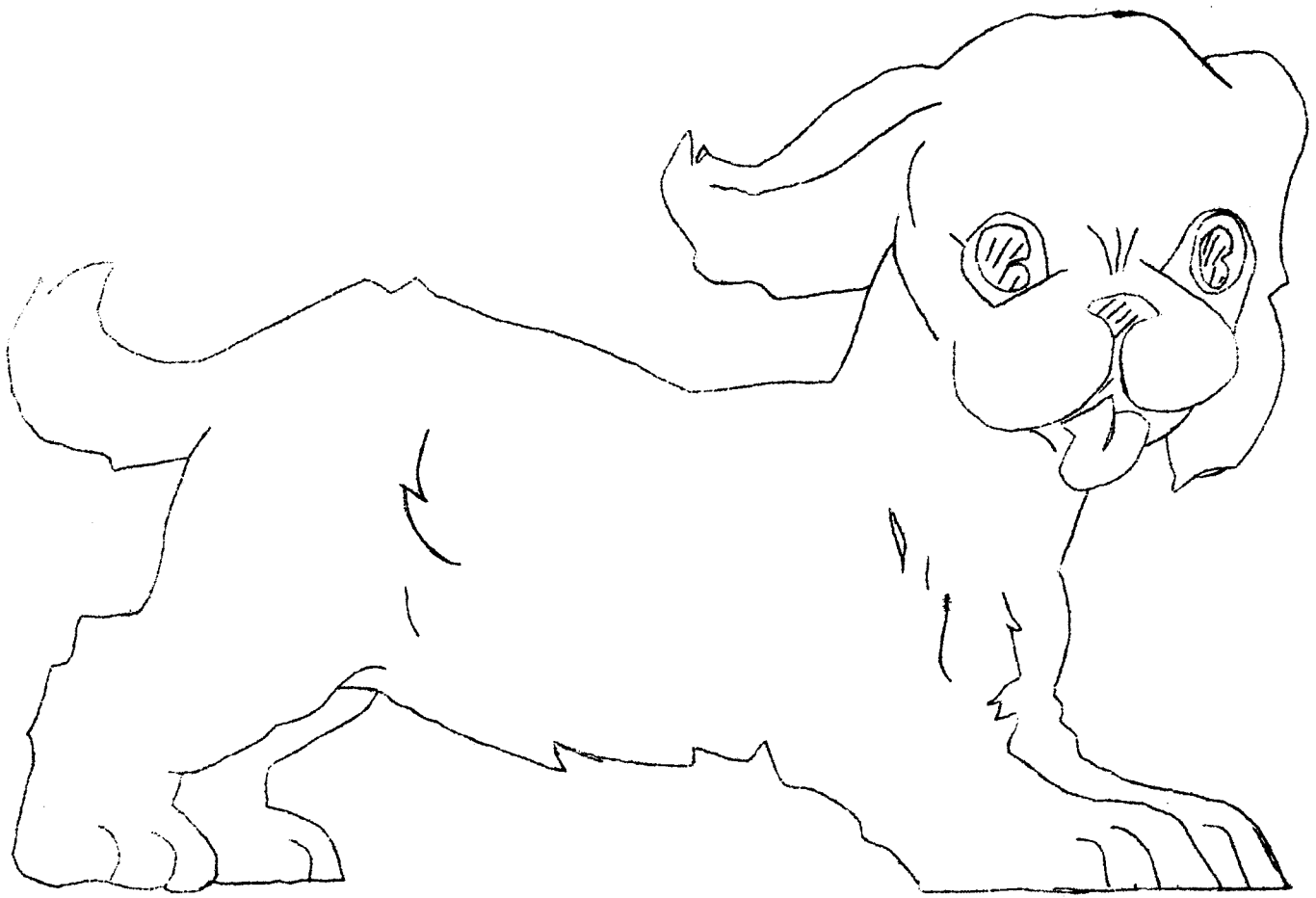


St. Peters Boy Scouts

Hobby Shop Project # 2 Calender

Material ½" Pine or any soft wood
Paints assorted colours
Picture Wall Hangers & One 1966 Calendar 1½" wide by 3" long

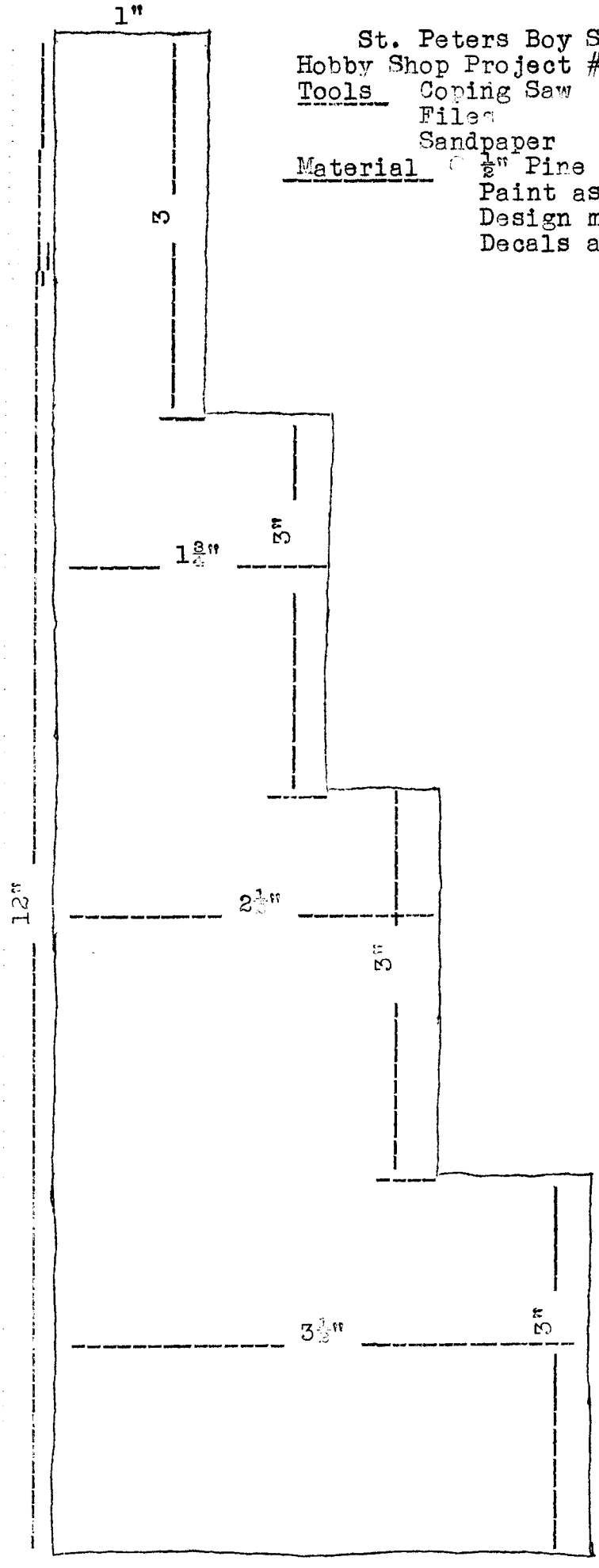
Tools Coping Saw
Files
Sandpaper



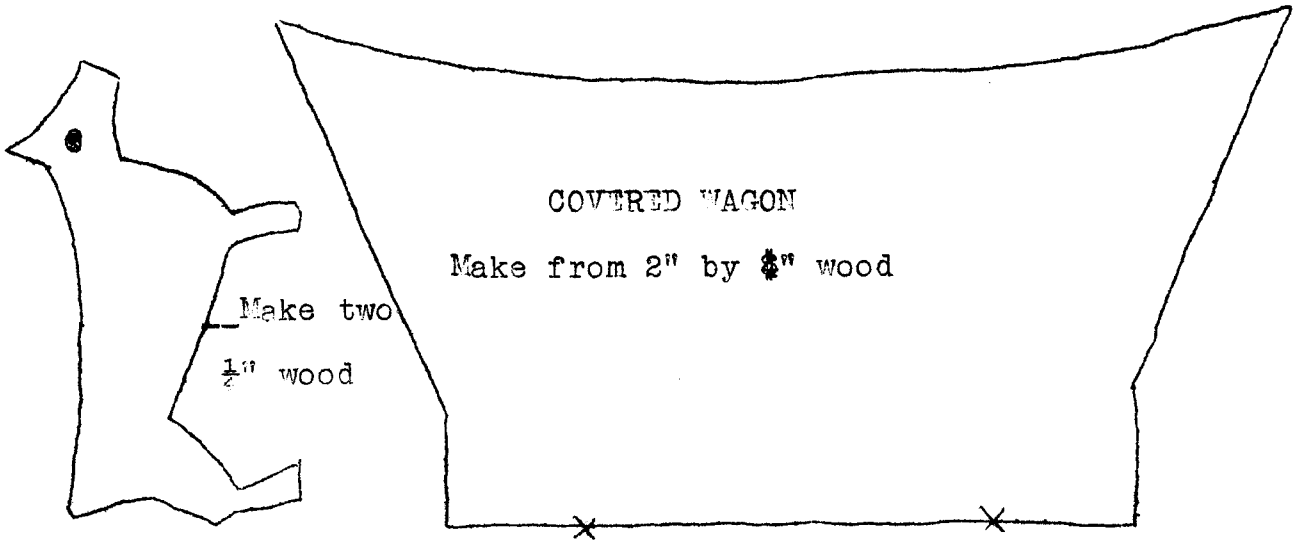
St. Peters Boy Scouts
Hobby Shop Project # 1 Window Sticks

Tools Coping Saw
Files
Sandpaper

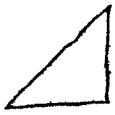
Material ½" Pine or any soft wood
Paint assorted colours
Design may be painted on
Decals are very handy for this

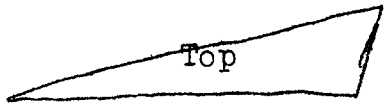


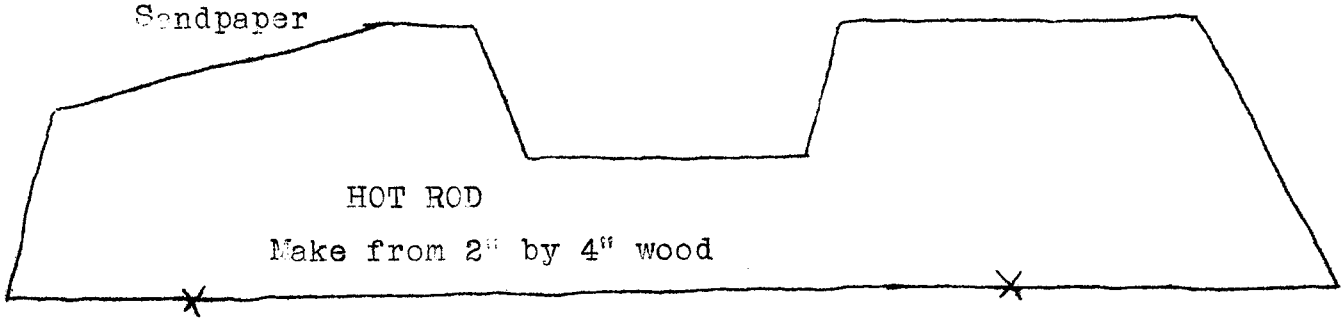
St. Peters Boy Scouts Hobby Shop



Tools Coping Saw
Files
Sandpaper







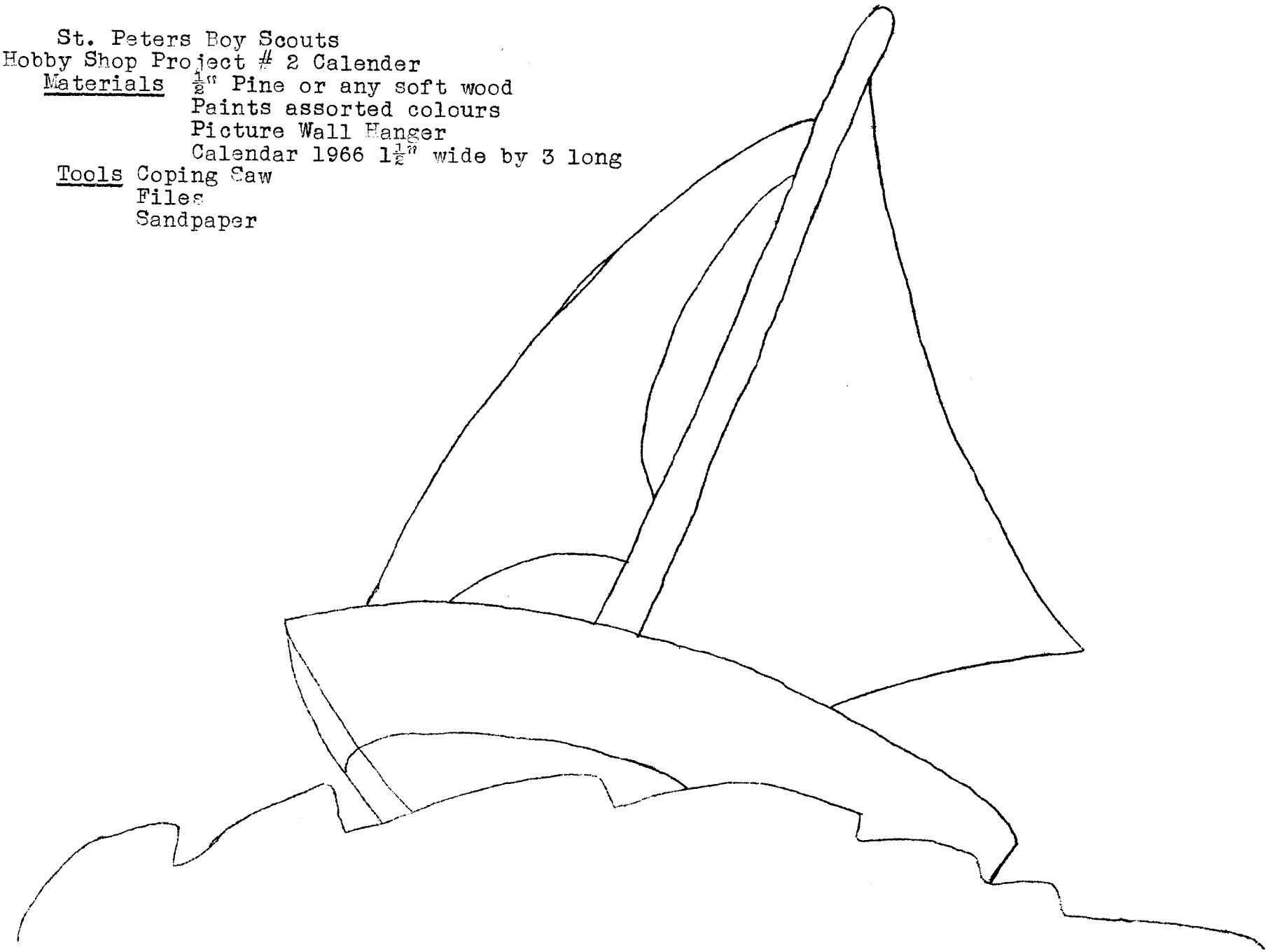
Project # 3 Childrens Toys

Material		
	2" by 4" wood	leather thong
	½" wood	spools for wheels
	¼" doweling	paints assorted colours

St. Peters Boy Scouts
Hobby Shop Project # 2 Calender

Materials ½" Pine or any soft wood
Paints assorted colours
Picture Wall Hanger
Calendar 1966 1½" wide by 3 long

Tools Coping Saw
Files
Sandpaper



LET 'EM KNOW

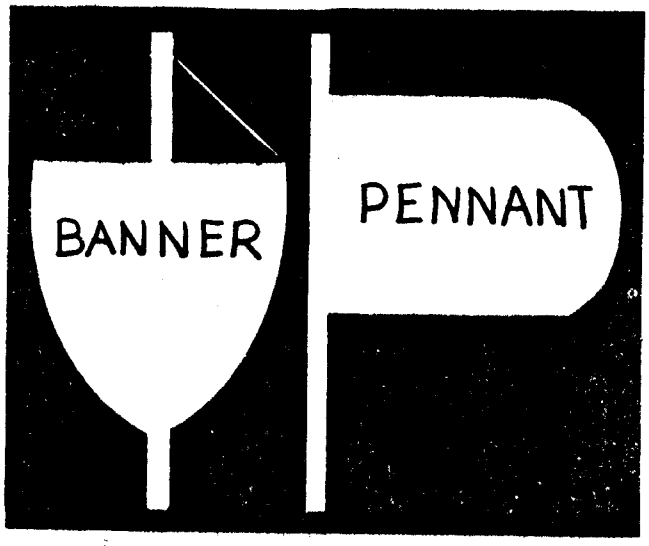
By Don Swanson, Director, Scout Program

Looking for something to develop patrol spirit? How about making patrol flags? Making things together is an effective way to develop patrol spirit — especially if it provides the patrol with a chance to display their work.

Patrol flags tend to be either pennant or banner in style.

While there is no "official" size, the patrol flag should be large enough to be easily seen but not too large. A good size seems to be about nine to ten inches wide and fourteen to fifteen inches long.

Don't let making the flag become a one-man job. Keep it a patrol project. Let's take a look at the steps.



STEP ONE

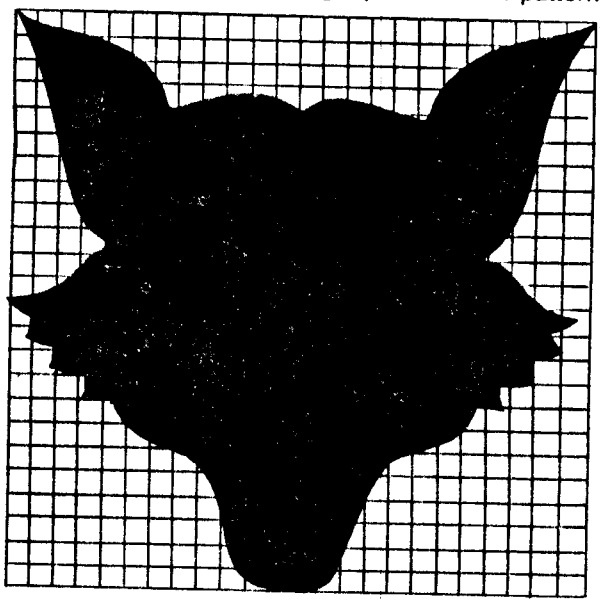
The first step is to decide on a design. Try an art contest in the patrol. Scouts can work on their own or pair up with another Scout to produce a rough sketch. The proposed designs are placed on display and the patrol votes for the best. (Runner-up designs could be used to make coats-of-arms to decorate the patrol corner.)

STEP TWO

Now that your patrol has a design, it's time to select the material. The material should be able to withstand sun, rain, and washing. A lightweight canvas, denim or cotton is good.

STEP THREE

Transferring the design to the material is the next step. Carbon paper will work, providing the pattern is the size of the finished flag. If it is necessary to enlarge your pattern, an opaque projector or magnascope (used by children to project comic strips onto a wall) will do an excellent job. Another way is to draw a network of lines over the pattern 1/4" apart. Then draw a similar network on another piece of paper, with the lines 1 inch apart. Now fill in the squares of the larger network with the detail found in the corresponding squares on the pattern.



STEP FOUR

This step will complete the flag. Paint the pattern on the flag with an oil-base paint; or use liquid embroidery; or cut the pattern from contrasting material and cement it onto the flag with textile glue.

STEP FIVE

All that's left now is to mount the flag on a suitable staff. This could take the form of a cut-off broom handle, a handle from a broken hockey stick, or a length of lightweight aluminum tubing. The staff should be between five and six feet in length.

Don't stop here. A patrol flag should grow with a patrol. Put a service bar on it for each year of the patrol's life. Paint an achievement award on it when fifty percent of the patrol members have earned it. Carve the dates of hikes and camps on the staff or add a ribbon for each important event in the life of the patrol. The only rule to follow is: whatever is put on the flag or staff must have special meaning to every Scout in the patrol.

And last, but not least, the patrol flag is held by the p.l. in the troop horseshoe, and there should be a small stand in the patrol corner to hold it upright.

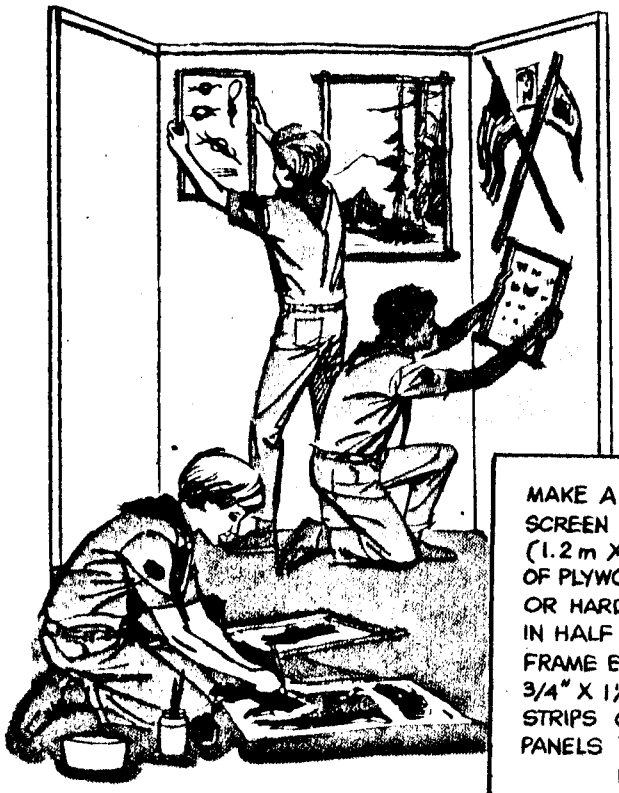
GREEN BAR Bill SAYS: "DRESS UP

A busy patrol is a good patrol! The more your patrol does, the better it becomes, and the more fun everyone has. That goes for meetings, hikes, and camps, as well as handicrafts. And your first handicraft project should be to turn your patrol corner or den into a real showplace.

If your troop meeting room is used by the troop alone, you may be able to put up permanent decorations in your patrol's corner. If the room is used by others, make a collapsible patrol screen that can be stored between meetings.

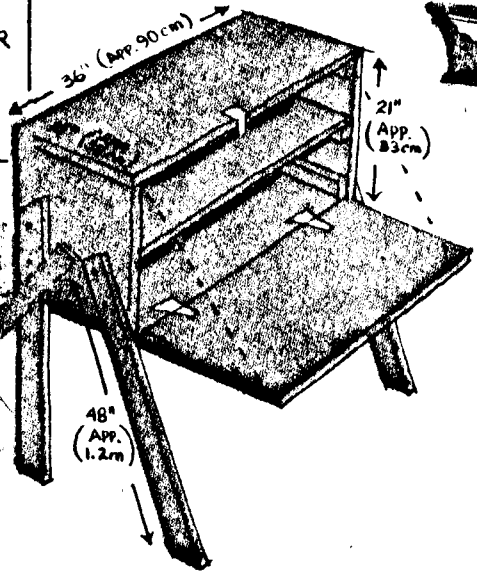
Eventually you should get a patrol den of your own. Huddle with the patrol and decide how you want to decorate it. Then get to work.

Right off, paint the walls and the ceiling your patrol's favorite colors. Paint a border around the top of the walls, if you like, using a simple design of your patrol animal.

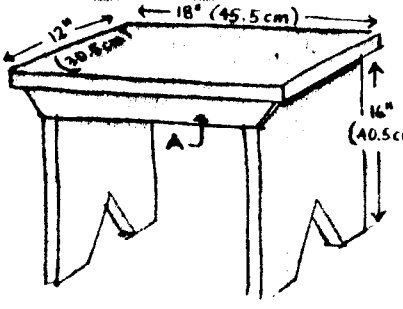


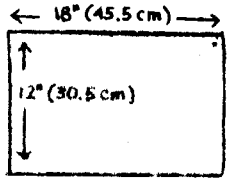
MAKE A COLLAPSIBLE SCREEN FROM TWO 4'X8' (1.2 m X 2.4 m) SHEETS OF PLYWOOD, WALL PANELING, OR HARDBOARD. CUT ONE IN HALF LENGTHWISE. FRAME EACH PANEL WITH 3/4" X 1½" (2 cm X 4 cm) STRIPS OF WOOD. FASTEN PANELS TOGETHER WITH HINGES.

