

UNIVERSITY OF IDAHO

EXTENSION DIVISION

L. W. FLUHARTY

DIRECTOR

PROBLEMS IN HANDICRAFT
FOR THE HOME

BY H. T. NIECE

Ada County Club Leader

COOPERATIVE EXTENSION SERVICE IN AGRICULTURE
AND HOME ECONOMICS OF THE STATE OF IDAHO
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THIS BULLETIN is one of a series. It tells how to make things that will be useful about the home. Other bulletins prepared by Mr. Niece tell how to make articles for use in corn club projects, in hog raising, and in caring for poultry.

In corn club work, for instance, a seed corn sled, a seed corn drying pedestal and a sack holder are among the articles described. In hog club work, he tells how to make a weighing sling, a shipping crate, a loading chute, a litter feeding pen, etc. For poultry problems, there are the box coop, the chicken crate, the egg tester, the nest for laying hens, and others.

Especially be sure to get "Tools; Their Use and Care." It will be a great help.

There is also a bulletin on "Rope and Its Uses on the Farm."

These bulletins are obtainable through the Farm Bureaus or from the Extension Division.

PROBLEMS IN HANDICRAFT FOR THE HOME

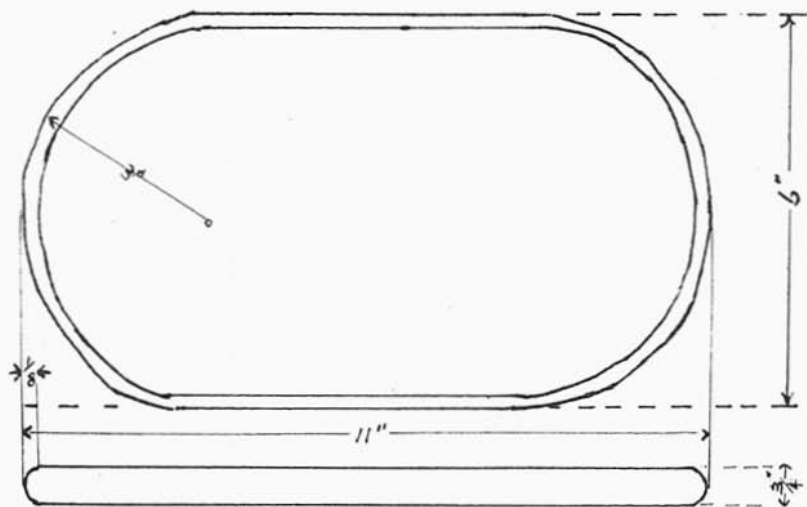
By H. T. NIECE

Ada County Club Leader

TEN PROBLEMS in handicraft are presented in this bulletin. They tell how to make ten articles of common use which will be a great convenience in any home and which many homes are without. Even two or three of them are fine to have. The boy or girl who makes them will learn a good deal about the use of tools and will produce articles that the mother will be glad to have.

BREAD CUTTING BOARD

A person needs a bread cutting board so as to have something on which to cut bread without cutting the table or dulling the knives. This same board may also be used for a chopping board. It is made of soft wood.

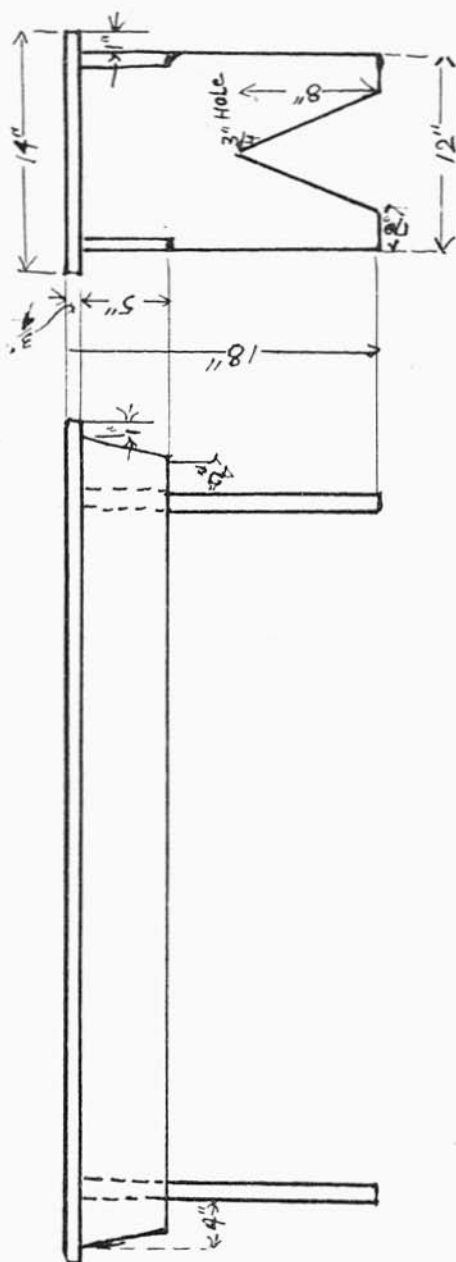


BREAD CUTTING BOARD

Material Required—One piece, 1 by 6 by 12 inches.