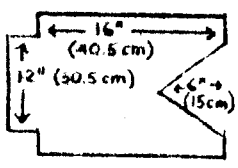
THIS PATROL CHEST WILL STORE YOUR CAMPING EQUIPMENT IN YOUR DEN, AND IT CAN BE USED AS A WORK TABLE. IT MAKES A GREAT CAMP KITCHEN, AS WELL.



BENCHES CAN BE MADE FROM 3/4" (2 cm) PLYWOOD OR SHELVING.







A-77410

YOUR PATROL DEN!"

Then build the furniture you need: table and benches, book and display shelves, a patrol chest, and a stand for your patrol flag.

Next decorate the walls.

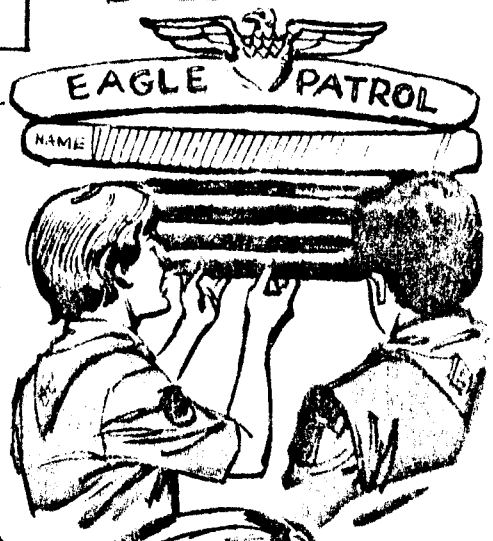
On one wall you may want to hang the American flag. Maybe a poster with the Scout Oath and Law. Perhaps photographs of your patrol in action.

On another wall, put up a patrol "Hall of Fame," consisting of a plywood plaque for each Scout, with his photograph, merit badges, and record in the patrol. The plaque could be in the form of a shield or a silhouette of the Scout.

On still another wall, you could tack up a topographic map of your area and mark your patrol's campsites and the routes of your hikes.

There's no limit to the ways you can dress up your patrol den. Use your imagination, and let the result express the spirit of the patrol. ✣

SILHOUETTE PORTRAITS OF YOUR PATROL MEMBERS WILL DRESS UP YOUR "HALL OF FAME."



ADVANCEMENT STICKS SHOW EACH SCOUT'S SKILL AND PROGRESS AWARDS. HANG THEM WITH SCREW EYES AND HOOKS.

IF YOUR TROOP HAS A MEETING ROOM OF ITS OWN, YOUR PATROL MAY BE ASSIGNED A CORNER THAT YOU CAN DECORATE TO YOUR HEART'S CONTENT.

WHEN YOUR PATROL HAS ITS OWN DEN, YOU AND YOUR SCOUTS WILL BE PROUD TO SHOW OFF ITS TREASURES TO NEW PATROL MEMBERS.

TIPS FOR PATROL LEADERS

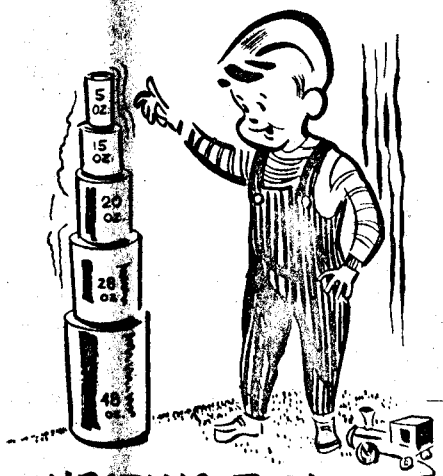
ALL OUT FOR SCOUTING!

A-77-408

143 May & June 1954.

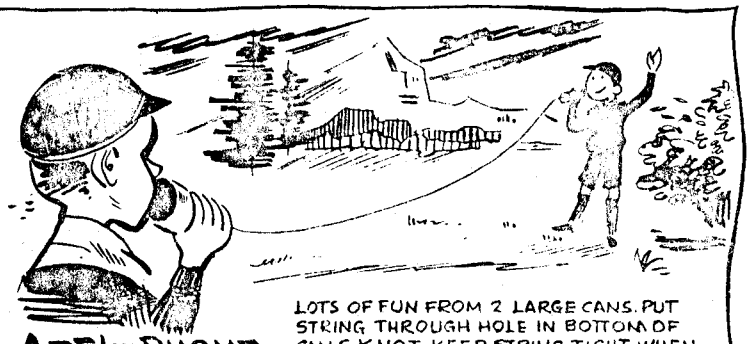
TIN CAN craft

FOR WOLF CUBS...



NESTING TOY-

A GIFT FOR YOUR LITTLE BROTHER OR SISTER. COLLECT SIZES SHOWN CUT OUT TOPS WITH CAN OPENER FILE & SAND ROUGH EDGES. CLEAN CANS WITH STEEL WOOL. PAINT WITH SAFE PAINT.

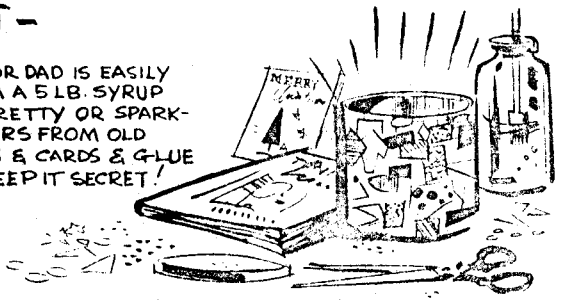


A TELEPHONE-

LOTS OF FUN FROM 2 LARGE CANS. PUT STRING THROUGH HOLE IN BOTTOM OF CAN & KNOT. KEEP STRING TIGHT WHEN TALKING. SPEAK SLOW & CLEARLY.

A GIFT-

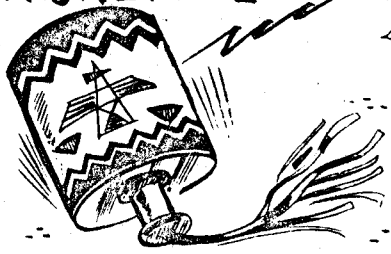
FOR MOM OR DAD IS EASILY MADE FROM A 5 LB. SYRUP CAN. CLIP PRETTY OR SPARKLING COLOURS FROM OLD MAGAZINES & CARDS & GLUE TO CAN. KEEP IT SECRET!



TIN CAN WALKERS

MAKE FROM 2 - 15 OZ. OR 20. OZ. CANS & SOME STRONG CORD. CUT TOPS OFF CANS. PIERCE A HOLE AT TOP ON OPPOSITE SIDES OF CAN. INSERT CORD & TIE. STEP ON CAN HOLD CORD & YOURE OFF

A NOISEMAKER



FOR HALLOWEEN OR "INJUN JOE" SEAL PEBBLES INSIDE CAN WITH A WOOD BLOCK. ADD SPOOL FOR HANDLE, PAINT IN BRIGHT COLOURS.

A PLANTER

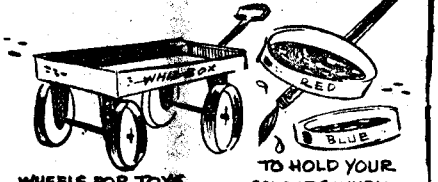
MAKE FROM COFFEE CAN. PAINT CLOTHES PEGS IN BRIGHT COLOURS

SAVE SCOTCH TAPE CANS... OR BABY FOOD CANS

BANKS

PAINT DESIGN

STORAGE FOR SHARP OBJECTS

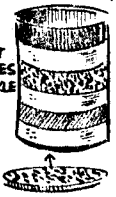


WHEELS FOR TOYS

TO HOLD YOUR COLOURS WHEN PAINTING

START SEEDLINGS

ASH TRAYS



PAINT STRIPES ADD SPARKLE

GLUE ON CORK BASE

CUT DOWN FOR CIGARETTE HOLDERS

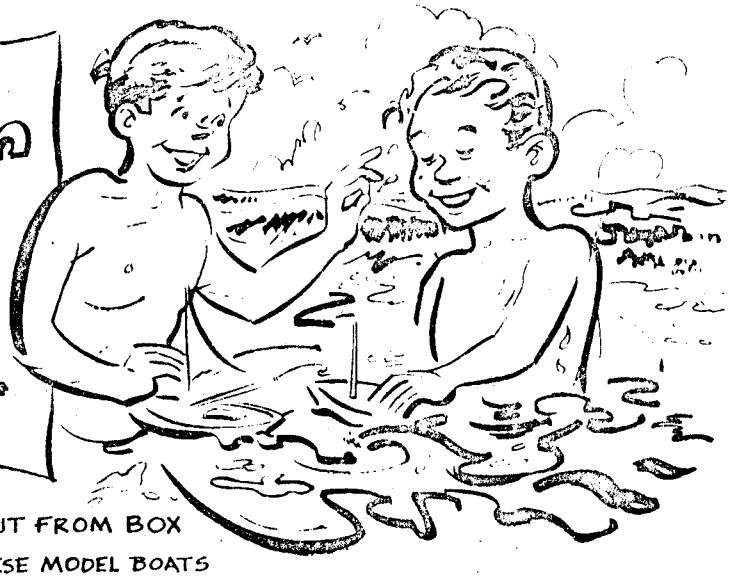
BEND OUT OF STRIP

A DRUM

USE ONE GALLON CAN & OLD INNER TUBE. CUT BOTH ENDS FROM CAN. USE END OF CAN AS PATTERN FOR TUBING. USE HEAVY TWINE FOR LASHING.

Jon

Summer Fun with BOATS for Wolf Cubs

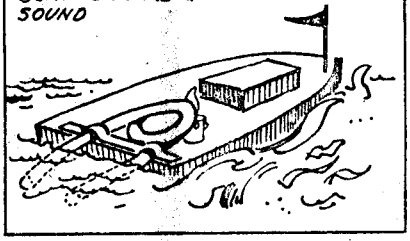


OR PATTERN CUT FROM BOX

OR SHINGLES, WILL SERVE AS A BASE FOR THESE MODEL BOATS

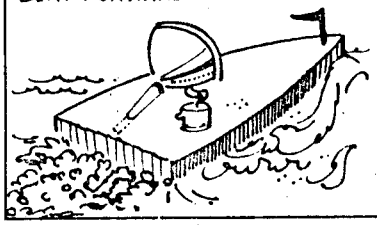
1 STEAM BOAT "A"

MOUNT COPPER TUBING SO THAT COIL IS OVER FLAME & OPENINGS ARE UNDER WATER. HEAT SHOULD DRIVE BOAT FORWARD & PROVIDE "PUTT-PUTT" SOUND



2 STEAM BOAT "B"

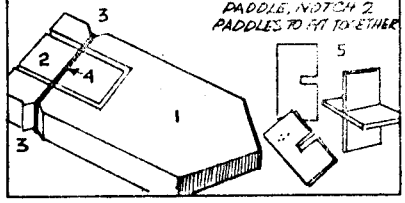
USE CHEAP OIL CAN, HALF FULL OF WATER, DRILL ANGLED HOLE THROUGH BASE TO ADMIT TOP INCH OF CAN, SET & LIGHT CANDLE & STEAM WILL PROPEL BOAT FORWARD



3 PADDLE STEAMER

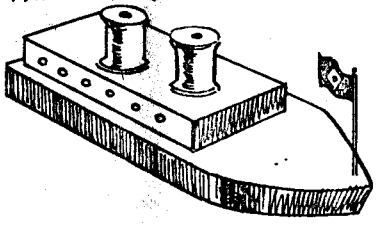
1 BASIC PATTERN 2 PADDLE CUT FROM BASIC PATTERN 3 NOTCHES CUT IN SIDES OF BASIC PATTERN TO HOLD RUBBER BAND 4 RUBBER BAND PLACED IN NOTCHES & USED TO WIND PADDLE

5 FOR 4 BLADE PADDLE, NOTCH 2 PADDLES TO FIT TOGETHER



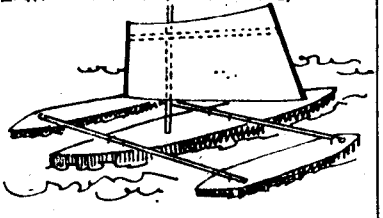
4 FERRY BOAT

USE THE BASIC PATTERN & ADD A CABIN OF CARDBOARD OR BALSA-WOOD, TOP IT WITH FUNNELS MADE FROM SPOOLS



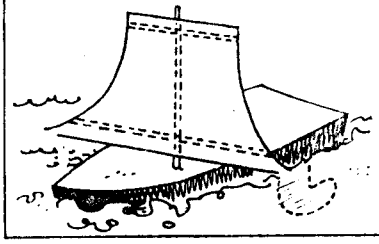
5 OUTRIGGER

PUT A POINT AT BOTH ENDS OF BASIC PATTERN. MAKE PONTOONS OF WOOD & SHAPE & SIZE OF MAIN BOAT. MAKE SAIL FROM HEAVY PAPER & USE LIGHT DOWELLING FOR MAST & SPARS



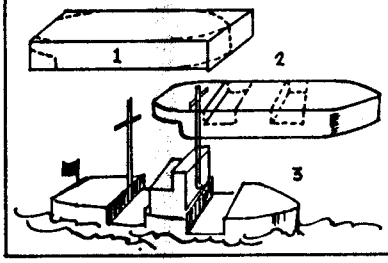
6 CHINESE JUNK

1 BASIC PATTERN 2 SAILS OF PAPER REINFORCED WITH LIGHT STICKS 3 A RUDDER MADE FROM TIN MAY HELP IN SAILING BOATS. USE IMAGINATION



7 TRAMP STEAMER #1

MADE FROM 2 x 4 PINE BLOCKS, BLOCKS OF WOOD, SPOOLS & DOWELLING FOR MASTS. PAINT FINAL JOB.

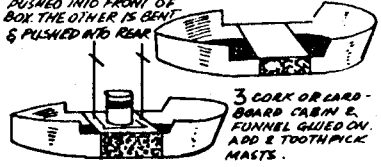


8 TRAMP STEAMER #2

MADE FROM A SMALL MATCH BOX, THIN CARD BOARD STRIPS, CORK & TOOTHPICKS

1 CUT 2 PIECES OF THIN CARD BOARD LIKE THIS

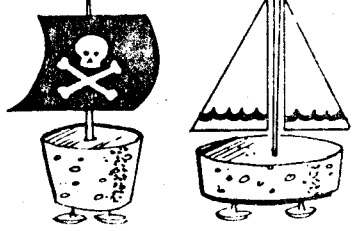
2 ONE PIECE IS FOLDED & PUSHED INTO FRONT OF BOX. THE OTHER IS BENT & PUSHED INTO REAR



3 CORK OR CARD-BOARD CABIN & FUNNEL GLUED ON. ADD 2 TOOTHPICK MASTS.

9 CORK SAILING BOATS

1 USE TOOTHPICKS & PIECES OF PAPER FOR SAILS 2 HAVE CUBS DECORATE SAILS WITH APPROPRIATE DESIGNS 3 USE 1 OR MORE THUMB TACKS FOR KEEL—



JON

41

BUILD MI's PORTABLE CAMPER KITCHEN

By George Campbell

When you head for the great outdoors, take this kitchen along for cooking convenience. Or use it on your patio.

Self-contained convenience *is the biggest advantage of our camper kitchen. Cabinet front (above) has sections that hold necessary mealtime items within reach of hungry campers.*

Campsite cooking for a hungry family can be difficult if you have to depend on building a fire or setting up your own outdoor cooking area. Even if you bring along your own barbecue grill or camp stove, there's still the problem of what to do with cooking accessories—utensils, plates, condiments, cooking gear and the food itself. Packing, organizing and protecting these items in an outdoor environment can be a major problem, even for those who bring their car or RV directly to the campsite.

Here is our solution to all of these problems. Build this portable kitchen cabinet and you'll be ready to serve up complete meals soon after you arrive at your campsite—with all the convenience of home cooking.

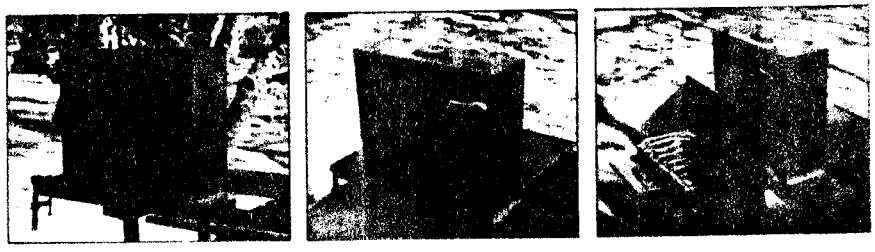
Our camper kitchen not only carries its own stove within, it also eliminates the need for separate boxes to carry cooking gear. Space is provided in the cabinet for eating utensils, cups and glasses, spices and other cooking needs, and there are sections for such things as trash bags and disposable moist towelettes for cleanup chores.

The entire unit, when closed, will fit neatly in a car trunk or in the back of a station wagon. We designed the cabinet to sit on a tailgate or on a picnic table, which is usually available to car campers. With this in mind, the cabinet was constructed with fold-down "ears" that can be clamped to a table for a firm, no-tip base. Once the cabinet is clamped in place, hinged doors open in front and back to provide ready access to its contents.

On the rear side of the cabinet, the hinged door becomes a platform for your camp stove, giving you a cooking surface that extends beyond the end of the picnic table for extra room and cooking convenience. The platform is held at a 90° angle by two lengths of brass transom chain.

Constructing the cabinet

Begin by cutting the major wooden components to the dimensions shown in the cutting list and dia-



When closed, cabinet (above left) is as compact *as a suitcase. Fold-down ears clamp to table for safety and convenience. With doors open (center), stove and fuel rest securely inside; vertical divider removes for access. Stove (right) is shown in position for use.*

CREDITS: MI photos, George Campbell; technical art, Leon Stankowski

gram. Use a dado blade in your saw, or a router, to cut the rabbets on the cabinet top and the grooves in the top and sides.

Before ripping the door-frame components, cut the ¼ x ⅜-in. grooves, again using a dado blade or a router. It's always a good idea to shape or rout when possible before ripping narrow strips from a larger board. By doing this, you avoid any chance of fingers getting close to the cutter in tight spaces, which can be hazardous.

All of the birch-plywood components can be cut from a half-sheet of material. Be careful to make the panels perfectly square.

Miter the door-frame members, then clamp them while you assemble two L-shaped halves for each door. Use wood glue and two finishing nails at each joint. Set the nailheads and fill the holes so they won't show.

Apply glue to the grooves, then insert a plywood panel in one-half of the door frame. Add the other frame section and fasten the two remaining corners.

After completing both doors, assemble the cabinet's top and sides using glue and No. 8 1½-in. flat-head wood screws. Bore countersunk holes for the screws (which are to be covered with wood filler and stained during the assembly).

Before adding the cabinet base, attach the ¼-in. aluminum channel (see diagram) using No. 3 ½-in. screws.

Apply glue to the grooves in the sides and top of the cabinet, then insert the plywood partition. Attach the cabinet base to the sides as you did the top.

Add the aluminum channel moldings to the cabinet's sides, then cut out the plywood dividers. Measure carefully for an accurate fit.

After installing these dividers, cut out the remaining plywood parts and glue them into place. If you cut them for a snug fit, no clamping is required.

On the stove side of the cabinet, install the shelf components, then the stove retaining brace. Ball-type spring catches are used here for easy access to the camp stove. If you use a stove other than the Coleman Model 5410 shown here, you may have to modify the cabinet dimensions so it will fit. The upper sections on this side of the cabinet can be used to hold propane fuel canisters for the stove, and as a storage space for two clamps for the folding ears.

Cut an 8-in. length from each of the two continuous hinges, then attach the folding ears to the sides of the cabinet. Be sure to position the hinges so the ears lie flat when folded down.

The remaining continuous hinges should be cut to length for the doors. Screw the hinges to the doors first, then carefully attach the doors to the cabinet. Be certain that the doors line up properly when closed.

Position the remaining hardware and bore holes for the screws, but don't permanently mount the hardware at this time. Two or three screws will hold the doors in place while you adjust the fit. When attaching the transom chains to the stove-table door, make certain that the door folds out to form a right angle with the cabinet.

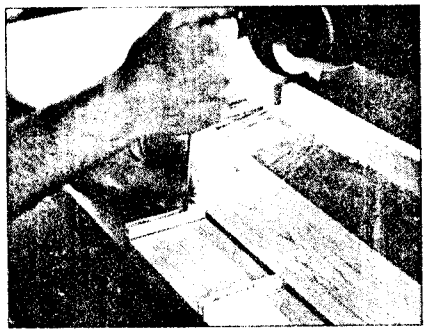
Now, remove the doors and fill all countersunk screw holes with wood filler (choose a filler that can be stained to match the wood). Sand all wooden components thoroughly, starting with medium-grit sandpaper and finishing with 150-grit paper.

Stain the cabinet to suit your taste (Carver-Tripp's Spanish Oak stain was used on this cabinet). When the stain is dry, give the wood two coats of satin-finish polyurethane varnish, lightly sanding and wiping off dust between coats.

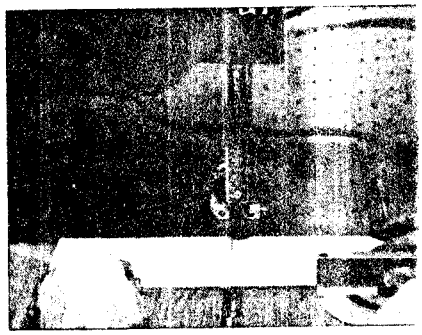
After the finish has dried, attach the two doors, install all the hardware and your camper kitchen is ready for its first outing. MI

Building the Cabinet

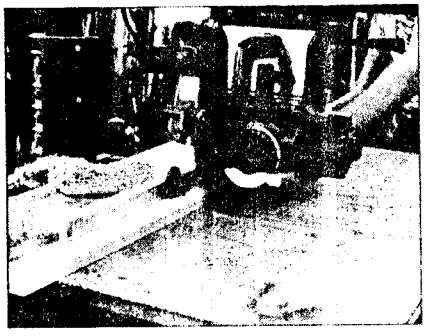
Use a dado blade set *in your table or radial arm saw, or use a router, to cut the edge rabbets in the cabinet top board.*



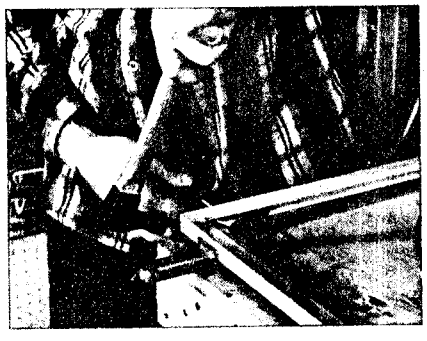
Aluminum channel *is used to hold the cabinet's vertical and horizontal dividers. Countersink screw holes so they are flush.*



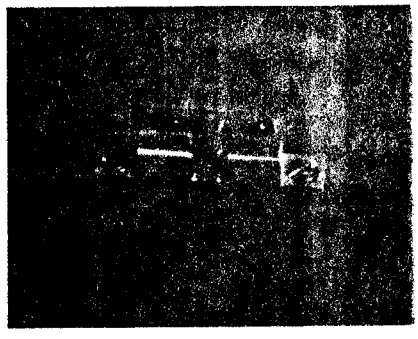
When cutting slots *for the dividers using a handsaw or band saw, be sure to cut exactly halfway through each divider.*



Form the grooves *in the door panel frames before ripping frames free of the board to avoid dangerous saw kickback.*

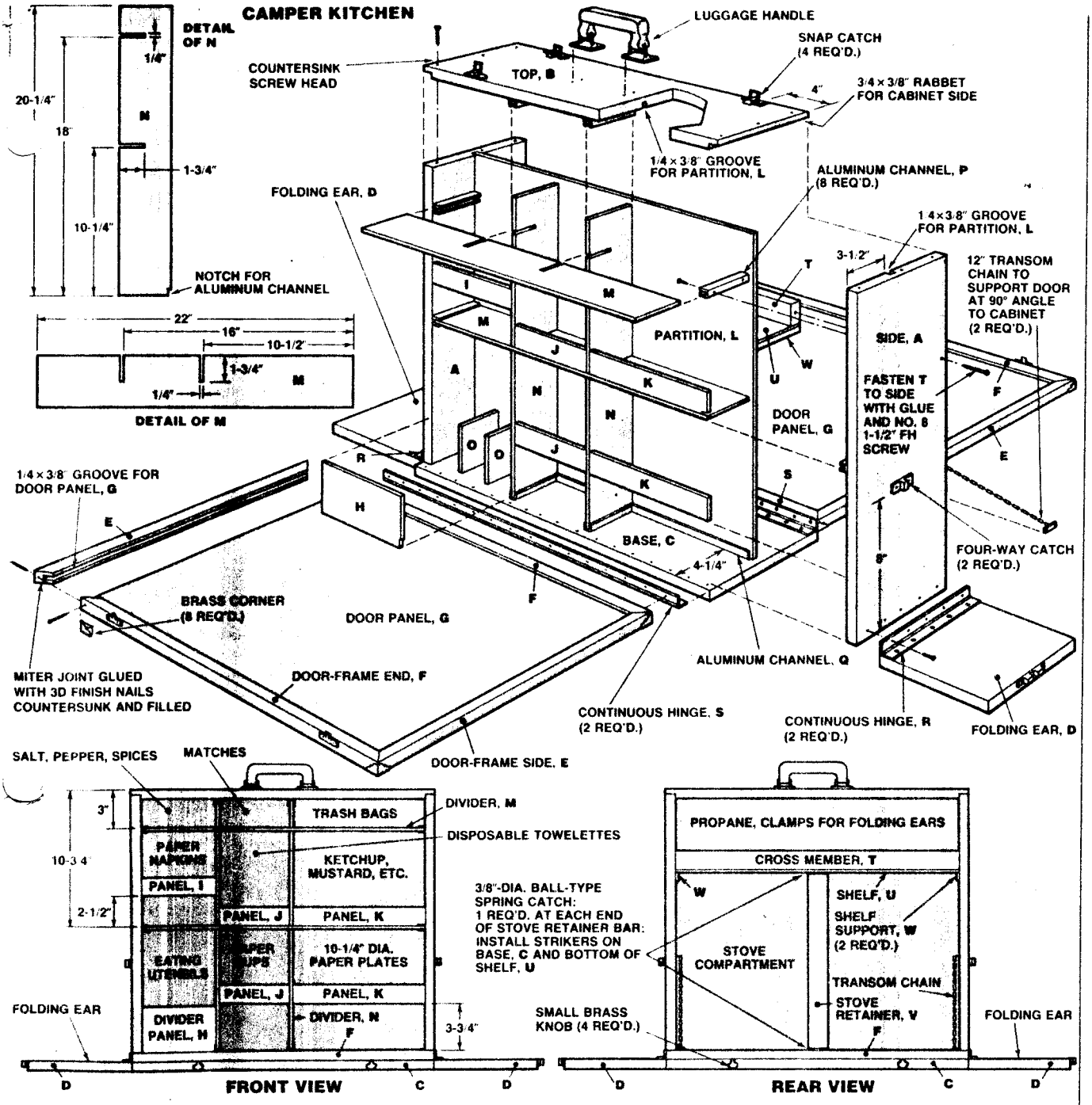


Assemble two L-shaped halves *for each door frame, using glue, finishing nails and clamps. Drill pilot holes for the nails.*



Special four-way catches *are used to hold folding "ears" up and out of the way until cabinet is clamped to picnic table.*

CAMPER KITCHEN



SHOPPING LIST: Camper Kitchen

Quantity	Size	Materials
2	¾ x 10 x 72"	Birch
1	¼ x 48 x 48"	Birch plywood
2	1½ x 36"	Continuous hinge (brass)
1	5/16 x 25/64 x ½", 48" long	Aluminum channel molding
1	—	Luggage handle*
4	—	Brass knobs*
8	—	Brass corners*
4	—	Brass snap catches*
2	⅝" dia.	Brass ball-type spring catches**
2	—	Brass four-way catches**
2	12"	Brass transom chains
	1½"	No. 8 FH wood screws
	½"	No. 3 FH wood screws
4	8-32 x ½"	Brass FH machine screws with brass cup washers and nuts
16	3d	Finishing nails

CUTTING LIST: Camper Kitchen

Key	Pieces	Size	Materials & Use
A	2	¾ x 8 x 21¼"	Birch (sides)
B	1	¾ x 8 x 24"	Birch (top)
C	1	¾ x 9½ x 24"	Birch (base)
D	2	¾ x 8 x 8"	Birch (folding ears)
E	4	¾ x ¾ x 21⅛"	Birch (door-frame sides)
F	4	¾ x ¾ x 24"	Birch (door frame ends)
G	2	¼ x 20⅜ x 23¼"	Birch plywood (door panel)
H	1	¼ x 3½ x 6¼"	Birch plywood (stop)
I	1	¾ x 1½ x 6¼"	Birch plywood (stop)
J	2	¾ x 1½ x 5¼"	Birch plywood (stop)
K	2	¾ x 1½ x 10½"	Birch plywood (stop)
L	1	¼ x 20⅞ x 23¼"	Birch plywood (partition)
M	2	¼ x 3½ x 22"	Birch plywood (divider)
N	2	¼ x 3½ x 20¼"	Birch plywood (divider)
O	2	¾ x 3½ x 3¼"	Birch plywood (divider)
P	8	25/64 x ½ x 3¼"	Aluminum channel
Q	1	25/64 x ½ x 22½"	Aluminum channel
R	2	1½ x 8"	Continuous hinge
S	2	1½ x 21½"	Continuous hinge
T	1	¾ x 1½ x 22½"	Birch (cross member)
U	1	¼ x 4¼ x 22½"	Birch plywood (shelf)
V	1	¾ x 1½ x 13½"	Birch (stove retainer)
W	2	¼ x ½ x 4¼"	Birch plywood (shelf support)

* Brainerd Mfg. Co., Box 71, East Rochester, NY 14445
**Available from Craftsman Wood Service Co., 1735 W. Cortland Ct., Addison, IL 60101

HOW TO ATTACH SNAP FASTENERS

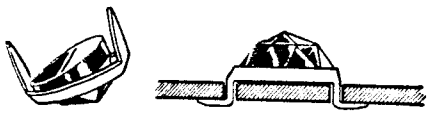
Snap fastener kits, available at a nominal cost, are required to attach snap fastener buttons to leather. Complete directions are furnished with each kit, the whole process being simple and easy to operate. See tool illustration on page 10, bottom line. A detailed description of the method would be pointless unless you have the kit — and with the kit you won't need our description. In attaching snap buttons be careful not to mar the leather.

ATTACHING KEY PLATES AND POSTS

Many Scouts select keytainers as their first leatherwork effort. The metal key plates are attached to the leather by means of a small inexpensive eyelet-setting tool, obtainable at any handicraft house. A blunt nail of the right diameter may be easily filed to the proper shape to spread the eyelets on these key plates.

RIVETS, SPOTS AND JEWELS

Make two slits in the leather, and insert prongs of the rivet, spot or jewel-holder through these slits.



These spots and jewels make very unusual and attractive decorations for belts, neckerchief slides and dog collars.

They are easy to apply; the slits in the leather may be made with the point of a sharp knife blade.

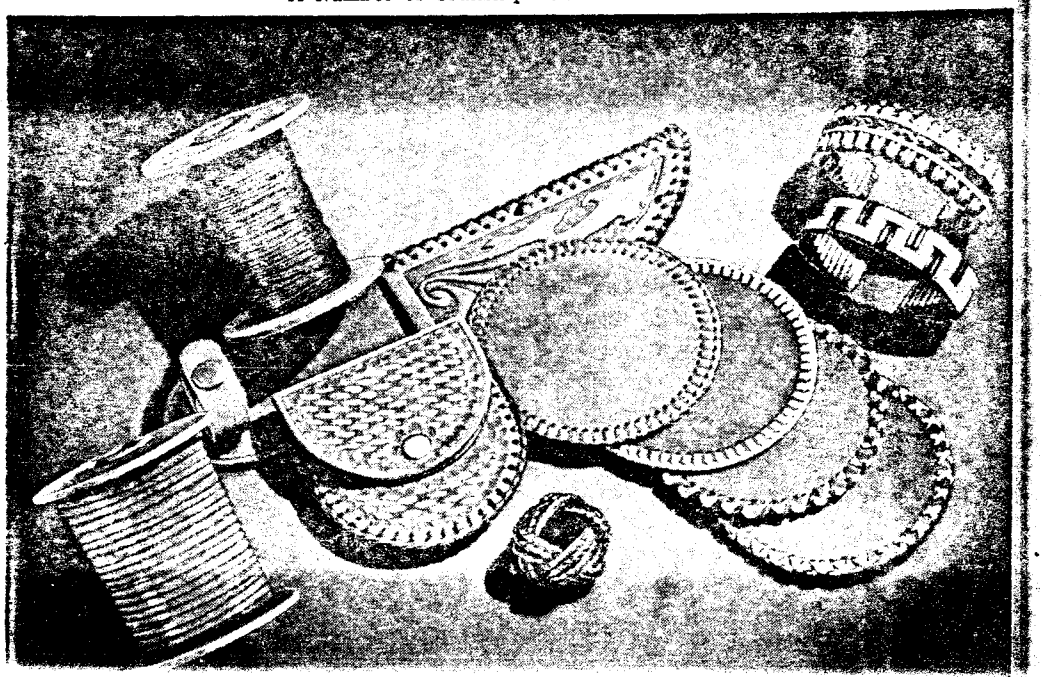
CHAPTER FOUR

LEATHER BRAIDING

AN OLD-TIME SKILL

The art of making and using leather thongs and knots is an old-time skill, acquired by necessity in the early days of the pioneer and frontiersman. The Indian's primitive use of leather thong lashings for his tepees may have suggested the use of rawhide thongs and pegs in colonial building construction, and in the making of simple furnishings. The art of thong plaiting in this country was brought with the horses of the Spanish Conquistadores to the Southwest, and passed on to succeeding generations of these earliest settlers. From them it has come to our present-day ranchmen, and others interested in the skill of plaiting leather thongs and tying the required knots. This art is valuable for its practical uses and also for the dexterity which it develops.

A Number of Craftstrip—Decorated Articles



CRAFTSTRIP FOR BRAIDING AND LACING

Although you may be able to cut your own thongs for braiding and lacing, as described later, the beginner will find Craftstrip much easier for first experiments. This lacing material, available through local Scout distributors or handicraft supply houses, is used mostly in the 3/32" width. It may be obtained in any ordinary color including black, white, brown, gold and silver. Brown is the best utility color for lacing the edges of natural leather.

Craftstrip has no rough and smooth sides—both sides are smooth. It costs only a few cents a yard, and may be obtained for craftwork groups in large 100 yard spools at a reduced cost. It is especially good for braiding projects such as lanyards or watch fobs.

GENERAL DIRECTIONS — 4 STRAND ROUND BRAID

These directions apply to all types of braiding thong, whether manufactured or cut by hand.

In braiding it is essential that all strands are pulled tight, and rows of stitches adjusted. This procedure will make the braid uniform and neat. In using the flat thong, it is important that stitches are not twisted. The lacing must lie flat and follow the circular contours of the braid.

In braiding, long strands may get tangled occasionally. You can straighten them by holding the two left strands and pulling on the two at the right.

If you must lay the braid aside before it is finished, use an ordinary paper clip on the loose strands or tie them with a simple overhand knot, to keep strands in place.

Note the position of hands and fingers in each step of the operation. Be certain that the strands are held tight, and close to the last stitch at all times.

In working with Craftstrip, it is advisable to know how much material is needed to complete an article of a certain size. The table below specifies the amount of material required for various sized braids.

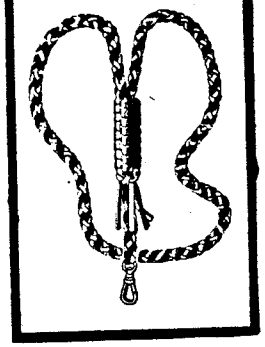
ROUND BRAID

2 strands of Craftstrip, each 3 *ft.* in length will make 1 *ft.* of round braid
2 strands of Craftstrip, each 6 *ft.* in length will make 2 *ft.* of round braid
2 strands of Craftstrip, each 9 *ft.* in length will make 3 *ft.* of round braid

SQUARE AND SPECIAL BRAIDS

2 strands of Craftstrip, each 3 *ft.* in length will make 4 *in.* of square or spiral braid
2 strands of Craftstrip, each 6 *ft.* in length will make 8 *in.* of square or spiral braid
2 strands of Craftstrip, each 9 *ft.* in length will make 12 *in.* of square or spiral braid

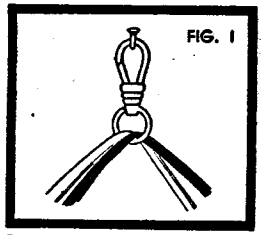
FIG. 22

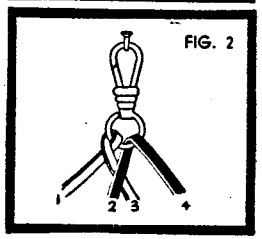


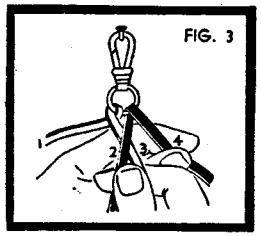
Here's What We're Going to Make

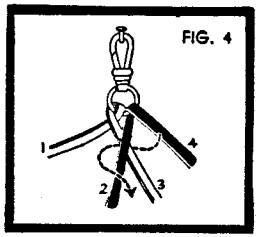
MAKING A LANYARD

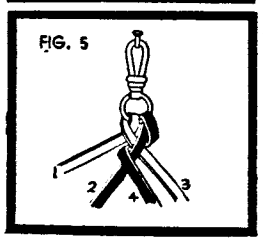
In making a lanyard, you will require 2 strands of Craftstrip, 3½ yards of each color, and 1 swivel snap. This project brings into use the *round braid, square braid* and the *terminal Turk's-head.* You start the project by using the *round braid.*











1. Draw the two strands evenly through the eye of the swivel snap and hang on a nail (Fig. 1).

2. Arrange the strands as shown in Fig. 2, and count from left to right numbering them from 1 to 4.

3. Hold the center strands, 2 and 3, with the forefinger and thumb of the right hand. Take strand 4 with the left hand (Fig. 3) and bring around to the front between strands 1 and 2 (Fig. 4). Fold over strand 2 so that it lies parallel to strand 3 (Fig. 5). Draw all strands tight.

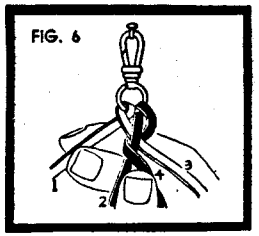
4. Hold the center strands, 2 and 4 with the forefinger and thumb of the left hand. Take strand 1 with the right hand (Fig. 6) and bring around the back to the right and forward to the front between strands 3 and 4 (Fig. 7). Fold over strand 4 so that it lies parallel to strand 2 (Fig. 8). Draw all strands tight.

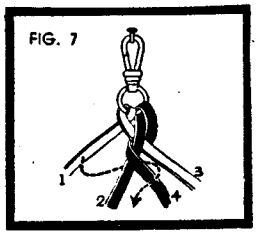
5. Continue braiding, repeating step 3 and 4 alternately (Figs. 3 to 8).

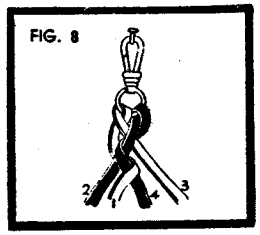
6. If you make a mistake or become confused, take out one or two stitches so that the strands are back in a 1, 2, 3, 4 position as shown in Fig. 2. Then follow the directions from Step 3. The working strand, i.e., the one that is woven into the others, is always the uppermost outside strand on the right or left.

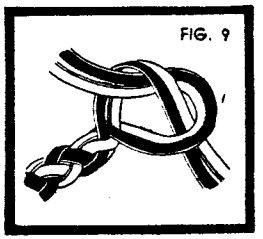
7. Continue the round braid until the strands are 12 inches long. End with an overhand knot. Hold the lanyard in the left hand and tie the two left strands over the two right strands (Fig. 9). Be sure the strands are flat and neat before tightening the knot (Fig. 10).

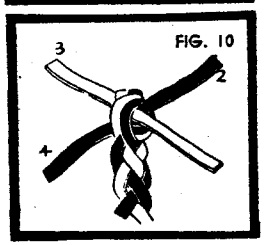
8. At this point you switch to the *square braid.* Hold the lanyard in the left hand, upside down so that the strands fall apart and renumber them from 1 to 4 (Fig. 10).











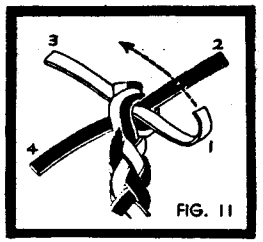


FIG. 11

9. Fold strand 1 over strand 2, leaving a small loop (Fig. 11). Hold in position with the forefinger of the left hand. Hold each succeeding strand in position in the same way after each step.

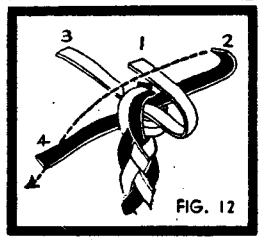


FIG. 12

10. Fold strand 2 over strand 1 (Fig. 12).

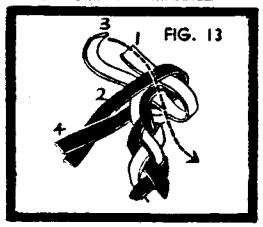


FIG. 13

11. Fold strand 3 over strand 2 (Fig. 13).

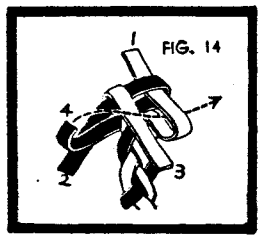


FIG. 14

12. Fold strand 4 over strand 3 and through the loop formed at the beginning (Fig. 14). Leave the stitch slightly loose (Fig. 15).

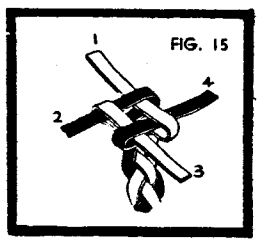


FIG. 15

13. *Form the loop of the lanyard* by folding the braid back and tucking it through the center of the square braid just formed (Fig. 16). Tighten the braid slightly.

14. Slide the square braid along the lanyard every few stitches to be certain that it is not too tight. Keep it uniform and neat.

15. Continue the square braid, using the lanyard as a core, until the strands are 4 inches long. Renumber the strands after each stitch and then follow steps 9 to 12 (Figs. 11 to 15).

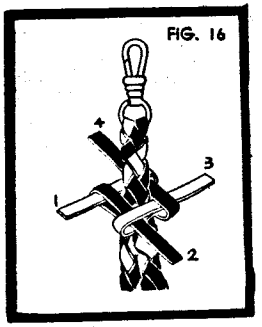


FIG. 16

16. At this point you switch to the *terminal Turk's-head.* In order to form a terminal Turk's-head, leave the last stitch of the square braid slightly loose. Renumber the strands from 1 to 4 as shown in Fig. 16.

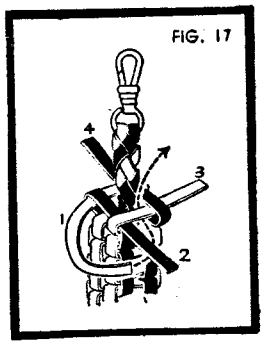


FIG. 17

17. Hold the braid in the left hand. Bring strand 1 under strand 2 and up through the center (Fig. 17). Leave this strand slightly loose. All of the strands of the terminal Turk's-head are to be tightened when the ending is complete.

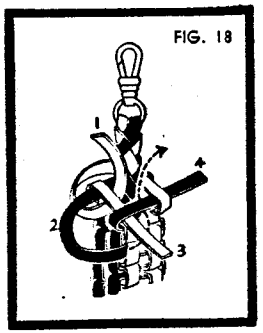
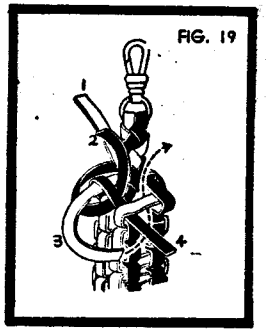


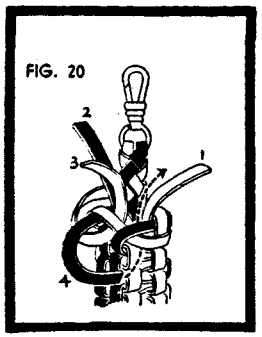
FIG. 18

18. Bring strand 2 under strand 3 and up through the center (Fig. 18).

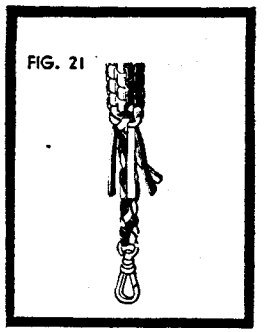


19. Bring strand 3 under strand 4 and up through the center (Fig. 19).

20. Bring strand 4 under strand 1 and 2 up through the center (Fig. 20).



21. Tighten the strands one at a time, starting with strand 1. A fid or some other blunt pointed tool is a useful aid in tightening the strands. *Tighten sufficiently to form a neat terminal Turk's-head but loose enough to slide over the lanyard easily.* Be certain that none of the strands are twisted. Then clip off the ends of the strands leaving a tassel of about 1 inch (Fig. 21). This completes the lanyard. This item adds a picturesque touch to the Scout Uniform. It may be used for a whistle, key chain, watch chain, knife, etc. There are many styles and variations of lanyards.



22. You will find Fig. 22, the finished product, shown on page 31.

VARIATIONS IN DESIGN

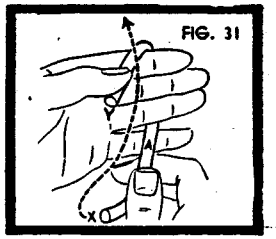
The arrangement of colors at the beginning of a 4-strand round braid will determine whether you will get a spiral design or a diamond design. Two light strands together, and two dark ones together will give you a diamond design. Two sets of light and dark strands alternating will produce a spiral design. Experiment with these and see which you prefer. The lanyard on pages 31 to 35 shows the spiral.

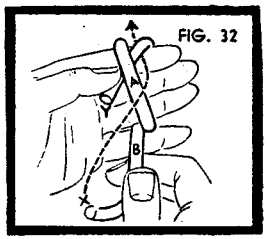
It is easy at any time to change the square braid to a spiral square braid by simply passing the strands diagonally across each stitch instead of squarely across.

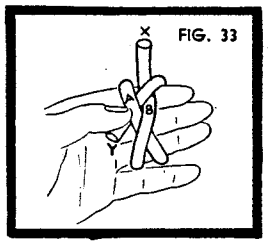
This Is How It Will Look

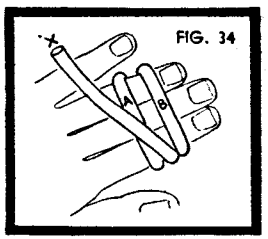
THE TURK'S-HEAD NECKERCHIEF SLIDE

You will start out by making a 4-strand round braid, and then weave it into the Turk's-head—a very attractive and useful project. You will need 2 strands of Craftstrip, 3½ yards of each color. This will use the round braid and the Turk's-head.