Tools Required—Try-square, saw, block plane, compass pencil.

Steps in Construction—Cut board to dimensions with compass pencil set at radius of three inches. Draw an arc on each end; saw off corner, and plane to the arc line. Chamfer the edges with plane and sand paper.



BENCH

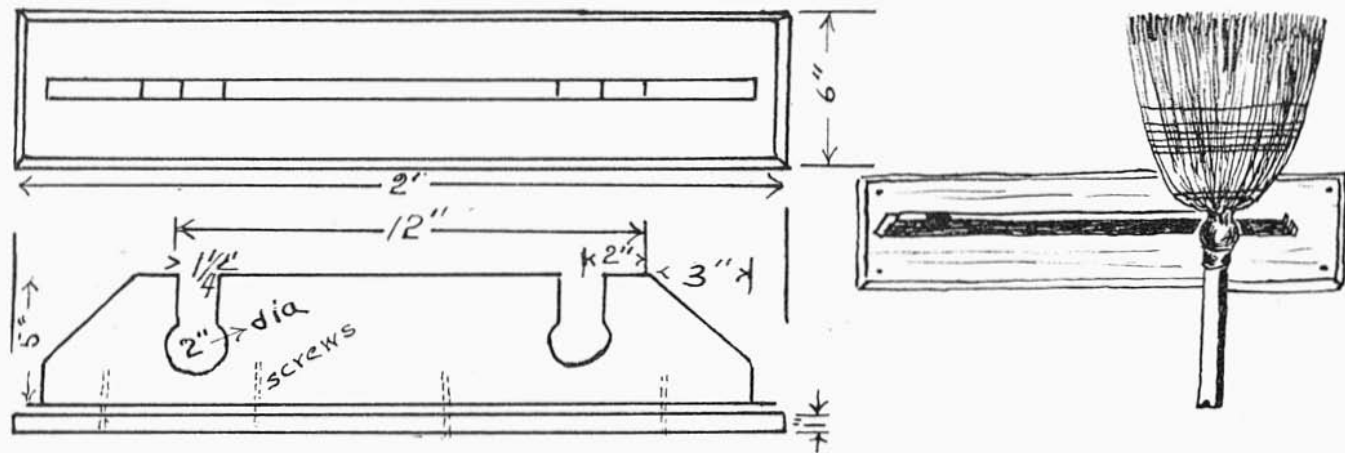
A bench is a very useful article about the kitchen, especially on wash day, when there is need of a place to put tubs.

Material—One piece soft pine or poplar, 1 by 14 inches by 10 feet.

Stock Bill—One piece, 1 by 14 by 40 inches. Two pieces, 1 by 5 by 38 inches. Two pieces, 1 by 12 by 18 inches.

Tools—Carpenter's square, hand saw, rip saw, brace and $\frac{3}{4}$ bit, hammer, $\frac{1}{2}$ pound six-penny nails.

Steps in Construction—Measure the board that is 1 by 14 by 40 inches into the following lengths: 40 inches, 38 inches, 18 inches and 18 inches. Rip out two pieces 5 inches wide and 38 inches long. Rip out two 18-inch pieces, 12 inches wide. Bore hole in 18-inch piece as indicated in drawing. With rip saw cut a V-shaped notch in the two end pieces as indicated in drawing. At other end of 18-inch board, lay out notch for lap-notch. Angle the two ends of the side pieces that are 5 inches wide as indicated in the drawing. Nail the sides to the end pieces. Nail on the top.



BROOM RACK

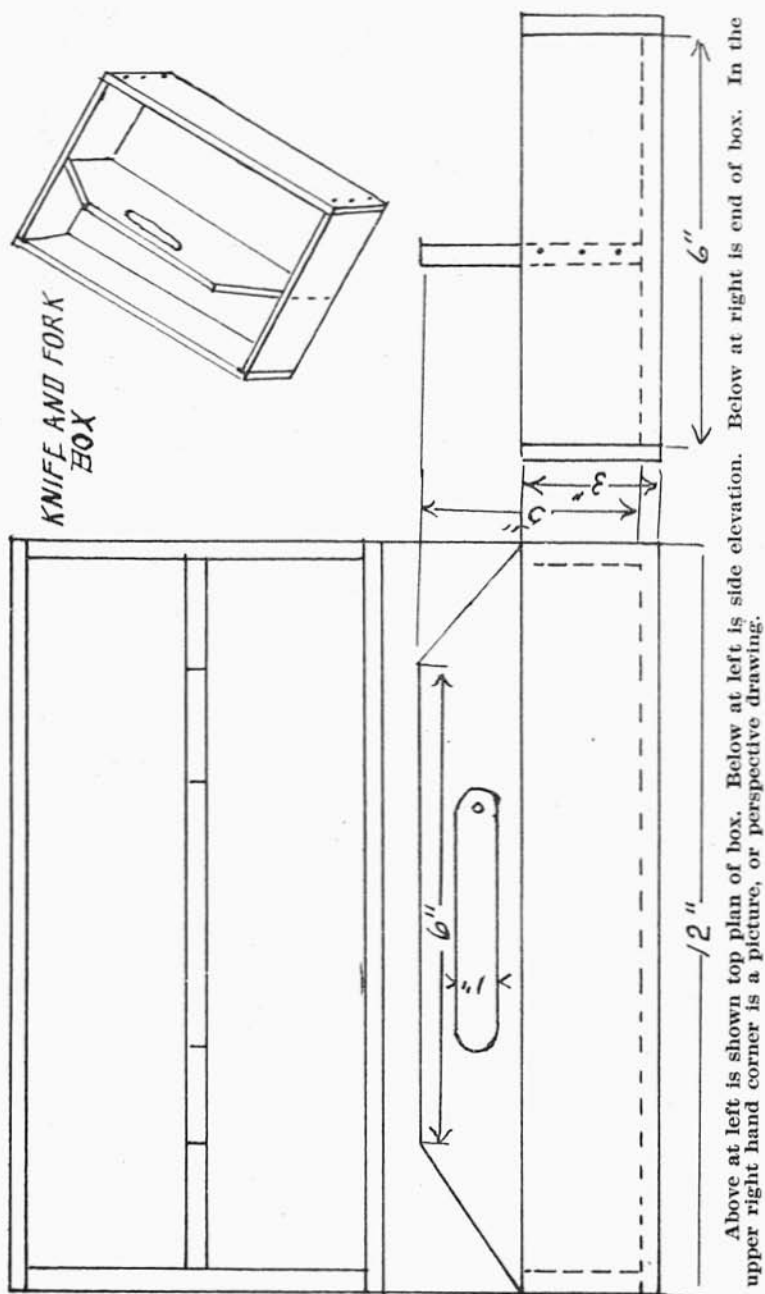
A very useful rack that can be placed upon the back porch is the broom and mop rack. Such a rack will keep the broom in a position so it will hold its shape. Also, it will hold a mop so that it can dry out easily. Above all, everyone knows where the broom and mop are.

Materials—One piece, 1 by 6 inches by 4 feet.

Tools Required—Square, saw, brace and extension bit, block plane and hammer.

Stock Bill—One piece, 1 inch by 6 inches by 2 feet. One piece, 1 by 6 by 22 inches.

Steps in Construction—Cut one piece 2 feet long, chamfer the edges on one side. Cut one piece 22 inches long. Lay out the shelf as indicated in the drawing. With the extension bit bore two 2-inch holes. From the outer edge saw into these holes an opening $1\frac{1}{4}$ inches wide. Cut off two corners of this shelf as indicated in the drawing. Nail shelf to back piece.



KNIFE AND FORK BOX

A knife and fork box is a useful article about the kitchen, especially for what are known as the kitchen knives and forks and spoons.

Materials Required—One piece, $\frac{1}{2}$ by 3 by 36 inches. One piece, $\frac{1}{2}$ by 6 by 24 inches.

Tools Required—Square, backsaw, brace and 1-inch bit, keyhole saw and hammer.

Stock Bill—Two pieces, $\frac{1}{2}$ by 3 by 12 inches. Two pieces, $\frac{1}{2}$ by 3 by 6 inches. Two pieces, $\frac{1}{2}$ by 6 by 12 inches. One piece, $\frac{1}{2}$ by 5 by 11 inches.

Steps in Construction—Nail sides to bottom; nail ends to side and bottom. Lay out handle by boring two 1-inch holes 4 inches from the end and $1\frac{1}{2}$ inches from the top. Using the keyhole saw, saw out the handle. Angle the ends of the handle. Attach handle to box by nailing thru the end pieces into the end of the handle.