1. Draw the two strands of Craftstrip evenly through a paper clip. This is easily removed when the braid is finished.

2. Do a round braid following steps 1 to 5 and Figs. 1 to 8, under directions for a lanyard. Braid the full length of the strands until there are 5 inches left.

3. End off the braid by tying an overhand knot (Figs. 9 and 10). Do *one stitch of the square braid*, steps 8 to 12; Figs. 10 to 15.

4. Finish off the braid with a terminal Turk's-head, steps 16 to 21; Figs. 16 to 21.

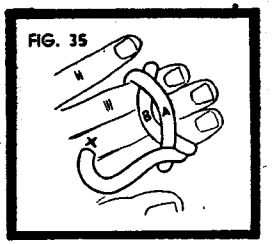
5. Place the braid around three fingers of the left hand, palm up (Fig. 31). The working end of the braid, i.e., the end with the terminal Turk's-head will be known as "X" and the stationary end as "Y".

6. Bring end X over the stationary end Y (Fig. 31) and around the back of the hand (Fig. 32).

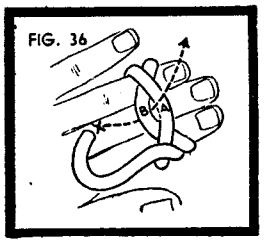
7. Thread end X over A and under Y thus forming B (Figs. 32-33).

8. Turn the hand over, palm down (Fig. 34).

9. Loop A over B and B under A (Fig. 35). Hold in position by placing the forefinger of left hand between A and B.

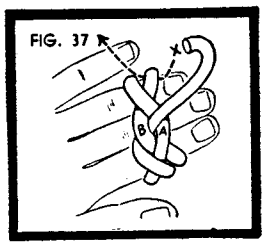


10. Thread end X under B through the crisscross loop thus formed by A and B (Fig. 36).

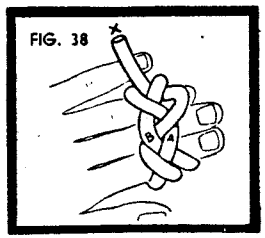


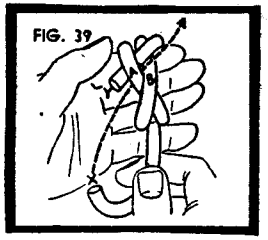
11. Thread end X under B (Fig. 36) over A and under B again (Figs. 37-38).

12. Turn the hand over, palm up (Fig. 39). Bring end X alongside of and parallel to end Y by threading the strand under A and over B (Figs. 39-40). Follow the direction of the dotted arrow.

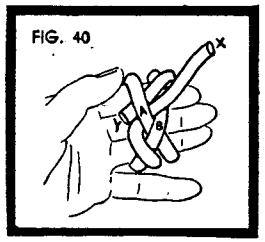


13. The Turk's-head type of Slide is formed by following this strand Y around three times, i.e., until there are three braided strands parallel to each other all around the slide (Figs. 40, 41, 42).

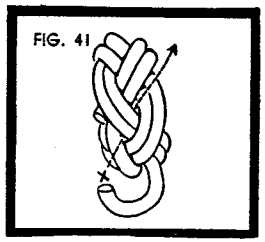




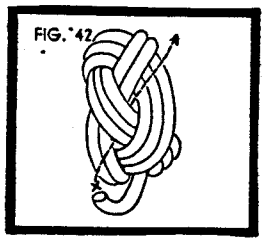
14. The second time around is indicated in Fig. 41 as well as the beginning of the third time around. Fig. 42 indicates end X on the completion of its third time around.



15. In doing this it may be necessary to take in the slack from time to time in order that there will be a sufficient amount of material to complete the slide.



16. A fid or any blunt pointed tool is a useful aid in this step. It is important to adjust the slide so that it will be neat as well as the right size. Then, too, it will be necessary to *remove the slide from the fingers* when you thread end X around for the second and third time (Figs. 41-42).

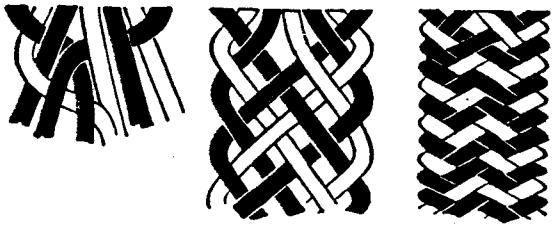


17. The slide ends at the same point at which it was begun (Y). This completes the neckerchief slide (Fig. 43, page 37).

FLAT BRAIDS

Flat braids may be made with any number of strands desired from three up. Three, four or five strands are especially easy to handle. When more strands are added it may be said as a general rule that an odd number of strands is easier to work than an even number.

Before starting the braid the strands should be knotted together at one end and fastened firmly to a nail or a weight.



These Braids are Used for Belts and Watch Fobs

UNIVERSAL METHOD

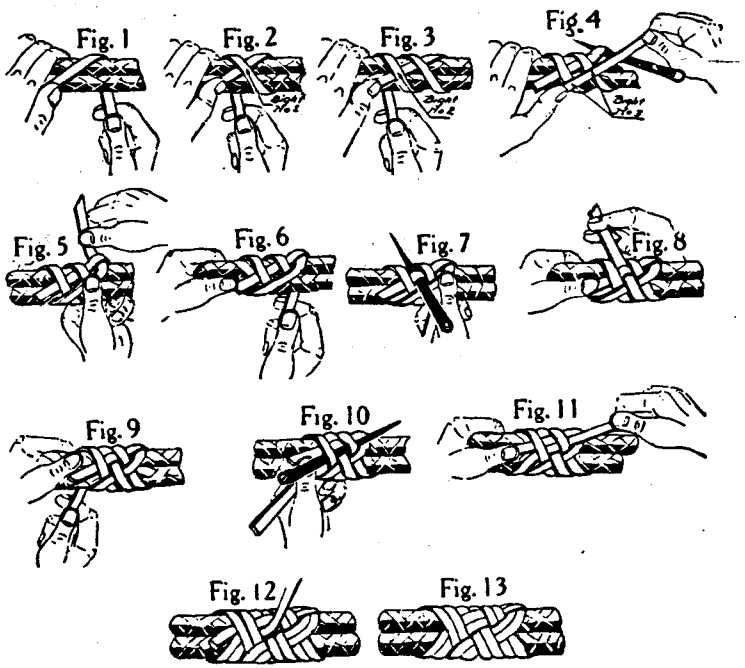
Any number of strands from three up may be braided by this method:

1. Arrange strands alongside each other.
2. Take right outside strand and braid over one, under next, over following, under next of the other strands from right to left, all the way across.
3. Take what is now the right outside strand and braid the whole way across from right to left: over, under, over, under, including the first strand which you braided.

Continue as above until the required length has been reached.

THE SLIDING KNOT

The Sliding Knot's purpose is to unite round plaits and hold them in position, and permit making adjustments for length. Figs. 1 to 13 show a sliding knot as tied to unite two strands of four plait round.



The strands to be joined are placed side by side and the knot formed with a single thong as indicated in the sketches, Figs. 1 to 13. (The term bight hereafter used, is of nautical derivation and refers to a loop of one or more thongs held in position by friction of the surfaces.)

1. With the two strands and the end of the thong held in the left hand, Fig. 1, carry the free end of the thong over and around the strands to form bight No. 1, Fig. 2. Repeat this step to form bight No. 2 and 3 as indicated.

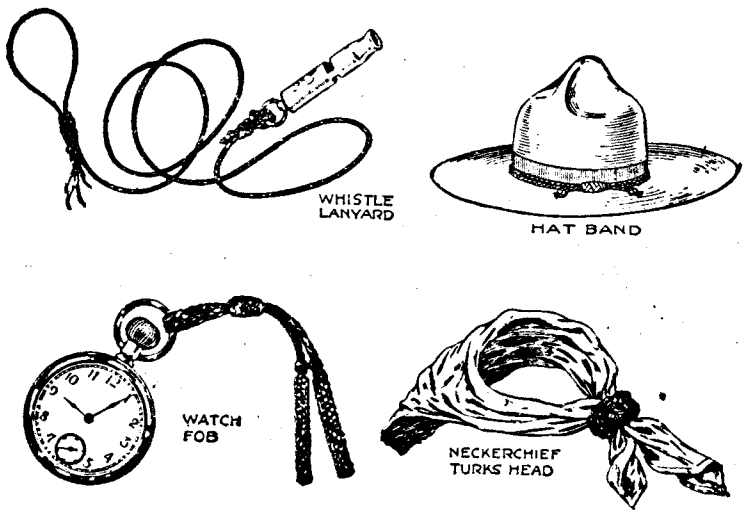
2. In Fig. 4 a marlinspike is inserted to permit the free end of the thong to be passed underneath the bound thong as indicated in Fig. 5, and around the strands, Fig. 6.

3. Insert the marlinspike under the bound thong between bights 1 and 2 and carry the free end through and around as shown in Figs. 8 and 9. Figs. 10 and 11 show the next step.

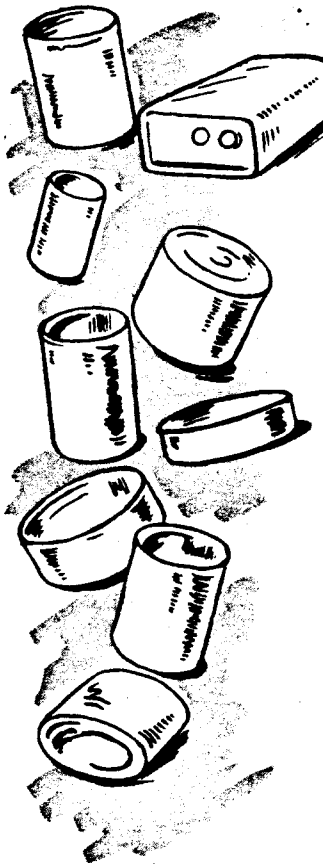
4. The knot is completed by paralleling the single thong structure, following through the steps of the preceding operation, and ending as in Fig. 12, with the slack removed to make the knot tight and the end concealed as in Fig. 13.

HAT BANDS

Use two 7-foot strands. Make a strand of four plait round 28″ to 30″ long. Finish both ends with the terminal Turk's-head. Roll with foot or under a board. Form loop and tie a sliding knot. For a double strand, use two 11½ foot strands. Make a strand of four plait round 48″ to 52″ long. Finish as specified for the single strand hatband. Form a double loop and tie sliding knot.



and CANS, *of course...*



The projects in this book use a wide variety of the dozens of available sizes and shapes in tin cans.

Choose clean, undamaged cans only. File or grind jagged edges immediately.

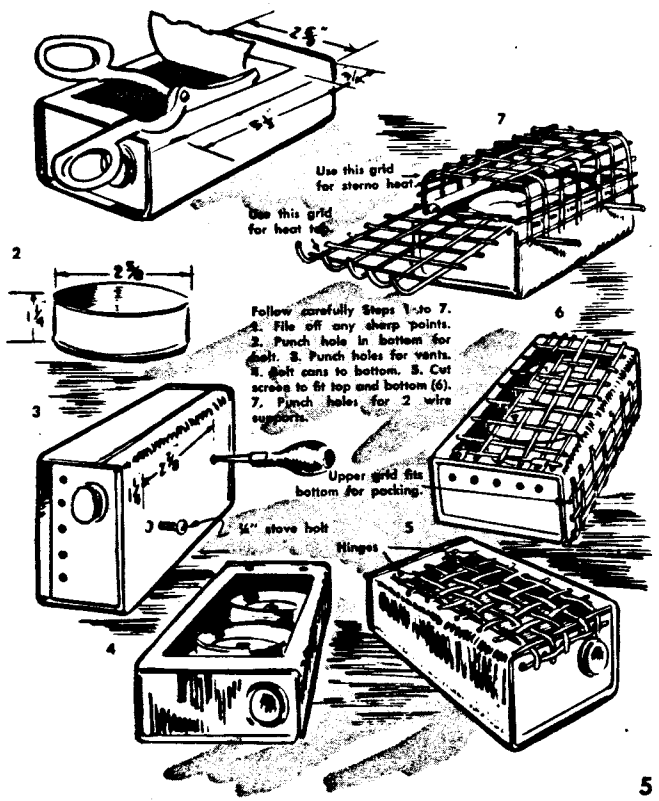
Before you begin any project, wash off dirt, labels and glue, with warm water.

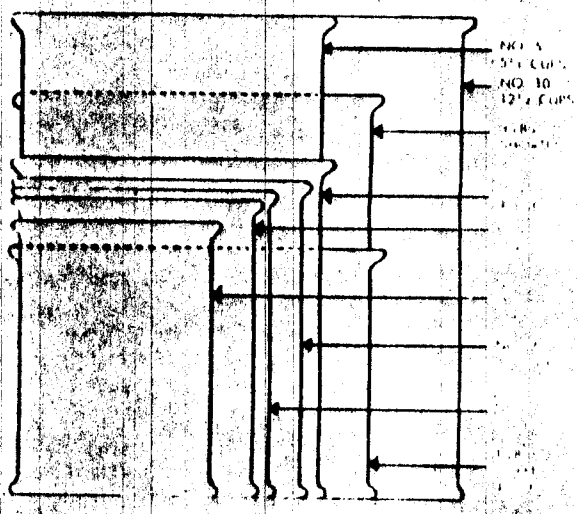
Two coats of enamel should cover any labels which are imprinted right on the can.

Don't throw away lids — they are "craftable", too. This fascinating craft provides many possibilities.

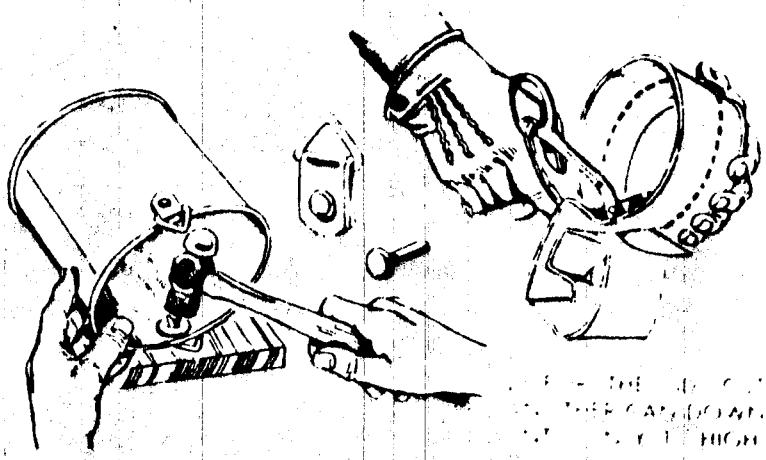
CAMP STOVE

All you need is a 1-qt. flat tin can, tin snips, 1 small round tin can, small punch, a few small bolts and some galvanized screening. Use canned heat or tabs.

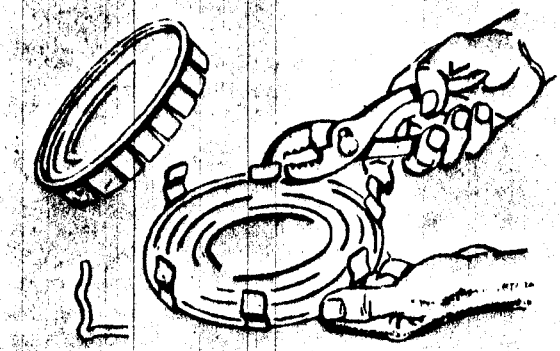




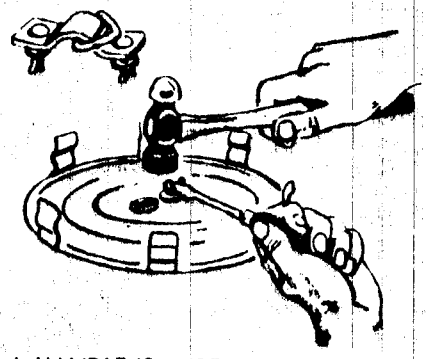
YOU CAN MAKE A SET OF NESTING POTS FROM TIN CANS. USE THEM FOR COOKING FOR 2 TO 6 PEOPLE.



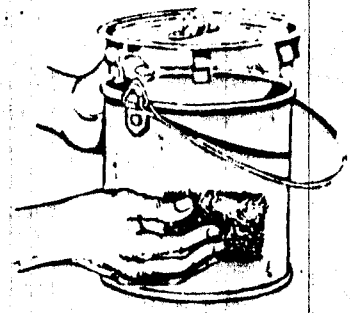
1. TO MAKE POT, FASTEN TWO [illegible] TRIANGLES AT TOP EDGE WITH [illegible] STRIPS AND SPLIT COPPER RIVETS.



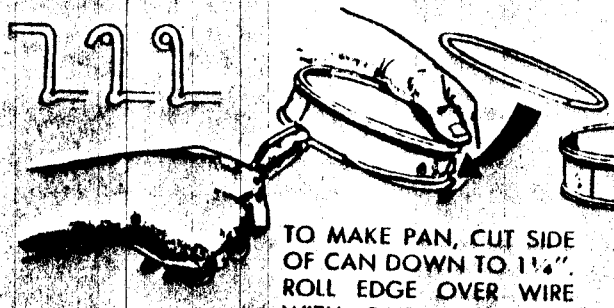
3. WITH TIN SNIPS, MAKE CUTS ¾" APART. CUT OFF ALL TONGUES BUT SIX. BEND THESE TO FIT INSIDE THE POT.



4. HANDLE IS WIRE RING FASTENED BY TIN STRIP AND TWO RIVETS.



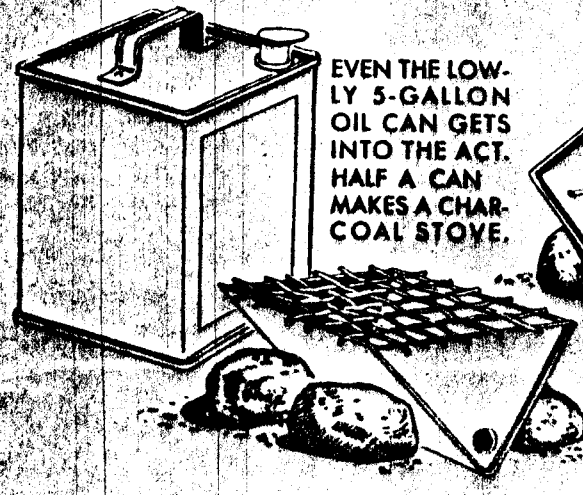
5. PROVIDE POT WITH WIRE BAIL. USE STEEL WOOL FOR POLISHING.



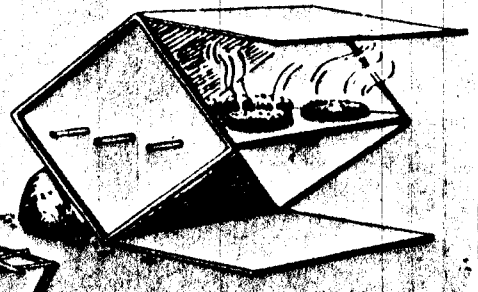
TO MAKE PAN, CUT SIDE OF CAN DOWN TO 1¼". ROLL EDGE OVER WIRE WITH PAIR OF PLIERS.

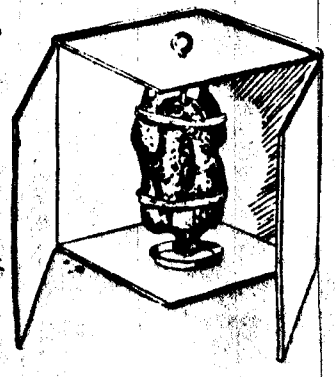
MAKE DETACHABLE HANDLE FOR PAN FROM STRIP OF IRON.

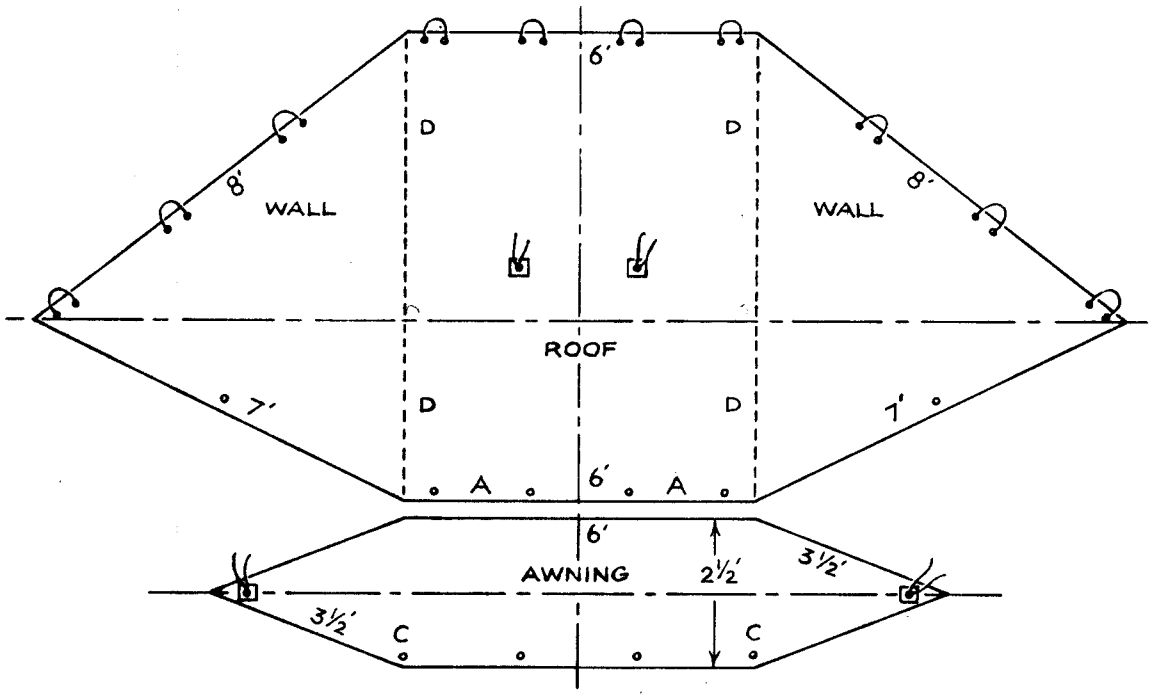
BY OPENING UP TWO SIDES, THE 5-GALLON CAN BECOMES A REFLECTOR OVEN. PLACE COOKING SHEET ON WIRES. WHEN YOU PUT IT ON END, THE CAN BECOMES ROTISSERIE OVEN FOR ROASTING A CHCKEN.



EVEN THE LOWLY 5-GALLON OIL CAN GETS INTO THE ACT. HALF A CAN MAKES A CHARCOAL STOVE.







A A—Tape ridge with outside loops for ridge pole, and two loops on under side for clothing pole.

B B—Loops or cords sewed to outside of roof in which to insert poles when necessary to take the leak-prone belly from roof in snow or heavy rain.

C C—Large grommets, one-inch diameter, in which to insert sharpened poles which keep awning extended to the front when desired.

D D—Loops sewed inside at junction of roof and walls from which to hang mosquito bar when needed.

Again, you should pitch this tent with its back to the prevailing wind. Then a brisk fire in front, with a wall of rocks or green logs behind as a reflector in the coldest weather, will afford light and perfect comfort.