ICELESS REFRIGERATOR

When any liquid substance evaporates it is a known fact that in the process of evaporation heat is extracted from the immediate surroundings. Upon this principle is based the idea of the iceless refrigerator—that is, the evaporation of the water-soaked cloth which surrounds the articles to be kept cooled. This cloth is attached to a framework which contains shelves and a method of ventilation and it is kept moist by keeping one end of the cloth in water. By the capillary attraction process, this entire cloth is kept moist and when placed in a circulation of air the evaporation of this moisture takes place.

The refrigerator is easily made at a very small cost and is very useful and economical as well.

The drawing on the accompanying page is for a medium-sized refrigerator. These plans may be altered to make the refrigerator larger or smaller as desired.

Materials Required—One piece, 2 inches by 2 inches by 14 feet. One piece, 1 inch by 2 inches by 12 feet. Six pieces, 1 by 2 inches by 10 feet. Five pieces heavy wire screen, 1 foot by 2 feet. One piece of galvanized wire screen, 6 feet long by 3 feet wide. Three yards of yard-wide flannel or burlap, pair hinges, door latch, dripping pan, 19 by 25 inches and 3 inches deep. One quart can of white enamel.

Tools Required—Saw, square, plane, chisel and hammer.

Stock Bill—Four pieces, 2 by 2 inches by 3 feet 6 inches.

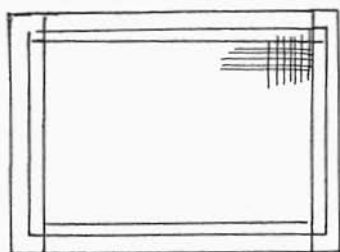
Door Frame—Two pieces, 1 by 2 by 34 inches. Two pieces, 1 by 2 by 12 inches. One piece, 1 by 2 inches by 3 feet.

Braces for Shelves—Ten pieces, 1 by 2 by 22 inches. Ten pieces, 1 by 2 by 16 inches.

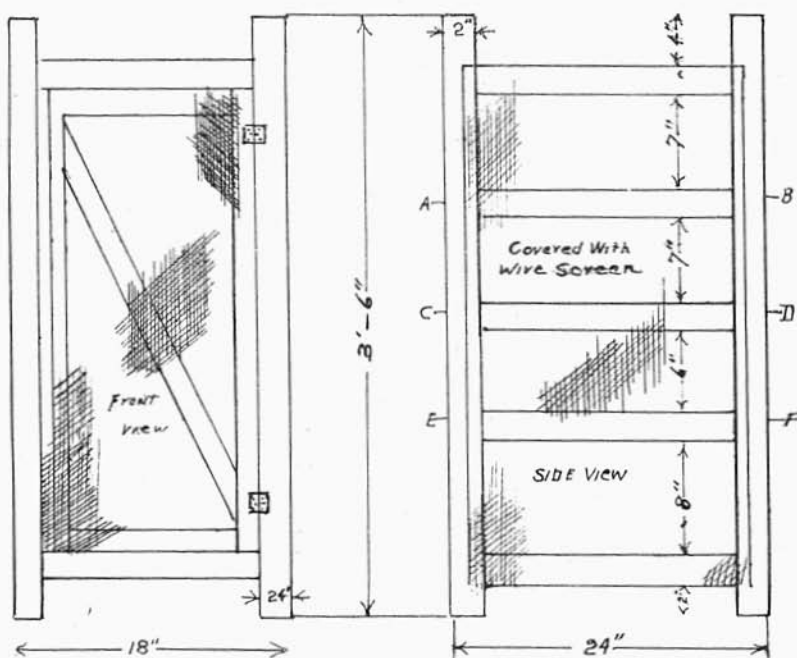
Framework for Shelves—Ten pieces, 1 by 2 by 24 inches. Ten pieces, 1 by 2 by 16 inches.

(See note on last page.)