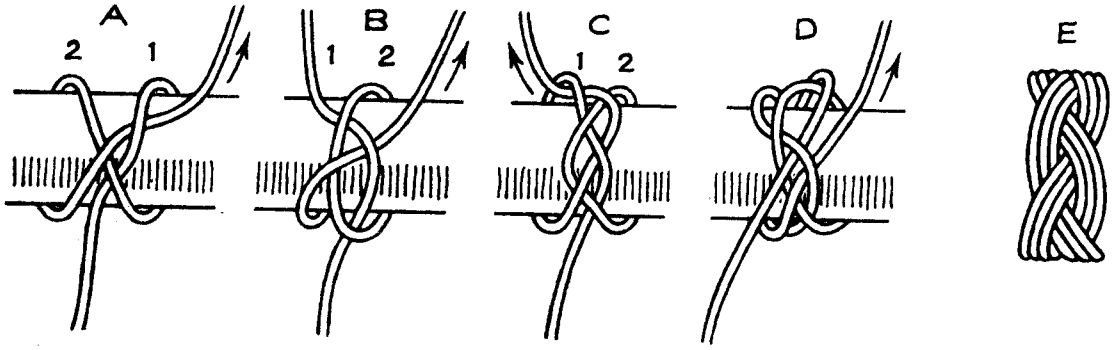
FORESTER TENT

If you need to cut weight or cost, the Forester Tent is a good solution. It is one of the best tents ever devised for a chronic woods-loafer, particularly for one who yearns to live close to nature and who objects to spending any of his outdoor hours confined in a closed canvas cell.

TIE RING

When I was first learning knots in the old seacoast town of Beverly, Massachusetts, under the tutorage of the old sailor who was our scoutmaster, Johnny Lee culminated his teachings with the Turk's head—which, if tied with a stiff cord or thong, will keep its hollowness for use as a kerchief ring or as a napkin holder for camp or lodge.

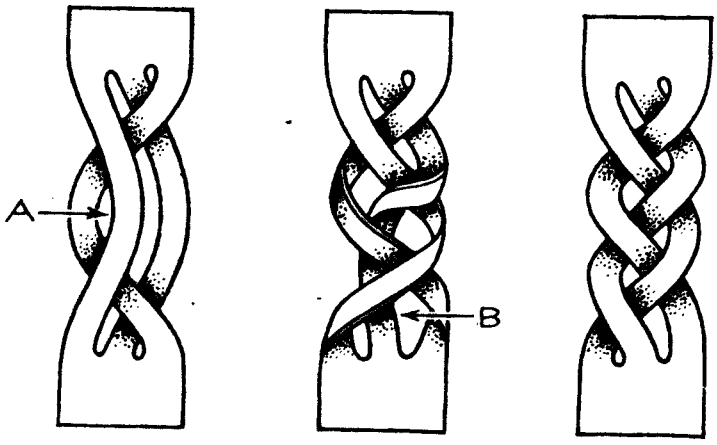
Although for final use you'll likely want to tie the Turk's head around a pole or similar object of the desired diameter, your first efforts may well be over two fingers of your left hand. For the basic knot, of which there are a number of variations, begin as if making a clove hitch. Instead of pushing the working end under the crossing, however, go over this and under the first turn. Press the first turn under the second. Then pass the working end over the second and under the first turn, as illustrated.



This is the nucleus of the notable Turk's head. When you are tying this in a small ring, bring the working end in beside the starting end and follow alongside the previous pattern for the traditional three times. If your material is thin, in relation to the object it is to encircle, the encirclements may be repeated to increase the size of the knot. But you should always end with a complete set of turns, bringing the working end to the left at the finish. The drawings show how easy all this actually is.

BELT

By salvaging or purchasing a buckle, you can use a strip of leather to provide yourself with a rugged and mystifying belt or, in a shorter length, with an attention-getting fob for your outdoor pocketwatch or pedometer. What you'll finish up with, that is, is a flat, triple plait made in three endless strands.



GREEN BAR Says:

"SHOW THAT FLAG!"

Take a good look at a successful patrol on a hike. You'll see its flag always carried, always honored, properly cared for.

If yours is an old patrol, its flag probably has lots of tradition. If you haven't a flag, don't let another patrol meeting pass without getting one started.

Decide shape and design by a patrol art contest. Divide into buddy teams, each coming up with a rough sketch. Display the sketches and vote for the best. Choose a strong, tough material for the flag. Have the patrol's best carver decorate its staff.

Your flag should grow with your patrol. Put a star on it each time your patrol meets a Baden-Powell Patrol requirement. Add a ribbon for each major contest the patrol wins. When a Scout reaches First Class, have him carve his initials on the staff.

How good is your flag? If one of your Scouts is going to the National Jamboree in July, he may persuade his jamboree patrol to adopt your name, bring your flag along, and enter it in the National Patrol Flag Contest described in this issue.

I expect to see thousands of patrol flags at that National Jamboree. Yes, I'll be there. Got to: I'm the chief judge. So they'd better be good. ♣

HAVE AN ART CONTEST IN THE PATROL TO DECIDE THE SHAPE AND DESIGN OF YOUR FLAG. THEN GIVE THE JOB OF MAKING IT TO YOUR PATROL ARTIST.

HAVE THE BEST WOOD CARVER IN THE PATROL CARVE THE PATROL ANIMAL FOR THE TOP OF THE STAFF AND DECORATE THE REST OF IT.

A SLING ON THE STAFF MAKES IT EASY TO CARRY THE FLAG ON YOUR SHOULDER.

THE MOMENT YOU ARRIVE AT YOUR PATROL CAMP SITE, POST YOUR FLAG. FOR QUICK REMOVING AND REPLACING, DRIVE A SHORT STAKE INTO THE GROUND AND TIE THE STAFF TO IT.

TAKE A NEW BOY INTO THE PATROL AT AN IMPRESSIVE CEREMONY. HAVE HIM HOLD ONTO THE STAFF OF THE PATROL FLAG AS HE MAKES THE SCOUT SIGN AND GIVES THE SCOUT OATH.

WHEN YOU WIN A PATROL CONTEST, GRAB THE STAFF AND RAISE HIGH YOUR PATROL FLAG. THEN GIVE A ROUSING PATROL YELL.

GREEN BAR

Says:

"Go Jamboreeing!"

This moment, 30,000 Scouts and Scouters are preparing themselves for our Tenth National Jamboree at Ft. A. P. Hill in historic Virginia.

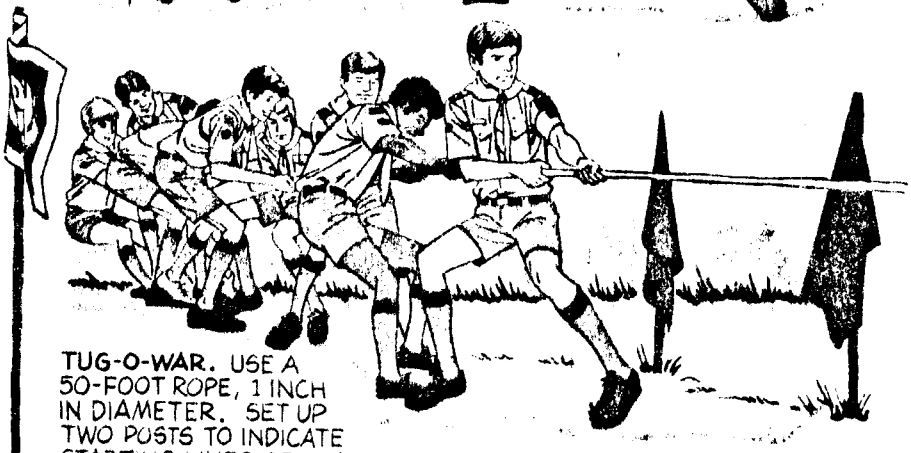
If you're one of the lucky ones going to the jamboree, you'll have a marvelous adventure. If you aren't, you can still have a jamboree experience.

Your whole troop may be in camp during the jamboree period—either at the council camp or in your own camp site. Use the opportunity to go in for jamboree-style camping.

Lay out your camp in jamboree fashion with individual patrol sites. Organize your patrol for efficient camping as it's done at the jamboree, with a job for each Scout each day. Cook meals the jamboree way: over charcoal. Challenge the other patrols in the troop in the four special jamboree competitions described on this page. Sing jamboree songs around your campfires.

You can't put on quite the same kind of show that will be at Ft. A. P. Hill. But you still can have a wonderful jamboree-like experience. Enjoy the fun of some of its activities. And build up in your patrol a Scouting spirit as high as that at the National Jamboree, and a feeling of fellowship that will carry over into the rest of the Scouting year. ♣

VOLLEYBALL TOURNAMENT. USE A REGULAR VOLLEYBALL OR A SOCCER BALL. FOLLOW USUAL VOLLEYBALL RULES WITH TEAMS OF 6, 7, OR 8 PLAYERS. IF YOU HAVE NO NET, STRETCH A ROPE 8 FEET ABOVE THE GROUND.



TUG-O-WAR. USE A 50-FOOT ROPE, 1 INCH IN DIAMETER. SET UP TWO POSTS TO INDICATE STARTING LINES OF TEAMS. YOUR PATROL WINS WHEN YOU PULL THE FIRST MAN OF THE OTHER TEAM ACROSS YOUR STARTING LINE.

FLAGPOLE RAISING. BUILD A PATROL FLAG POLE AT LEAST 10 FEET HIGH BY LASHING TOGETHER 5 STAVES, 150 cm LONG, WITH BINDER TWINE. IT MUST STAND BY ITSELF, WITHOUT GUY LINES. THERE'S A TRICK TO USING A TRIPOD. CAN YOU FIGURE IT OUT?

FIRE DOUSING. PUT UP A DOUSING TOWER AS SHOWN. LAY THE FIRE UP TO THE LOWER STRING. ON SIGNAL, LIGHT THE FIRE. YOU CAN FAN THE FIRE, BUT YOU CAN'T ADD MORE FUEL. FIRST PATROL TO BURN THROUGH THE UPPER STRING AND DROP THE WATER BAG WINS.

AS 042

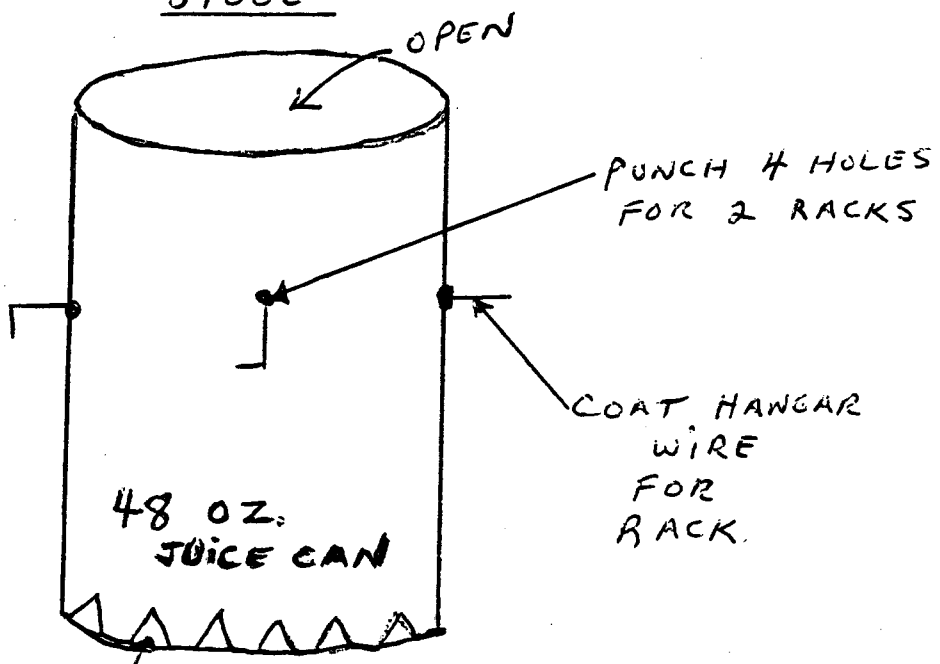
(BRIAN COPY) 5 Copies.

89

TIN-CAN STOVES

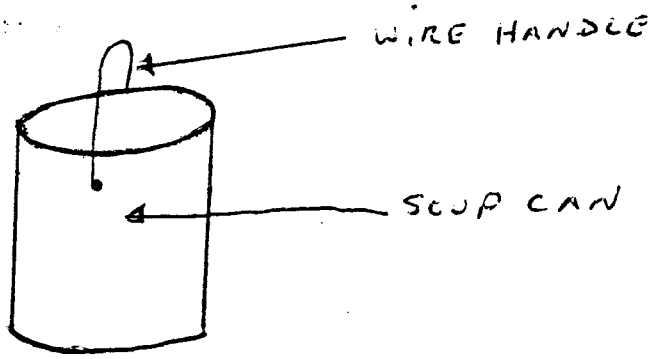
(NOV. 1981)

STOVE



FUEL

TEA BILLY



WARNING: PARRIFIN TO BE HEATED IN DOUBLE BOILER OR SIMILAR METHOD.

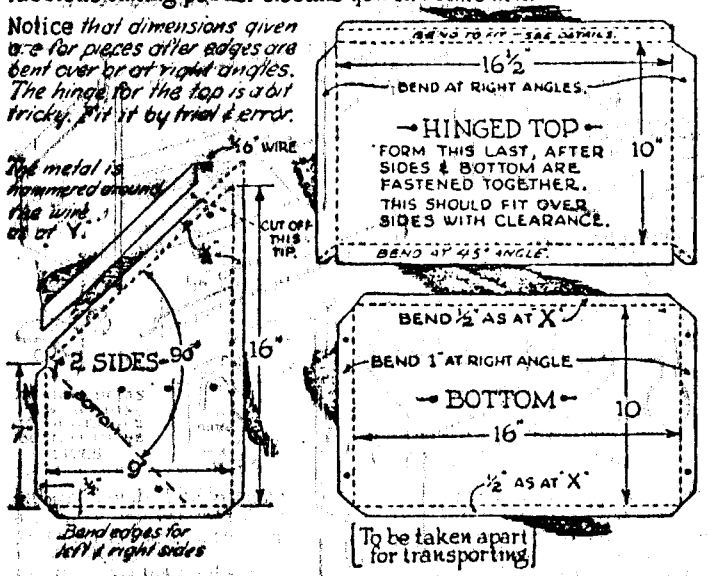
54

REFLECTOR OVEN

By BEN HUNT

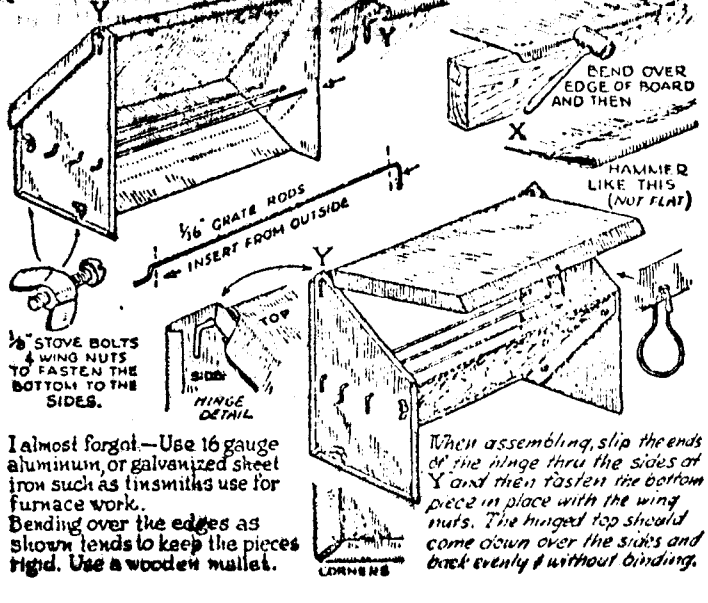
A lot of different reflector ovens have been made thru the years and here's still another one. In this one you can turn the pan around or examine it without burning yourself. It's not my idea exactly. Someone mentioned it some time ago and I took it up from there. This one is just right for a medium size aluminum cake pan and that will be big enough for two guys who like good things to eat. And what luscious baking powder biscuits you can bake in it.

Notice that dimensions given are for pieces after edges are bent over or at right angles. The hinge for the top is a bit tricky. Fit it by trial & error.



Bend edges for left & right sides

To be taken apart for transporting



I almost forgot—Use 16 gauge aluminum, or galvanized sheet iron such as tinsmiths use for furnace work.
Bending over the edges as shown tends to keep the pieces rigid. Use a wooden mallet.

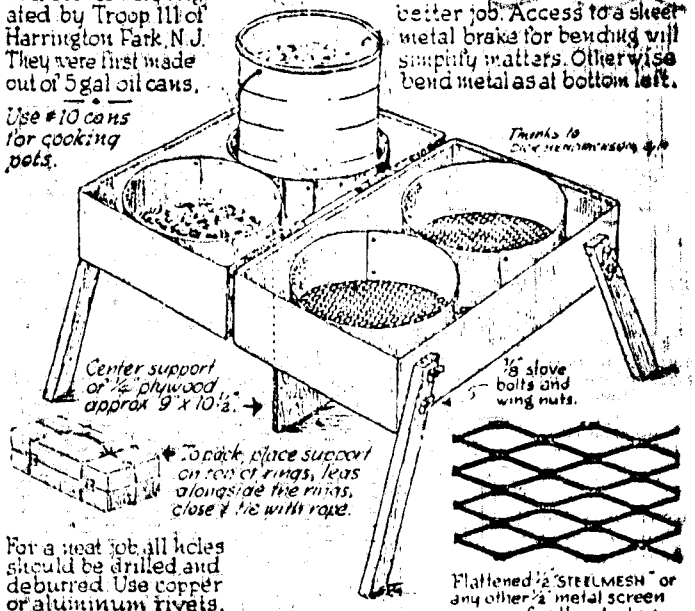
When assembling, slip the ends of the hinge thru the sides at X and then fasten the bottom piece in place with the wing nuts. The hinged top should come down over the sides and back evenly & without binding.

4-BURNER CHARCOAL STOVE

By BEN HUNT

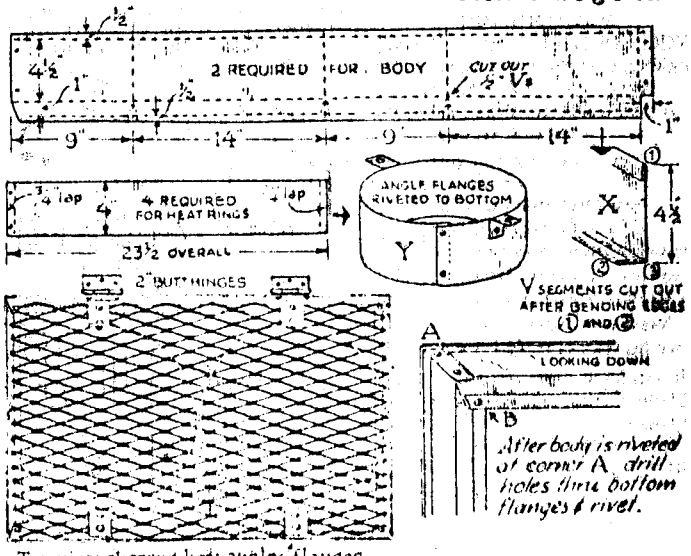
These serviceable charcoal stoves were originated by Troop 111 of Harrington Park, N.J. They were first made out of 5 gal oil cans, but galvanized or aluminum sheet metal proved to do a better job. Access to a sheet metal brake for bending will simplify matters. Otherwise bend metal as at bottom left.

Use #10 cans for cooking pots.



Flattened ½" STEELMESH" or any other ½" metal screen is used for the grates.

For a neat job all holes should be drilled and deburred. Use copper or aluminum rivets.

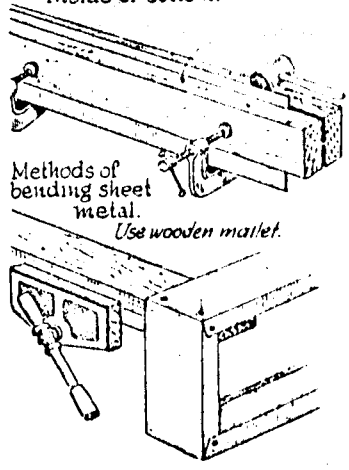


After body is riveted at corner A drill holes thru bottom flanges & rivet.

Top view showing how angle flanges are riveted over the steel mesh inside of bottom.

PROCEDURE FOR CONSTRUCTING BODY

① Bend and fold over both ½" edges.
② Cut out ½" Vs.
③ Bend bottom to 90° angle as shown at X above.
④ Bend corner and rivet as at A
⑤ Drill and rivet bottom corners as at B.
⑥ Drill and rivet hinges in place.
⑦ Place steel mesh in bottom.
⑧ Prepare heat rings - set in place over mesh and rivet.
⑨ Prepare legs as shown above.



Using a double layer of charcoal in heat rings, water will come to a boil in half the time required on an open fire and will keep boiling three times longer, without adding fuel.

51

MAKE AND USE A

Making little paraffin stoves is a great project for the members of a patrol — fun to make, inexpensive, relatively easy and with a practical use. The finished product opens the door to other activities: a hike to test the stove; testing how long it will burn; testing the efficiency for boiling water or cooking. You could try different kinds of tins and compare one against another.

The materials used in making the stove shown in the step-by-step instructions consisted of a two-ounce tobacco tin, a piece of corrugated cardboard, just over a quarter pound of paraffin, and a soup can to melt the wax.

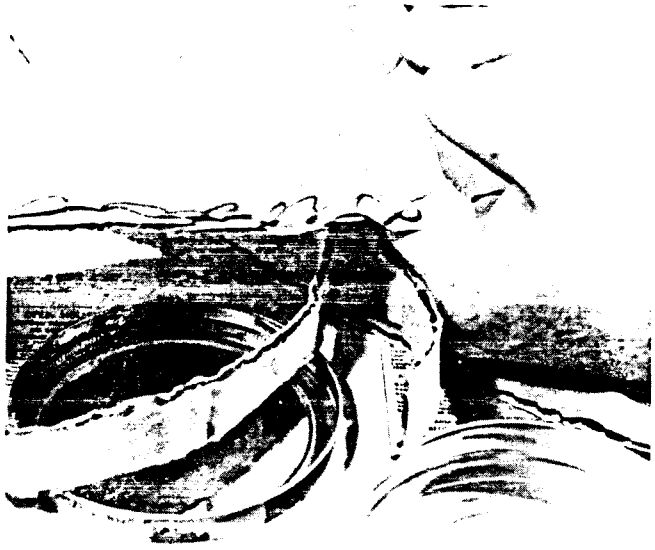
1. Tear the corrugated cardboard into strips just slightly narrower than the inside depth of the tin. Scissors may be used to trim the bottom edge of the strips but the top edge should be left jagged to help in lighting.

2. Now place the strips into the tin. Start at the outside edge and work toward the centre.

3. Don't pack too tightly as you want room for the melted wax.

4. It's next to impossible to clean the wax container when finished so an old pot or, as shown, a soup can

1



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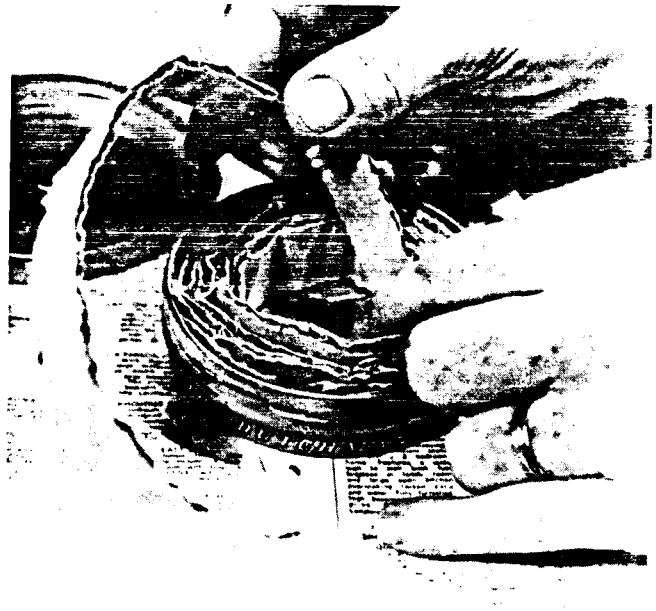


5

6

COMPACT STOVE

makes a good melting pot. The can holding the wax was placed inside the large pot which contained three or four inches of water. This double-boiler arrangement is important to ensure that the paraffin doesn't ignite while being melted.

5. Pour the melted max into the crevices within the cardboard strips. Be sure to protect your hand with something like an oven mitt. Don't fill too full. Leave a little cardboard showing. This is the wick.