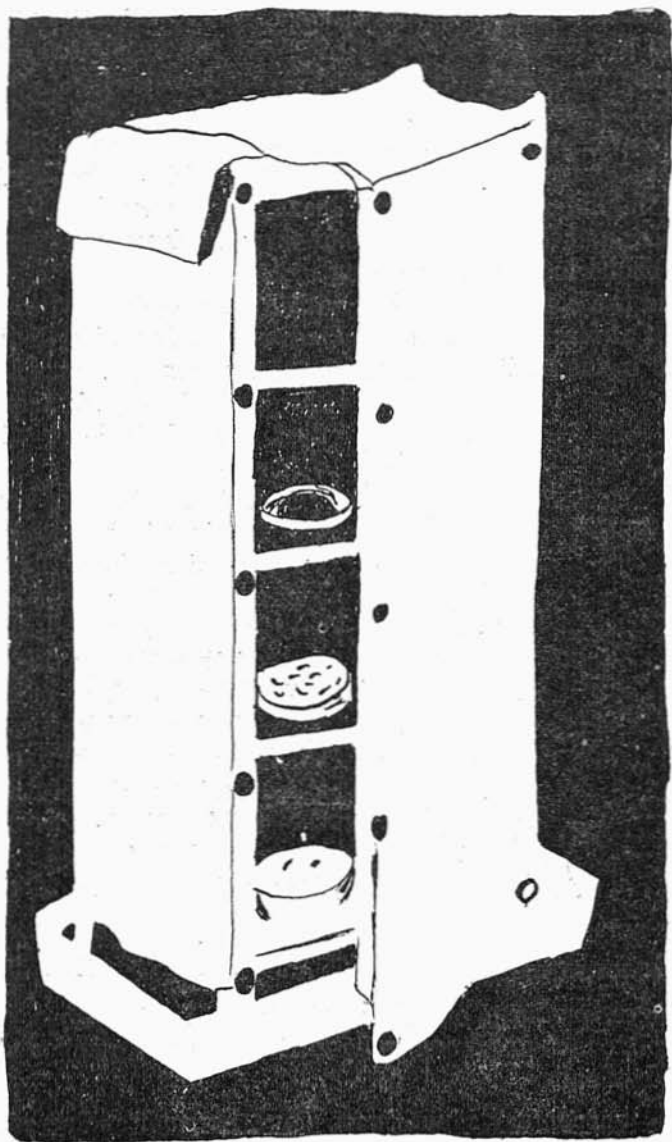
Steps in Construction—Cut the four posts to length. Cut the braces for shelves to length. Construct the braces for shelves by nailing 16-inch pieces to ends of the 22-inch pieces. Next mark off the posts according to drawing—that is, AB, CD, EF, and nail to posts. Next construct framework for shelves by either lap or mitre joint, mitre joint preferred. Construct framework of door by mitre joint.



Shelf at AB-CD-EF
made of heavy wire
(See Drawing Below.)



FRONT AND SIDE VIEWS OF ICELESS REFRIGERATOR.



ICELESS REFRIGERATOR

FIRELESS COOKER

The fireless cooker consists of a pan that can contain boiling water enclosed in a wooden box with enough insulating material between the pan and the box to prevent the heat from escaping. It is easily made and will be found invaluable at home.

The parts are as follows:

1. Wooden box, inside measurements 18 by 18 by 15 inches.
2. A pail 9 inches in diameter by 8 inches high; close fitting lid.
3. Metal lining of the nest or insulating material.
4. Surround the pail with two or three thicknesses of cardboard firmly bound in place with string.

5. Fill the bottom of the box with ground cork or sawdust to a depth of at least three inches. Place the cardboard cylinder with the pail inside of it in the middle of the box, put on a layer of sawdust, then pack more sawdust around it level with the upper edge.



THE FIRELESS COOKER

6. Cut a piece of asbestos matting to fit the inside measurement of the box. In this cut a circular hole large enough to permit the pan to be drawn in and out thru the opening.

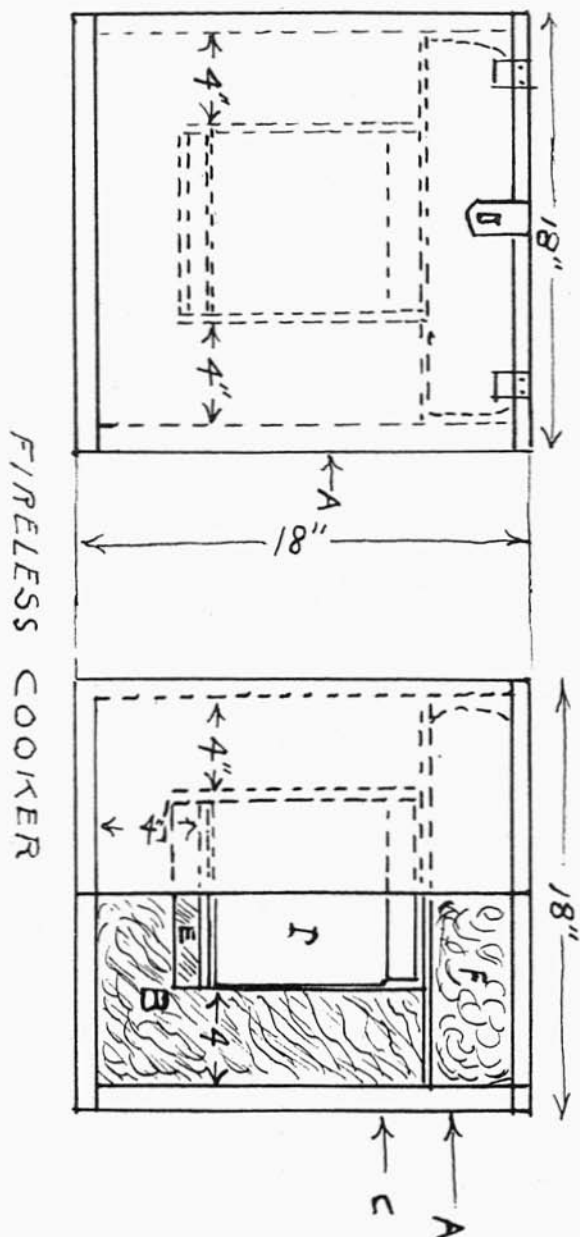
7. Make a cushion of sawdust three inches thick to fill the whole surface of the box above the asbestos mat. Make a well fitting lid to the box with strong hinges and fasten with a hasp. Attach four casters to the bottom.

Material—Two pieces, 1 inch by 10 inches by 10 feet. Two pair hinges, one hasp, one piece asbestos 18 by 18 inches, one six-quart pail, one metal lining to be made by tinner, one pound No. 6 cement box nails.

Tools—Carpenter's square, saw, plane, hammer and screwdriver.

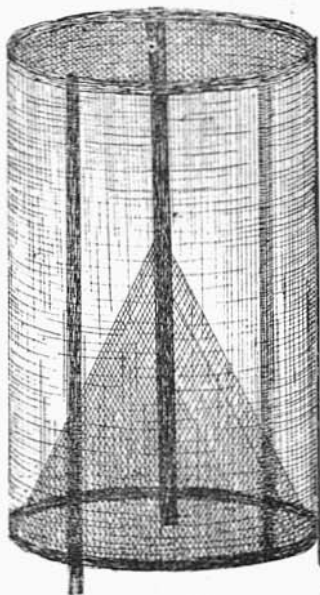
Steps in Construction—Cut eight pieces 20 inches long, four pieces 18 inches long. The sides, ends, top and bottom may either be glued or lap-jointed to insure perfect insulation. When they have been jointed the two sides and the two ends should be planed

to 18 inches wide. The top and bottom should remain wide enough to cover ends and sides. Next nail the sides to the end pieces, nail bottom to the frame, attach hinges and hasp to the top.



HOMEMADE FLY TRAPS

Cut a pattern of heavy paper, being careful to have the measurements accurate. Small wooden or metal hoops from a small keg or pail are often used for bracing. In this case, measure the circumference of the hoop and make the rectangular piece long enough to fit inside the hoop and allow an inch and a half for lapping. Having the circumference of the hoop, the pattern for the half circle for the cone can easily be drawn. Divide the hoop measurement by 3.1416 and draw a circle with the result as a radius. For instance, if the hoop measures 36 inches, the radius of the circle will be a little less than $11\frac{1}{2}$ inches. Cut out this circle and fold thru the middle, then cut off one side, three-fourths inch from the fold. This allows for the lapping. Use the larger piece for the pattern, cutting the opening as shown in the working diagram.

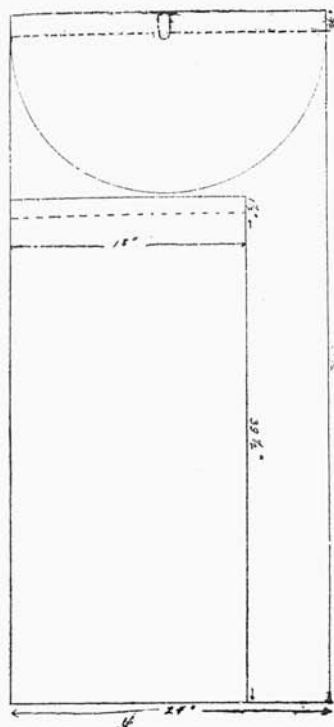


THE FLY TRAP

The edges of the cone are now lapped and sewed securely with heavy thread or fine wire, after making sure the cone fits the hoop. Fit the rectangular piece to the bottom of the cone, lapping the edges firmly. Slip the cone up into the cylinder. It should fit tightly. The bracing, whether a circle of wire or a hoop, can be sewed on at the same time the cone and cylinder are sewed together. If a wooden hoop is used the wire can be tacked on. The top should be braced in the same way. The legs, which should not be over an inch long, can be made by bending wire around the lower hoop or by using screws if the wooden hoop is used. It is sometimes advisable to brace the sides of the trap. This can be done by nailing three or four laths from the top to the bottom of the trap. In this case the legs are formed by the lath extending an inch below the bottom bracing. All seams should be secure and absolutely fly-proof. The trap is more effective if the top is made of screen, but very good results can be obtained by using a shallow pan or kettle cover which fits closely.