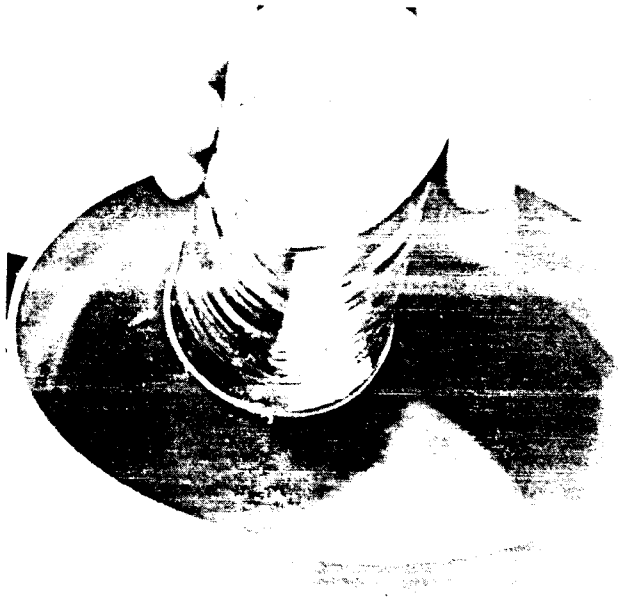
6. Charring the cardboard wick by lighting and then putting the fire out will make it easier to light on the trail. The charring can be done immediately after pouring the wax or after letting the wax cool.

7. To use: simply remove the lid and light. One stove provides a compact means of cooking a one-pot-meal or heating a cup of coffee. Several placed together provide the means for a patrol to cook their meals.

8. To put the fire out, simply place the lid on the tin. Let the stove cool after replacing the lid or, if you're in a hurry, cool by dousing with water. This "cooling" is important even with the lid on as the wax surrounding the wick will have melted.

3

4



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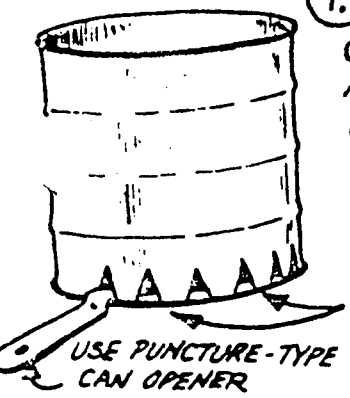
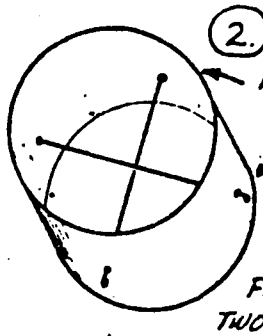
322



1. OBTAIN #10 SIZE CANS FROM A NEIGHBORHOOD RESTAURANT. CUT THE TOP OUT (LEAVE ONE END IN) AND WASH THE CAN.

PUNCTURE HOLES ALONG BOTTOM OF SIDES ABOUT 1½" APART AS SHOWN HERE.

USE PUNCTURE-TYPE CAN OPENER

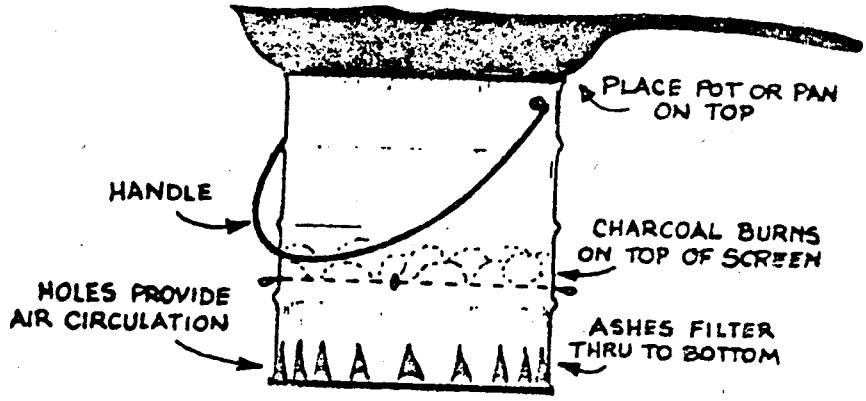


2. ABOUT 3" FROM THE BOTTOM (CLOSED END) OF THE CAN, PUNCH FOUR HOLES AS SHOWN.

USING HEAVY-DUTY WIRE FROM COAT HANGERS, CUT TWO STRAIGHT LENGTHS 2" LONGER THAN THE DIAMETER OF THE CAN. INSERT THEM THROUGH HOLES OPPOSITE EACH OTHER AND LOOP ENDS OF WIRES ON OUTSIDE OF CAN.

3. CUT A CIRCLE THE DIAMETER OF THE CAN FROM AN OLD PIECE OF WINDOW SCREEN. LAY SCREEN ON TOP OF CROSSED WIRES INSIDE CAN.

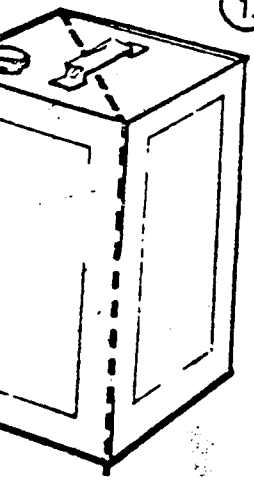
4. PUNCH TWO HOLES ON OPPOSITE SIDES OF CAN ABOUT 1" BELOW LIP OF CAN. MAKE A HANDLE OUT OF COAT HANGER WIRE AND LOOP IT THROUGH THESE HOLES.



"CAN-DO" #7

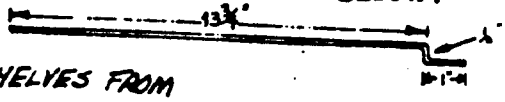
HOME-MADE CHARCOAL STOVES.

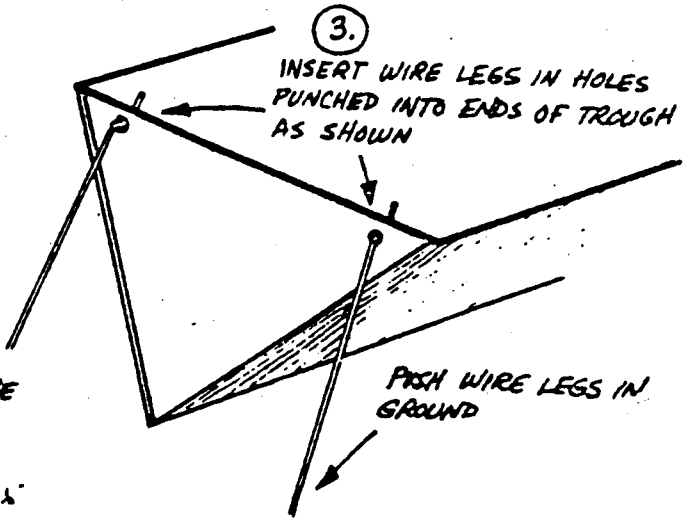
HERE ARE TWO IDEAS TO HELP YOUR SCOUTS PREPARE FOR YOUR UNIT'S NEXT COOK-OUT



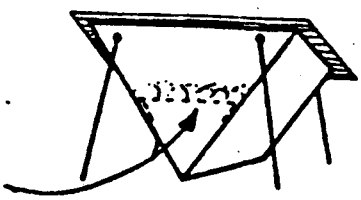
1. CUT A FIVE GALLON CAN INTO TWO HALVES (AS SHOWN IN THE DRAWING) TO FORM V-SHAPED TROUGHS. "CURL" SHARP EDGES BACK TO AVOID DANGER OF BEING CUT WHEN HANDLING.

2. MAKE EIGHT WIRE LEGS FROM COAT HANGERS. THEY SHOULD BE 16" LONG BEFORE BENT INTO THE SHAPE SHOWN BELOW.

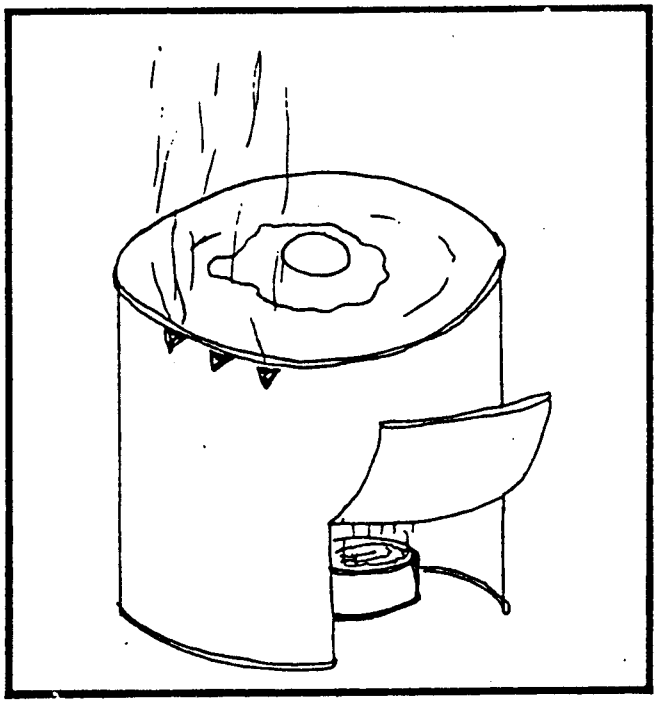




OU CAN OBTAIN WIRE SHELVES FROM D REFRIGERATORS OR OVENS WHICH KE EXCELLENT GRILLS FOR YOUR AP STOVES. SIMPLY PLACE THEM TROUGHS AFTER IGNITING THE RCOAL. SUGGESTION: MAKE A AL SHELF TO BE PLACED INSIDE THE UGH SO THAT CHARCOAL IS CLOSER THE GRILL.



CAUTION: REFRIGERATOR GRILL-TYPE SHELVES MAY BE COATED WITH A METAL FINISH WHICH, IF HEATED AND ALLOWED TO COME IN DIRECT CONTACT WITH FOOD, COULD RESULT IN SERIOUS ILLNESS. IT IS RECOMMENDED THAT THESE GRILLS BE HEATED TO RED-HOT AND THEN ALLOWED TO COOL BEFORE USE. IT IS ALWAYS GOOD PRACTICE TO COVER ANY CHARCOAL GRILL



THE BUDDY BURNER

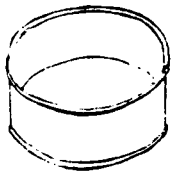
(Tin can stove/oven)

You can make these burner-stoves from material we usually throw away. You can cook on them, or just use them for heat. And you can store buddy-burners anywhere along the trapline, as weather won't harm them.

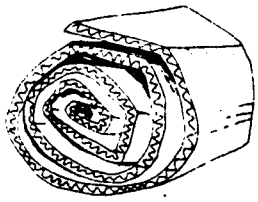
Ken Tolmie Ontario MNR passed this on from
" ROUGHING IT EASY" published by Brigham Young

HOW TO MAKE THE BUDDY BURNER

Materials:



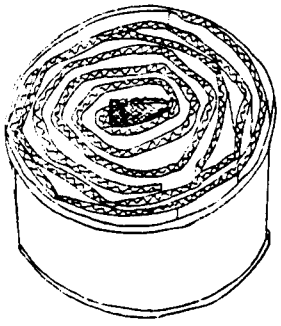
tuna *(or larger)* can



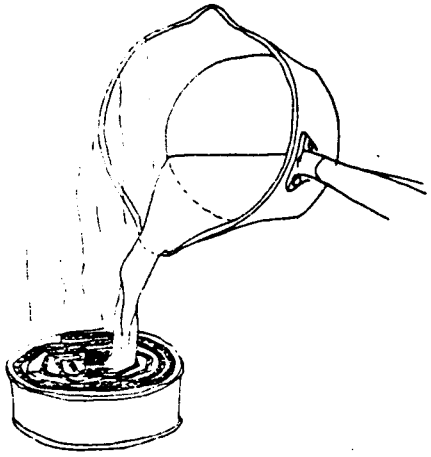
corrugated cardboard *(cut into strips the width of the height of the can)*

lamp wick

paraffin wax



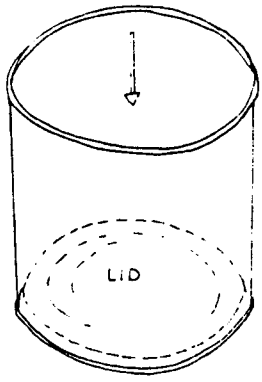
1. Roll lamp wick and cardboard into can.



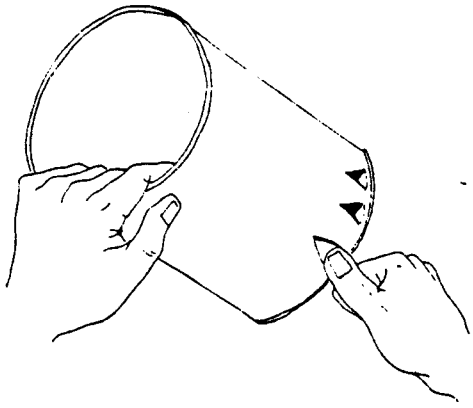
2. Melt paraffin wax in double boiler and fill can. *(Note: if wax gets too hot, it will burst into flames.)*

TO REFILL BURNER: Light the wick and place extra wax over the burner while it is burning. *(You can stick a match or two in the wax ready for the next time you need to use it.)*

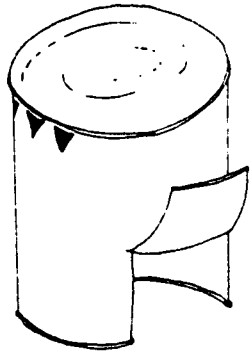
THE BUDDY BURNER STOVE



1. Cut out one end of a one gallon can and slide the cut-out lid into the can, settling it firmly against the closed end. This gives a double thickness of metal at the top of the stove, which will hold heat more efficiently.

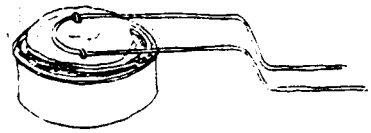


2. Punch four or five smoke holes around the side. The metal from the holes will also hold the extra lid in place.



3. Cut a door about three inches high and four inches wide on one side of the can at the open end, leaving the top of the door attached. Pull the door open.

DAMPER



You should make a damper to control the heat on the buddy-burner. You can make this from foil, or a can lid and coat hanger.

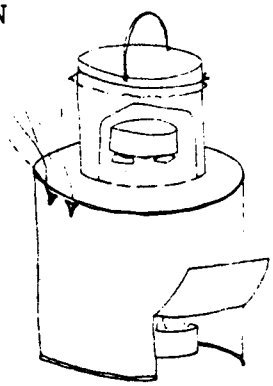
Can and coat hanger damper
Lid should be slightly smaller than the diameter of the can. It will snuff out the flames in the centre of the burner and permit the edges to burn.

Take a coat hanger, and cut to required length. Make 2 holes in the lid and wire hanger to it; bend the end of the handle to a 90 degree angle so that it forms a support to hold the can lid flat to the burner. Adjust as required.

FOIL DAMPER

1. Fold a length of foil 1½ times the diameter of the buddy-burner into three or four thicknesses of foil.
2. Fold one end back a little more than a diameter of the can.
3. Bend opposite end at a 90 degree angle toward the ground to the height of the burner adjusting damper over flame as required. The shape is the same as the can and coat hanger damper, above.

OVEN

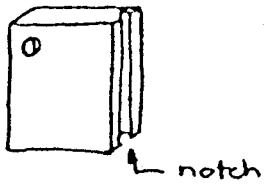


Cut both ends out of a shortening can and wire see-through wrap over one end so food is visible. *(A coffee can with plastic lid would be suitable.)* Make a handle by hooking the end of a wire on each side of the can.

Foods should be placed in a tuna *(or similar)* can. Put this on three small stones on top of the buddy stove, and cover with oven until cooked.

FLINT AND STEEL FIRE STARTER KIT

Flint and Striker



-hardwood block approx. 3x4x1 cm
-notch shaded area (table saw works great) about 1-2 cm deep
-glue 5 lighter flints end to end in groove using 5 min. epoxy
-drill hole to attach striker

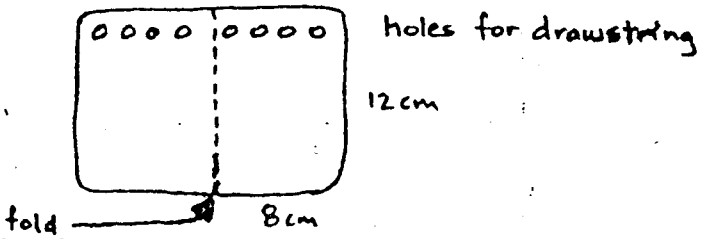
-for striker, use a piece of old hacksaw blade about 6 cm long
-grind so that teeth are all but gone
-attach to flint with leather thong

Tinder

-cotton balls are excellent for using to catch the spark
-pack an old 35mm film container full (this is waterproof)
-use one "ball" at a time when lighting a fire-be sure to fluff it up first

Pouch

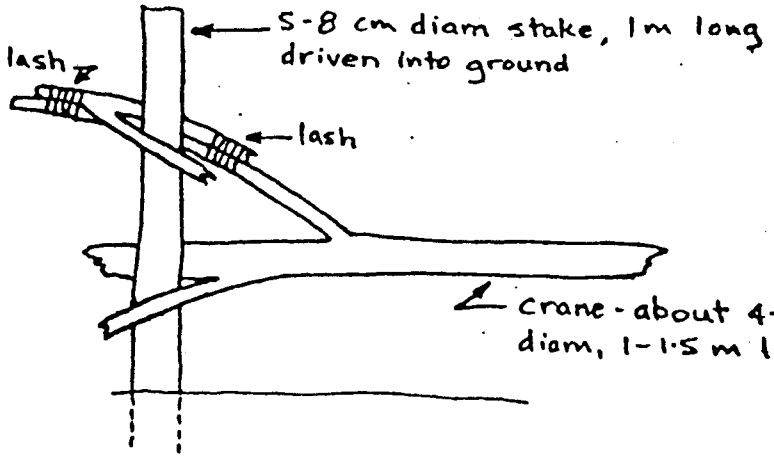
-carry the whole kit in a small leather or canvas pouch about 8x12 cm with a long draw string to put around neck



-fold in the middle and sew along bottom and side
-turn inside out and insert draw string (leather lace)

AN IDEA FOR YOUR COOKING FIRE (SWINGING CRANE)

Taken from Outdoor Canada, June 1979



Pot hooks - various lengths hang on crane

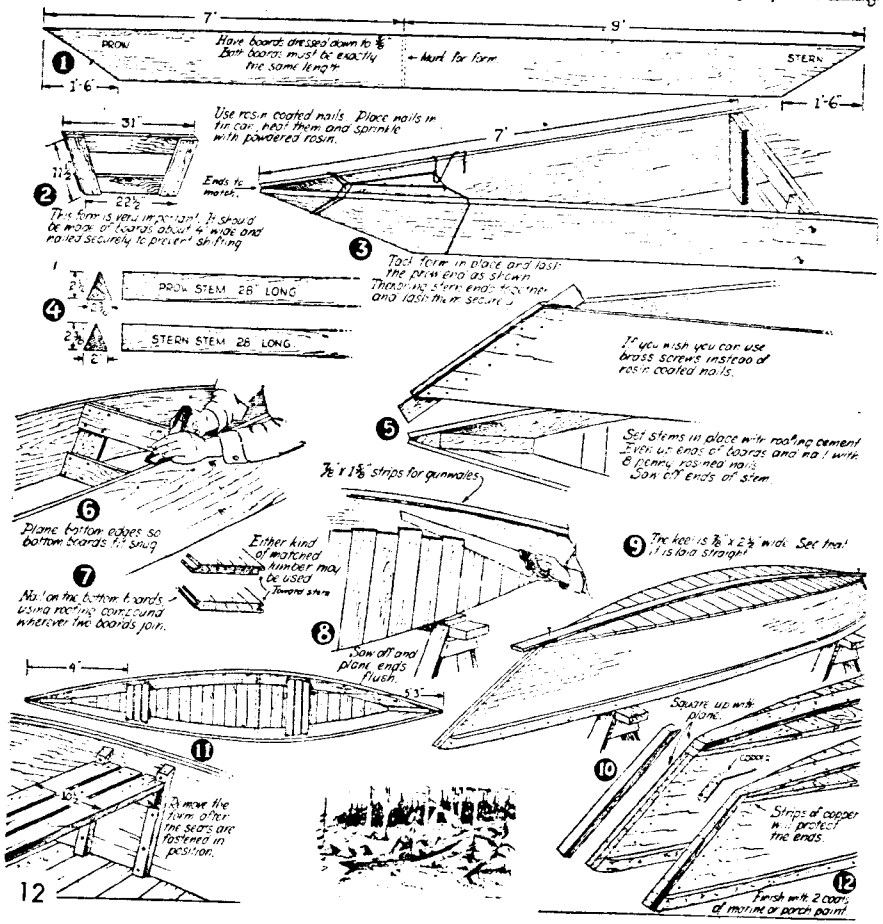
Doug Cunningham

A BATEAU

BY BEN HUNT

Bateaux of French Canadian origin were used in the old logging days to transport men, supplies and the wanigan or cook's outfit. They were usually made of 2 inch white pine and were sometimes as long as 30 ft. or more. They were built to stand a lot of abuse and were especially adapted for running white water in the spring. This small edition is an ideal boys boat for camping trips.

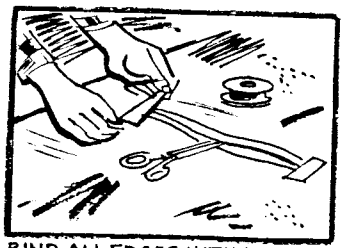
White pine, cedar or cypress are ideal woods for building boats. Buy 3 12 inch boards 16 ft. long and have two of them dressed down to ¾ in. thick. Rip the third board into two 1½ inch strips for the gunwales and one 2½ inch strip for the keel. The rest will be used for seats. Also buy about 60 ft. of 6 inch matched lumber for the bottom and a can of roofing compound for caulking.



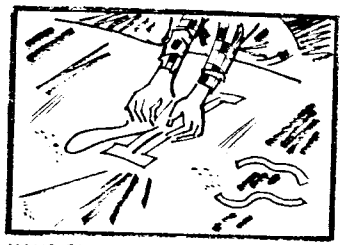
Poncho

USE GOOD LIGHTWEIGHT TOUGH RUBBER OR OILCLOTH OR PLASTIC SHOWER CURTAINS. TO STICK 2 PIECES OF PLASTIC TOGETHER SIMPLY RUN A HOT IRON OVER THEM. EXPERIMENT FIRST.

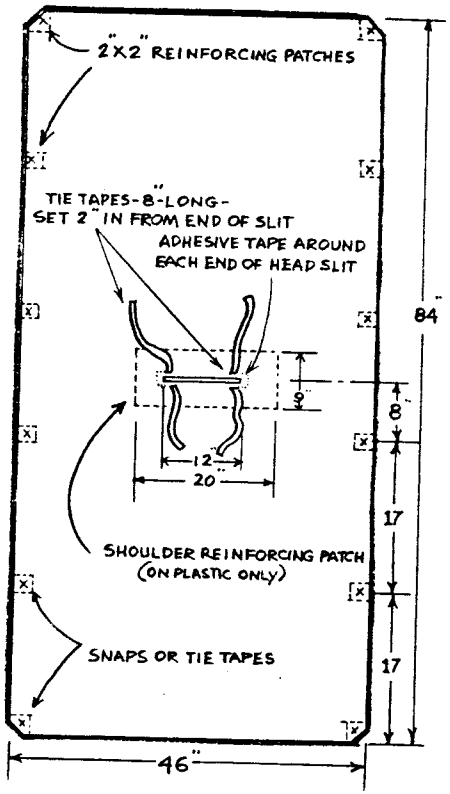
LAY YOUR MATERIAL OUT ON FLOOR LOCATE & CUT PONCHO TYPE HEAD SLIT



BIND ALL EDGES WITH ADHESIVE TAPE ON BOTH SIDES.



HAND SEW TAPES ON BOTH SIDES OF HEAD SLIT 2" FROM EACH OF THE ENDS.



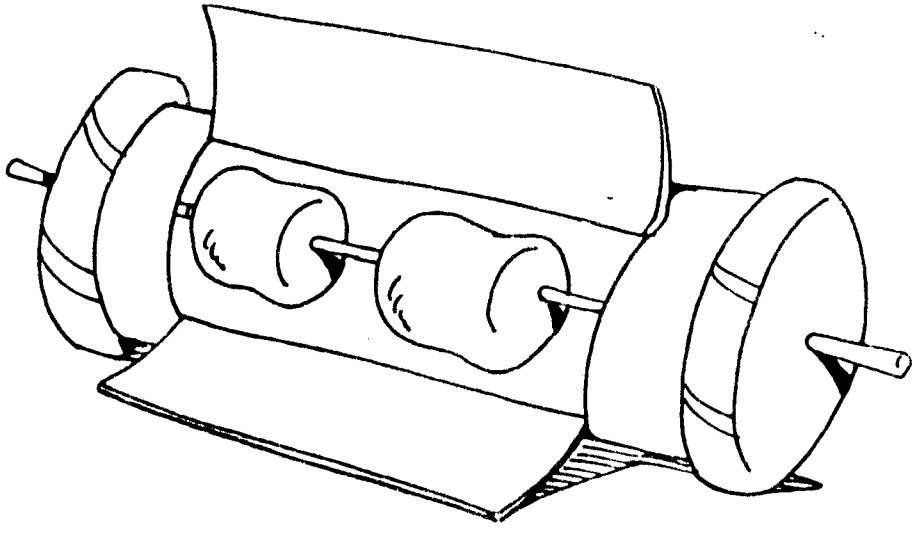
Solar Oven

Cook marshmallows or a hot dog on a sunny Fourth of July.

MATERIALS:
Potato chip can and lid
Wire coat hanger
Utility knife
Ice pick
Wire cutters

CONSTRUCTION:
1. Cut the can as illustrated with the utility knife.
2. Fold back the flaps to reveal the reflective inside of the can. Do not cut off the flaps.
3. Punch a hole with the ice pick in the center of the plastic lid. Put the lid on bottom of the can and use it as a pattern to poke the second hole. Replace the lid on the top of the can.
4. Cut a straight section of the hanger and put it through the two holes.

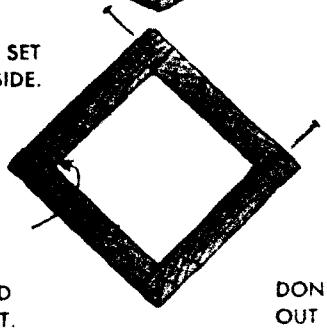
USE:
1. Remove the lid and section of wire together and put a marshmallow or hot dog on the wire.
2. Replace the hanger and lid on the cylinder and open flaps.
3. Direct the solar oven toward the sun and hold it in place with rocks. Use only on a clear, sunny day.



WOODEN BIRDHOUSES

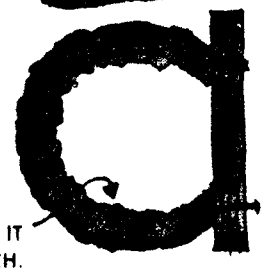
HOUSE MADE OF OLD, WEATHERED BOARDS

ALWAYS SET FLOOR INSIDE.



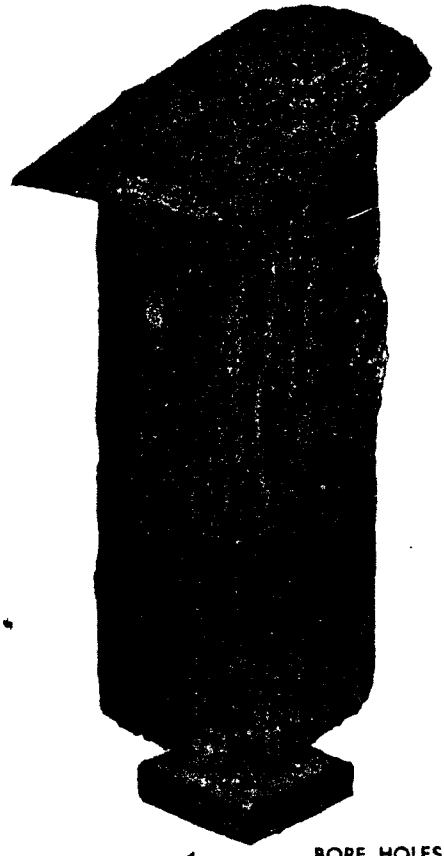
PUT SAWED EDGES IN, WEATHERED EDGES OUT.

HOUSE MADE OF HALF OR PART OF OLD HOLLOW LOG

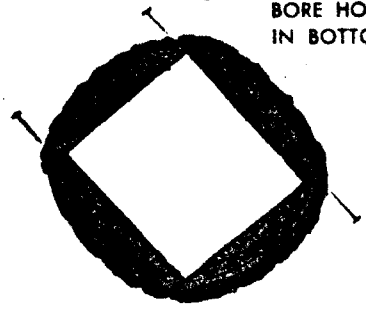


DON'T CLEAN IT OUT TOO MUCH.

HOUSE MADE FROM SLAB LUMBER



BORE HOLES IN BOTTOM.

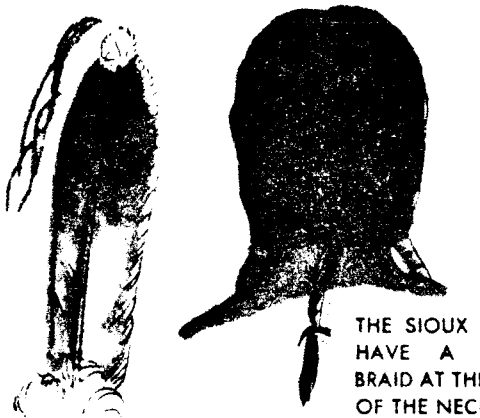


GENERAL DIMENSIONS ARE 6" X 6" X 12" (INSIDE), WITH 2½" HOLE NEAR TOP. ALLOW 3" TO 4" OVERHANG ON THE ROOF.

SIZES FOR BIRDHOUSES

KIND OF BIRD	FLOOR	DEPTH	HOLE	HEIGHT ABOVE GROUND
TITMOUSE	4" x 4"	8"	1¼"	8-12 feet
WREN	4" x 4"	6"-8"	⅞"	6-10 feet
NUTHATCH	4" x 4"	8"	1¼"	12-15 feet
BLUEBIRD	5" x 5"	8"	1½"	5-10 feet
TREE SWALLOW	5" x 5"	6"	1½"	10-15 feet
MARTIN	6" x 6"	6"	1½"	16-20 feet
WOODPECKER	6" x 6"	12"-15"	1½"	12-20 feet
FLICKER	6" x 6"	12"-15"	1½"	8-10 feet
SCREECH OWL	8" x 8"	12"-15"	3"	10-20 feet

Indian Hair Ornaments

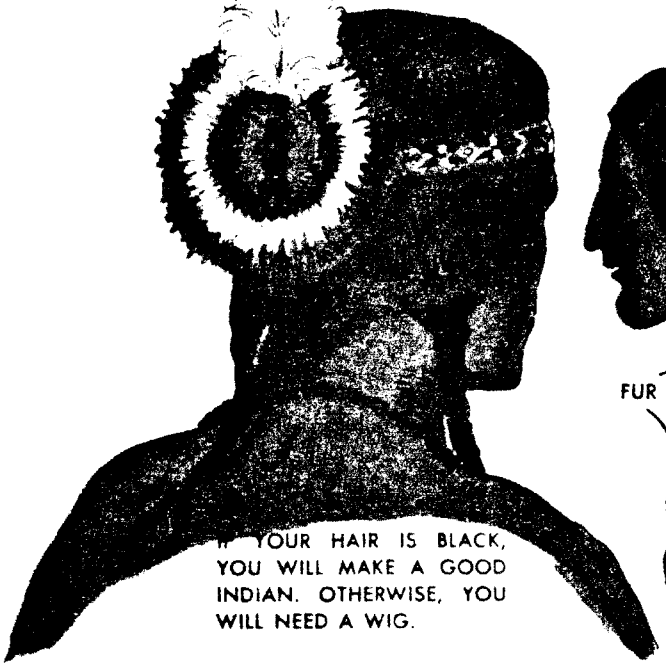


THE SIOUX OFTEN HAVE A SMALL BRAID AT THE BACK OF THE NECK.

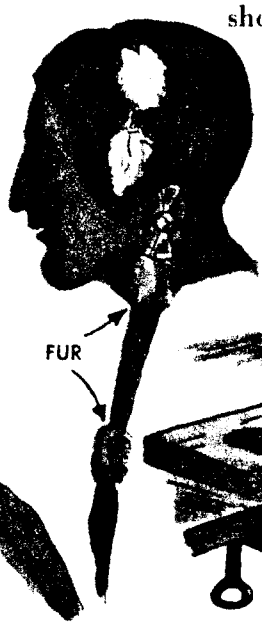
The feathers that the Indians wore in their hair were very important to them. They were more than just a decoration and usually signified some great honor, such as being the chief of a tribe or a hero in battle.

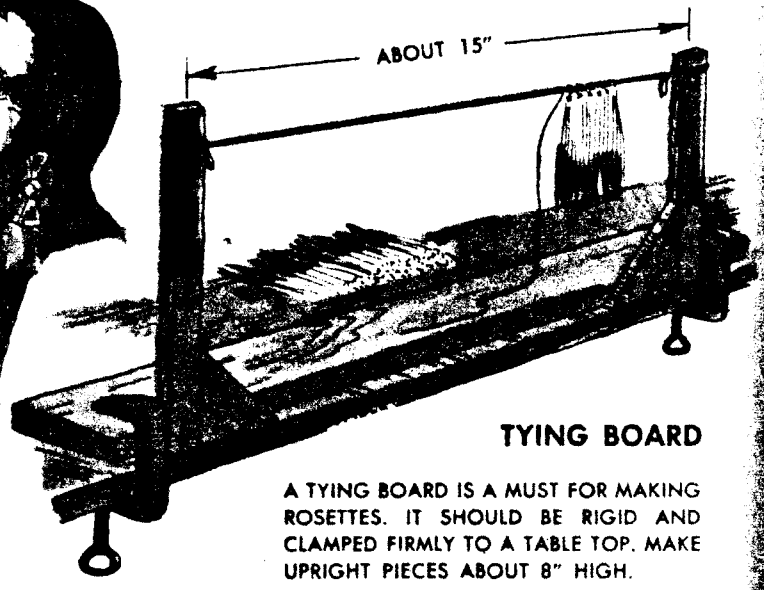
The old Indians, who were usually chiefs, had so many honors that they wore their feathers on huge hats called "war bonnets." But the young warriors with only a few honors wore their feathers in a holder or rosette.

These rosettes can be made out of tampico or manila fibers, or of horsehair, sewed on a leather base. They can be worn in several ways, as shown in the sketches.



IF YOUR HAIR IS BLACK, YOU WILL MAKE A GOOD INDIAN. OTHERWISE, YOU WILL NEED A WIG.



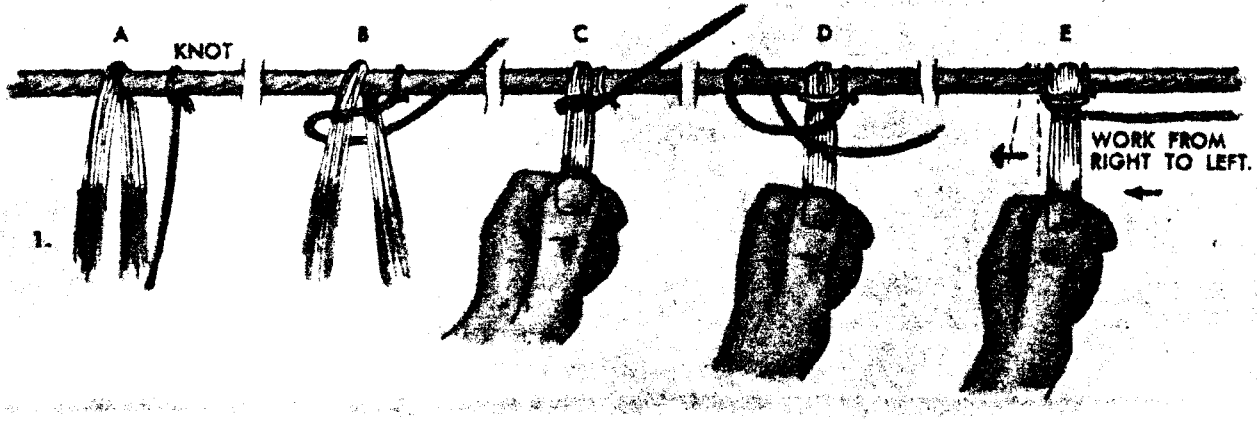


TYING BOARD

A TYING BOARD IS A MUST FOR MAKING ROSETTES. IT SHOULD BE RIGID AND CLAMPED FIRMLY TO A TABLE TOP. MAKE UPRIGHT PIECES ABOUT 8" HIGH.

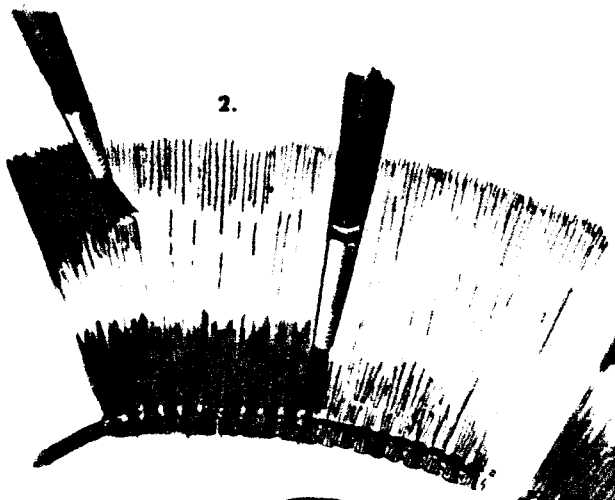
TYING FIBERS

1. CORD AND TIE STRING SHOULD BE WELL WAXED. USE A SOFT CORD FOR THE BASE AND LINEN THREAD FOR TYING. TAKE ABOUT 12 OR 14 STRANDS, 7" LONG, TO A BUNCH. TIE THEM UNIFORMLY, WORKING FROM RIGHT TO LEFT.



COLORING FIBERS

2. SPREAD TIED FIBERS OUT ON NEWSPAPER AND COLOR THEM WITH RED AND BLUE WRITING INK. BLEND OFF THE EDGES NEATLY.



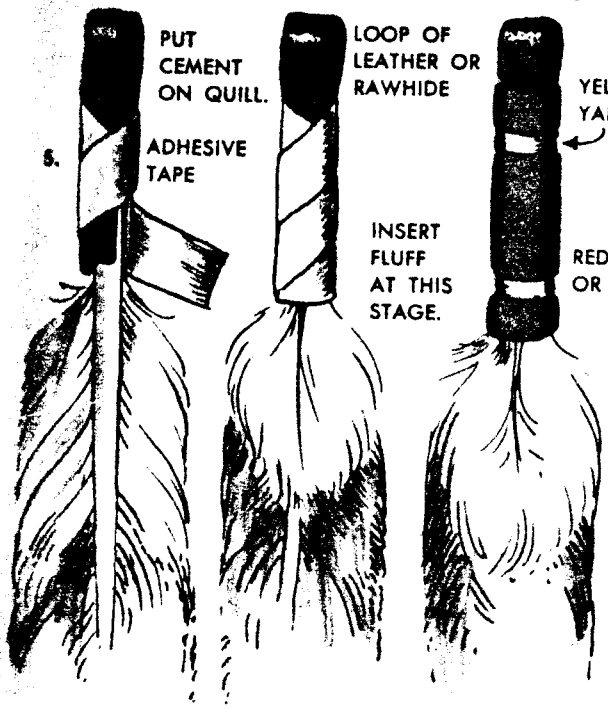
FOR MAKING BEADED HEADBANDS OR ROSETTES, SEE THE INSTRUCTIONS GIVEN ON PAGES 60-67 OF MY BOOK "THE GOLDEN BOOK OF INDIAN CRAFTS AND LORE."

3. CUT 2½" DISC OF LEATHER FOR BASE. WITH AN AWL, PUNCH SEWING HOLES ⅛" APART AROUND EDGE OF BASE. PUNCH HOLES IN MIDDLE FOR THONGS. PAINT BASE RED, OR MAKE A BEADED ROSETTE FOR IT.

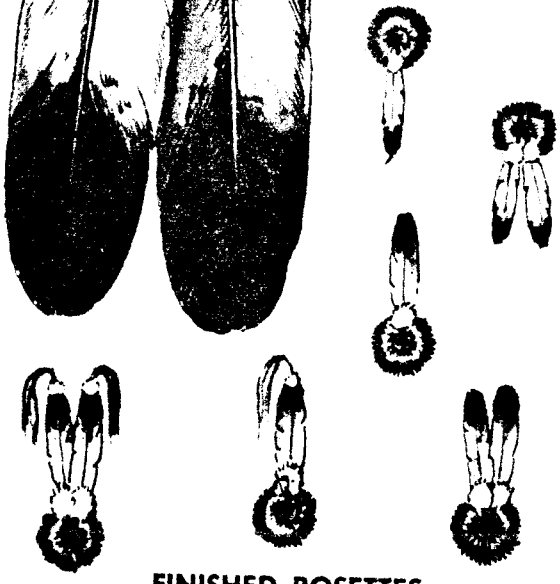
4. SEW FIBER STRIP TO OUTER EDGE OF DISC WITH LINEN THREAD, USING AN OVERCAST STITCH.

5. PREPARE FEATHERS AND ONE-INCH BEADED HEADBAND. FASTEN THEM TO ROSETTE WITH BUCKSKIN THONGS.

PREPARING FEATHERS



DIFFERENT ROSETTES DENOTE RANK OR NUMBER OF YEARS OF PARTICIPATION IN INDIAN LORE.



FINISHED ROSETTES

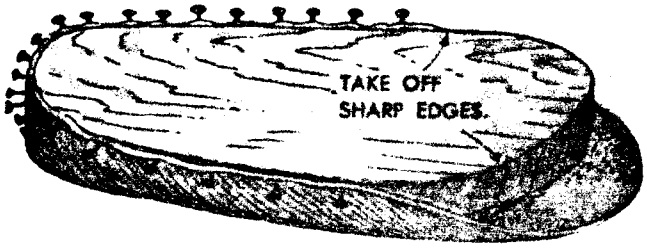
Navajo Moccasins

Down in New Mexico, Arizona, and parts of Utah and Colorado, the Indians known as the Southwest tribes live. The principal tribes are the Navajos and the Pueblos. They are known throughout the world for their beautiful silver jewelry, weaving, and pottery.

The moccasins made and worn by these people are very well suited for the country in which they live—a hot, dry land covered with sand, sharp stones, and cactus.

For the soles of your moccasins, use cowhide belly leather, about ⅛ inch thick. For the upper parts, choose a soft, pliable leather, such as split cowhide, which can be obtained from a leather supply house. Brick red is the favorite Indian color.

A



1. DRAW THE OUTLINE OF YOUR FOOT ON A PIECE OF 1" WHITE PINE AND SAW IT OUT.

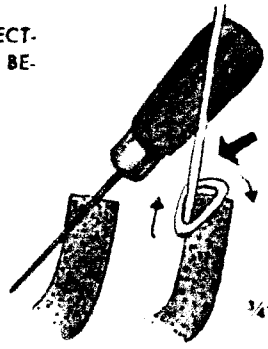
2. CUT A PIECE OF COWHIDE AT LEAST 1" LARGER ALL AROUND THAN BLOCK IS. SOAK IT UNTIL IT IS QUITE SOFT.

3. FORM IT AND TACK IT OVER ONE SIDE OF THE BLOCK, BEING CAREFUL TO WORK OUT ALL THE FOLDS. LET IT DRY THOROUGHLY.

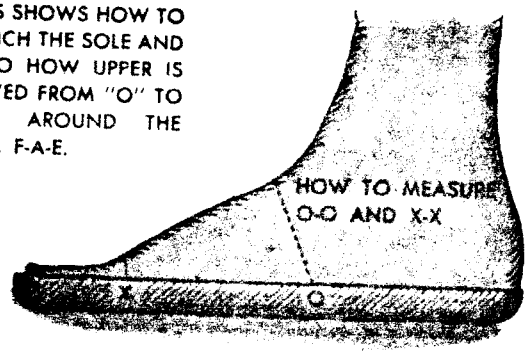
4. WHILE SOLE IS DRYING, LAY OUT PATTERN FOR THE UPPERS.

5. WHEN SOLE IS PERFECTLY DRY, CUT OFF RIGHT BELOW THE NAILS.

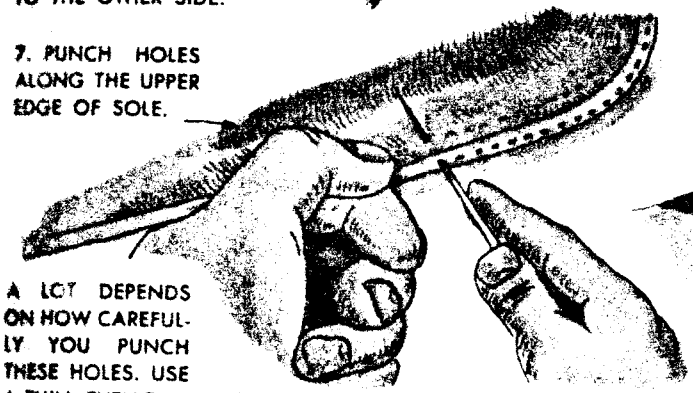
6. THEN PULL OUT NAILS AND TACK THE OTHER SOLE TO THE OTHER SIDE.



THIS SHOWS HOW TO PUNCH THE SOLE AND ALSO HOW UPPER IS SEWED FROM "O" TO "O" AROUND THE TOE, F-A-E.



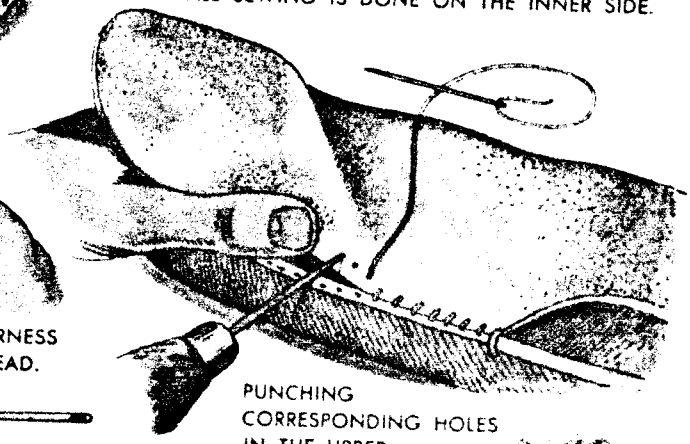
7. PUNCH HOLES ALONG THE UPPER EDGE OF SOLE.



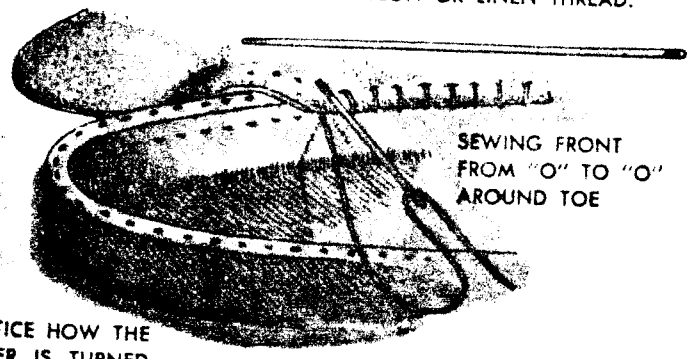
A LOT DEPENDS ON HOW CAREFULLY YOU PUNCH THESE HOLES. USE A THIN, EVEN-TAPERED AWL.