It is necessary to use bait to attract the flies. Fermented fruit has been found to be very effective for house flies, while blow

flies seem to prefer fish or meat scraps. The bait should be put on a shallow dish and raised slightly above the base of the cone. After the flies are caught they can be destroyed by pouring hot water over the trap. They should then be removed and burned. The trap should be thoroly scalded every few days.



This diagram shows how a piece of screening 50 inches long and 24 inches wide could be cut to make a fly trap 18 inches high. The rectangular piece which forms the cylinder is 18x39½, which allows it to lap over 1½ inches. The semicircle, when folded and lapped over, forms the cone. The narrow strip at the right is waste material.

MAKING A "SAFETY" CAN LIFTER

Materials—The materials needed for a can lifter of this sort are two pieces of No. 9 galvanized smooth wire 31 inches long, two pieces of cloth about 5 inches long, one pair of pliers and needle and thread. The cloth must be heavy, coarsely woven material that will not stretch when wet. Lamp wicking is best. Heavy canvas is good. The material known as tape or mohair binding that is used on the bottom of women's skirts is also quite satisfactory when doubled. The cloth should be not less than ¾ inch wide.

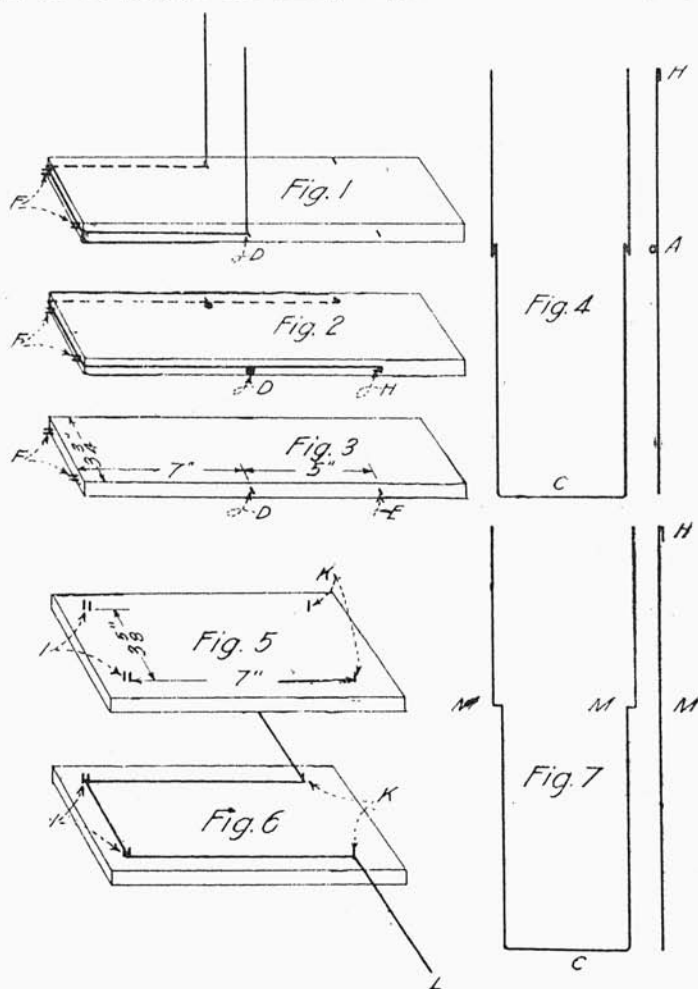
Jigs—If several lifters are to be made, better and more uniform results will be secured by using a device known as a jig. The materials needed for making a jig for can lifters are: one piece board 3¾ inches wide, 18 to 24 inches long and 1 inch to 1½ inches thick, one piece board 5½ inches wide, 12 to 18 inches long and 1 inch thick, six 20-penny nails, one hammer and one rule. The boards used should be smooth and free from splinters.

Making the Jig—Take the narrow board and from the squared end measure 7 inches (see Fig. 3) and make a mark across the face of both edges at D. Measure down 5 inches farther and make another mark across the face of both edges at E. Next at D and E on the center line of both edges of the board drive in four 20-penny

nails, two on each side. The nails should be driven in about $1\frac{1}{2}$ inches so as to be solid and the heads should then be cut off so as to leave the nails projecting from the board about $\frac{1}{2}$ inch.