8. FOR SEWING, USE A BLUNT HARNESS NEEDLE AND NYLON OR LINEN THREAD.

ALL SEWING IS DONE ON THE INNER SIDE.

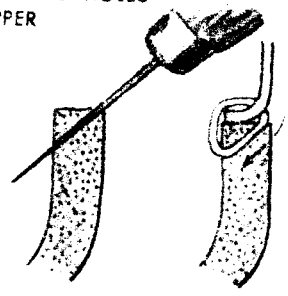


PUNCHING CORRESPONDING HOLES IN THE UPPER

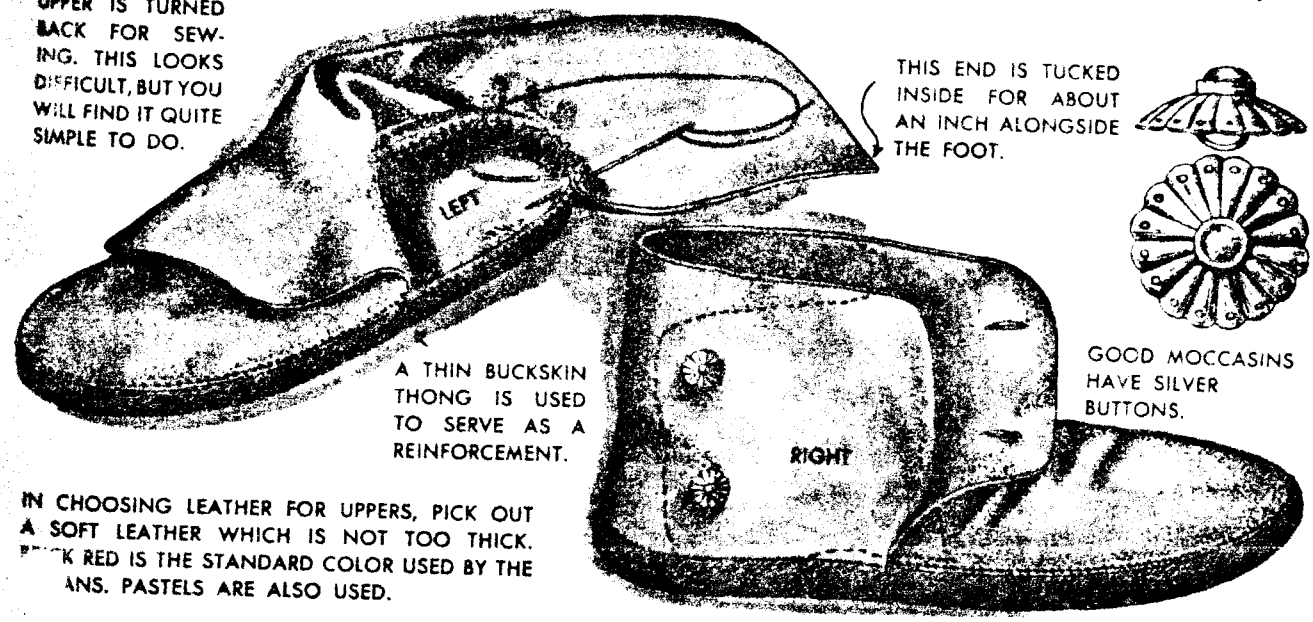


SEWING FRONT FROM "O" TO "O" AROUND TOE

THE PUNCHING AND STITCHING AS DONE AROUND HEEL FROM "O" TO "O". NOTE HOW UPPER LEATHER FITS ON EDGE OF SOLE.



NOTICE HOW THE UPPER IS TURNED BACK FOR SEWING. THIS LOOKS DIFFICULT, BUT YOU WILL FIND IT QUITE SIMPLE TO DO.

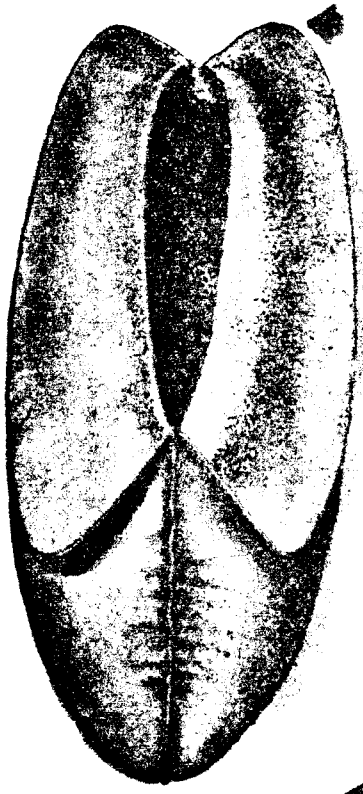


THIS END IS TUCKED INSIDE FOR ABOUT AN INCH ALONGSIDE THE FOOT.

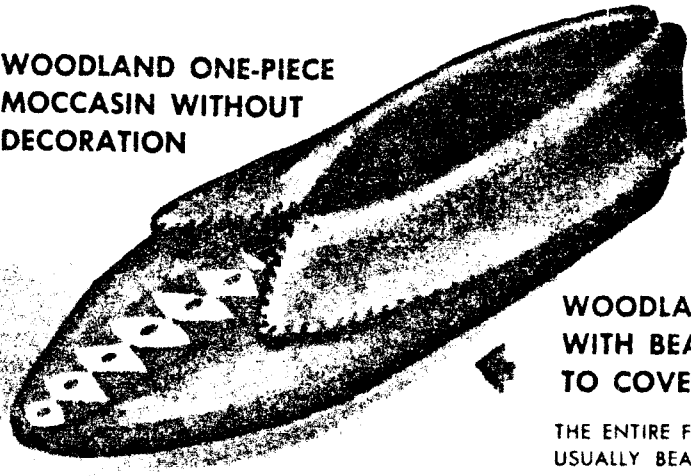
A THIN BUCKSKIN THONG IS USED TO SERVE AS A REINFORCEMENT.

GOOD MOCCASINS HAVE SILVER BUTTONS.

IN CHOOSING LEATHER FOR UPPERS, PICK OUT A SOFT LEATHER WHICH IS NOT TOO THICK. BRICK RED IS THE STANDARD COLOR USED BY THE INDIANS. PASTELS ARE ALSO USED.



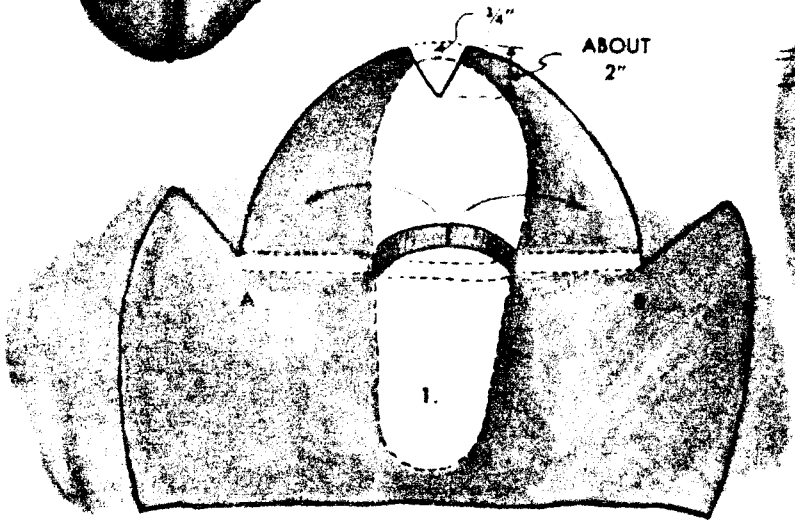
WOODLAND ONE-PIECE MOCCASIN WITHOUT DECORATION

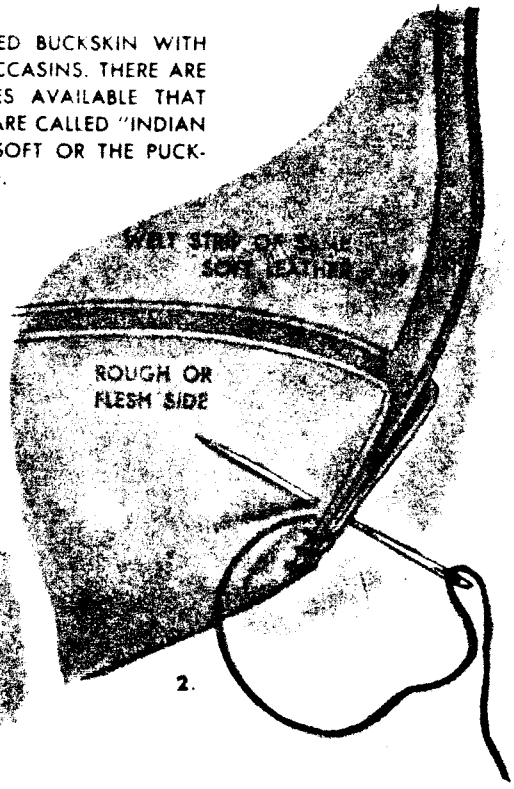


WOODLAND MOCCASIN WITH BEADED STRIP TO COVER PUCKERING

THE ENTIRE FLAPS AND TOES ARE USUALLY BEADED FOR DRESS OR CEREMONIAL AFFAIRS

INDIANS USE SOFT, SMOKE-TANNED BUCKSKIN WITH THE SCARFSKIN REMOVED FOR MOCCASINS. THERE ARE SOFT COWHIDES AND HORSEHIDES AVAILABLE THAT WILL DO EQUALLY AS WELL. SOME ARE CALLED "INDIAN TANNED." THE LEATHER MUST BE SOFT OR THE PUCKERING WILL BE TOO PRONOUNCED.



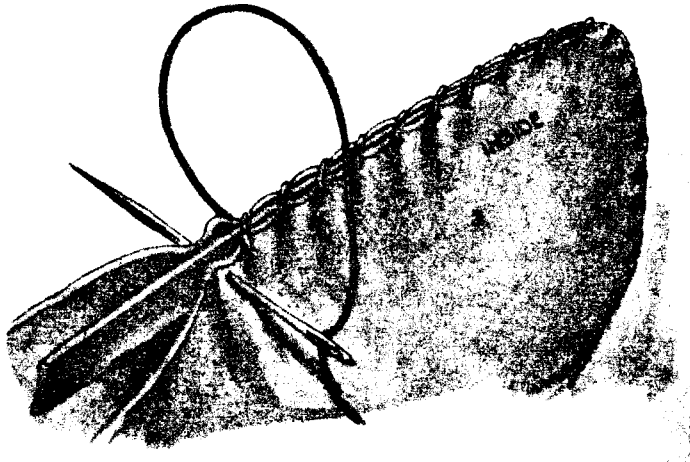


1. CUT OUT A PATTERN OF CLOTH AS SHOWN ABOVE. MEASURE AROUND INSTEP TO DETERMINE THE WIDTH FROM "A" TO "B" AND ADD ABOUT ⅛" TO ¼" FOR THE SEAM. THEN FIT THE CLOTH PATTERN FOR SIZE AND SHAPE.

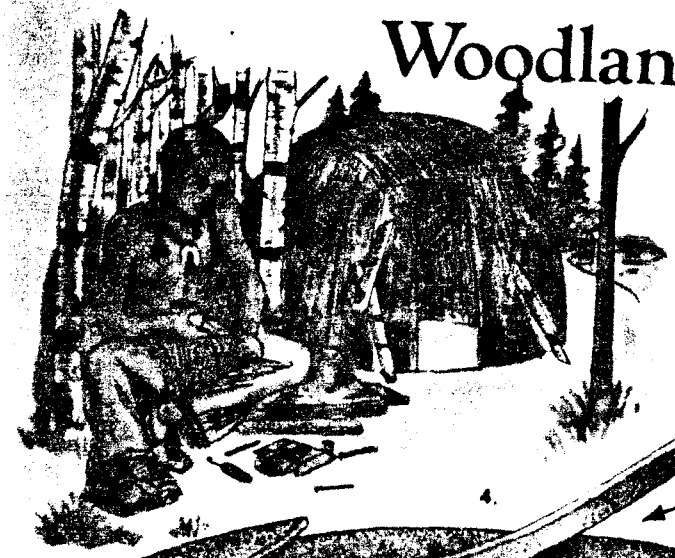
THERE ARE NO LEFTS AND RIGHTS, BUT THE MOCCASINS WILL GRADUALLY SHAPE THEMSELVES TO YOUR FEET.

2. INSERT A WELT STRIP AND SEW AS SHOWN, USING A GLOVER'S TRIANGULAR POINTED NEEDLE AND A GOOD WAXED THREAD.

3. SEW ENTIRE TOE, TAKING IN OR PUCKERING AS YOU GO ALONG, TO FLATTEN THE TOE.



Woodland Moccasins

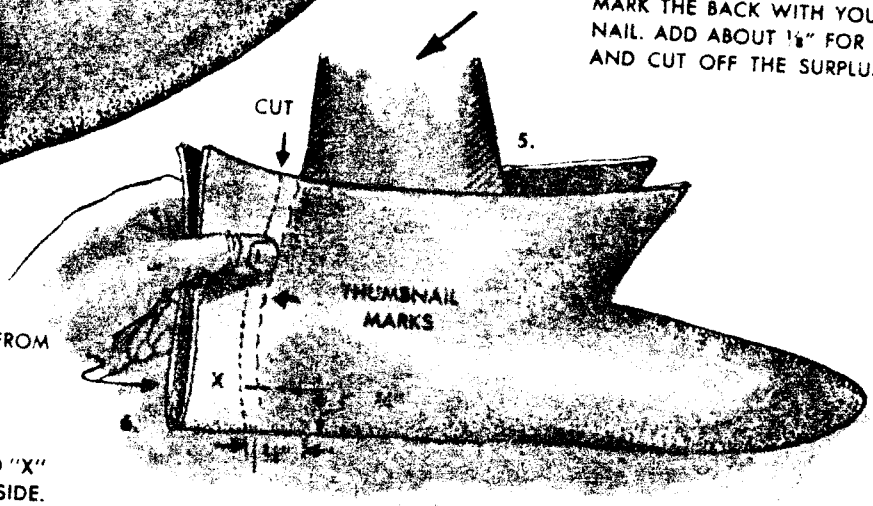


This type of moccasin, with its soft sole, was worn by the Indian tribes living in the woodlands. It is made entirely in one piece.

The Woodland Indians walked on ground that was usually covered with moss or leaves, so they did not need thick-soled moccasins like those worn by the Southwest tribes.

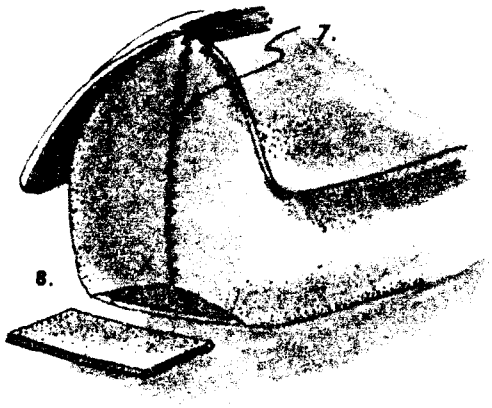
4. TURN RIGHT SIDE OUT AND CUT OFF SURPLUS OF WELT STRIP QUITE CLOSE, USING A SHARP PAIR OF SCISSORS. (SEE FINISHED TOE IN UPPER LEFTHAND CORNER OF PAGE 34.)

5. SLIP ON THE MOCCASIN AND MARK THE BACK WITH YOUR THUMBNAIL. ADD ABOUT ⅛" FOR THE SEAM AND CUT OFF THE SURPLUS.

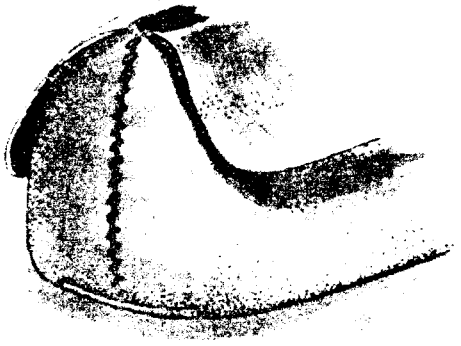


6. MAKE ¾" CUT ¾" FROM FOLDED BOTTOM.

7. SEW BACK SEAM DOWN TO "X" WITH OVERCAST SEAM OUTSIDE.

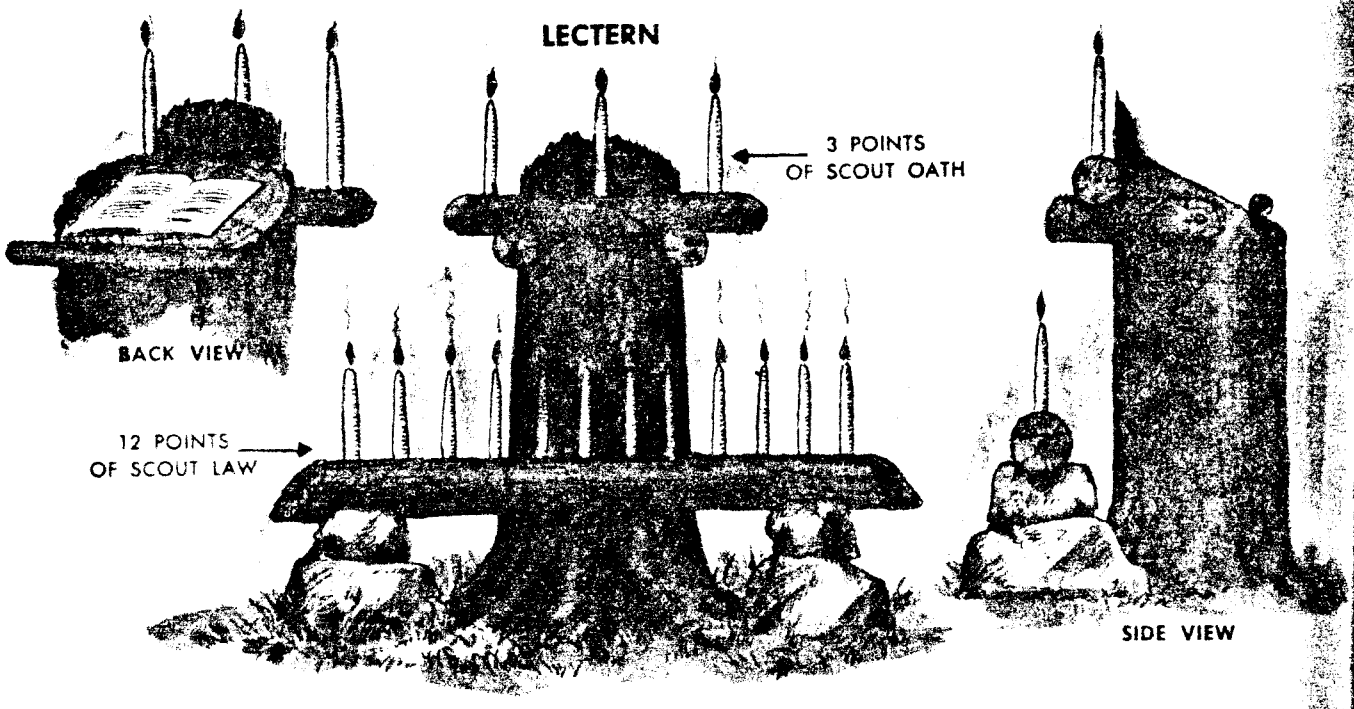


8. FLATTEN HEEL AND CUT OFF AP STRAIGHT ACROSS.



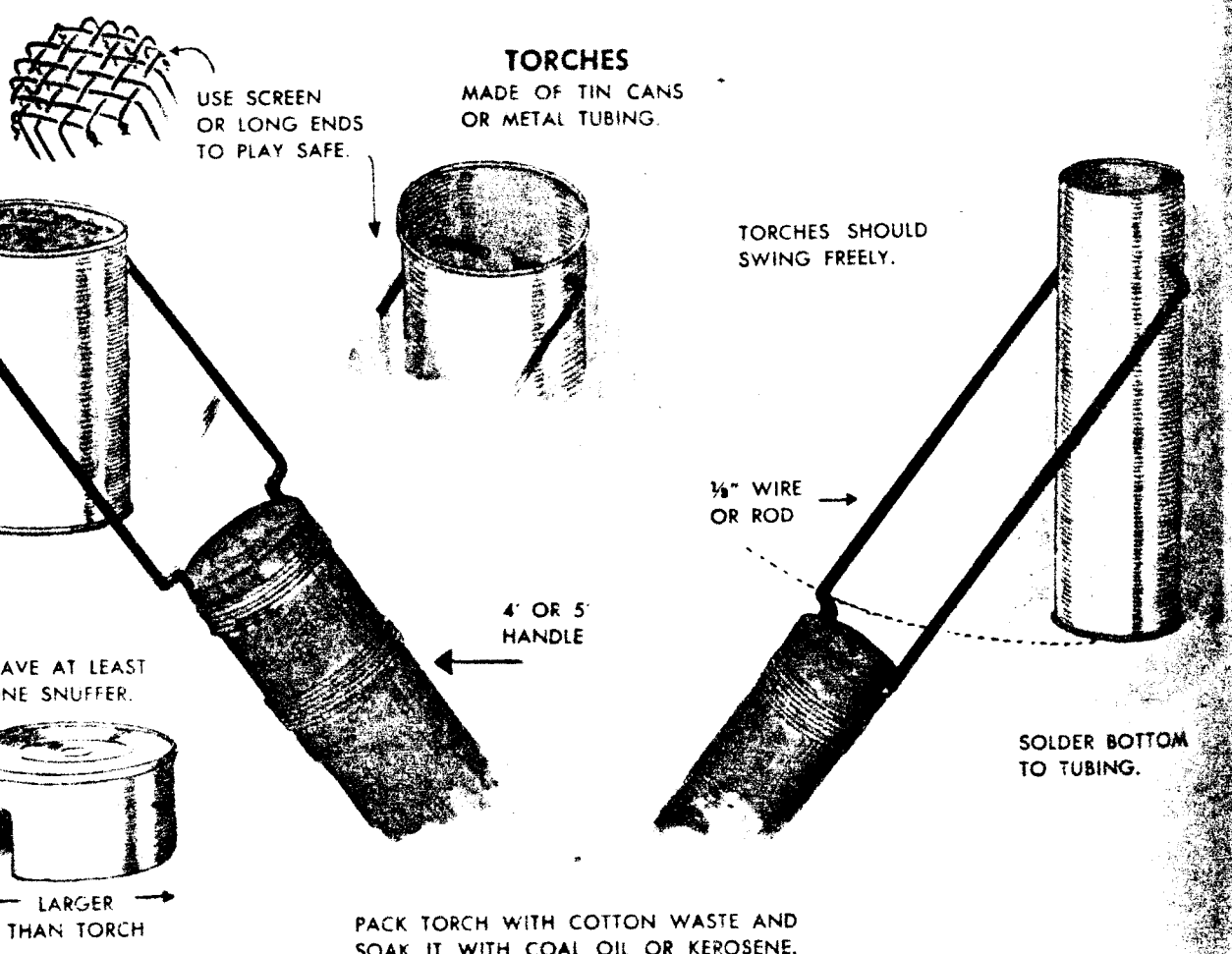
9. TURN HEEL INSIDE OUT. INSERT A WELT STRIP AND SEW UP THE BOTTOM HEEL SEAM. CUT OFF SURPLUS, AS YOU DID ON THE TOE PART, AND YOUR MOCCASIN IS FINISHED. IF FITTED CORRECTLY, NO TIES ARE REQUIRED.

LECTERN



TORCHES

MADE OF TIN CANS
OR METAL TUBING.



PACK TORCH WITH COTTON WASTE AND
SOAK IT WITH COAL OIL OR KEROSENE.