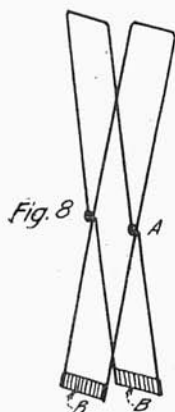
Now drive four 10-penny nails into the squared end of the board as shown at F (Fig. 3). These nails should be driven in about $\frac{3}{4}$ inch from each corner and the two nails in each pair should be just far enough apart to allow a No. 9 wire to lie between them. Nails should project $\frac{1}{2}$ inch. Cut off heads of nails. Jig is now ready for use in making one-half of the lifter.

Next make the jig shown in Fig. 5. The nails in pairs at I should be 10 penny, far enough apart to admit a No. 9 wire



between. The other two nails at K should be 20 penny. Drive nails well into board and cut off heads, allowing nails to project $\frac{1}{2}$ inch from board.

Unless you have a good pair of side cutting pliers, it is best to cut off the heads of the nails before driving the nails into the boards. Both jigs are now ready for use.



Making the Lifter—Take a piece of No. 9 galvanized wire 31 inches long and lay it between the nails F (Figs. 1 and 2) so that the ends project the same distance from both sides of jig. Next bend the wire sharply over each corner of the jig so as to make the wire U-shaped. Then bend the wire around nail D

on each side of the jig so as to form a loop as at A (Fig. 4) and D (Fig. 2). Fig. 1 shows wires in process of being bent.

Next bend the wire around nail E so as to form a hook as at H (Figs. 2 and 4). One-half of the lifter is now made.

Take another piece of No. 9 galvanized wire 31 inches long and bend it over the jig into the U-shaped form as before. Then take it from the narrow jig, place it on the wide jig and bend it sharply at right angles around the nails K as shown in Fig. 6.

Now spread the arms of the first part of the lifter (Fig. 4) until the hinge loops A are far apart. Then spring the arms of the second part of the lifter together until the ends L (Fig. 6) will pass thru the loops A (Fig. 4), thus making the hinge or joint. Next spring both parts of the lifter back into shape, take the pliers and make a second short bend in the arms of the second part of the lifter as at M (Fig. 7). Then with the pliers turn the ends back to form the hook H (Fig. 7).

Now sew on the pieces of cloth B (Fig. 4-Fig. 7). Pinch the hooks down on the cloth with the pliers and the lifter will look as in Fig. 8.

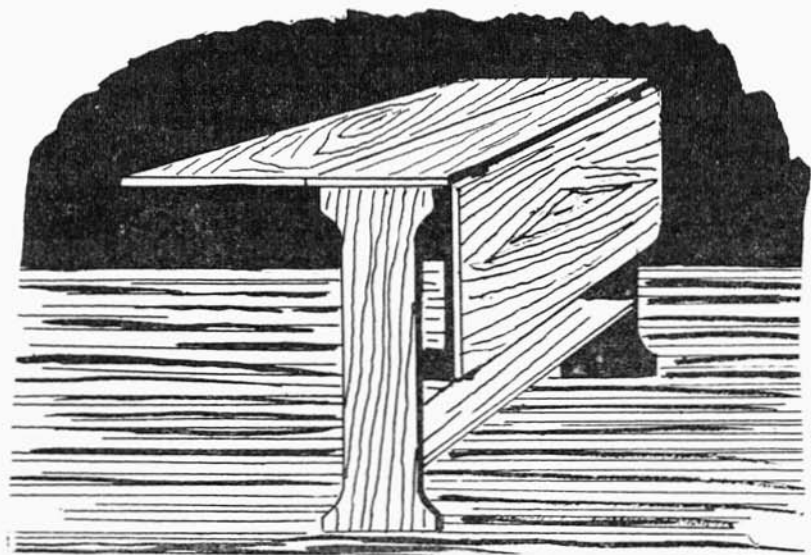


Fig. 9 shows the lifter gripping a can. The cloth grips B should be immersed in water before using as they grip tighter when wet.

KITCHEN TABLE

The purpose of the kitchen table in the accompanying diagram is to have a convenient work table about the kitchen and still have it occupy but very little space when not in use. This table may be used as a breakfast table for four for the morning meal, or it may be used as a regular kitchen work table, but when not in use it can be folded in a compact form and placed in a narrow space until wanted for use again. This table may be made of either soft or hard wood, according to the use that is to be made of it. It is sometimes called the English breakfast table.

Materials—One piece, 1 by 12 inches by 12 feet. One piece, 1 by 10 inches by 6 feet. One piece, 1 by 2 inches by 16 feet. Four butt

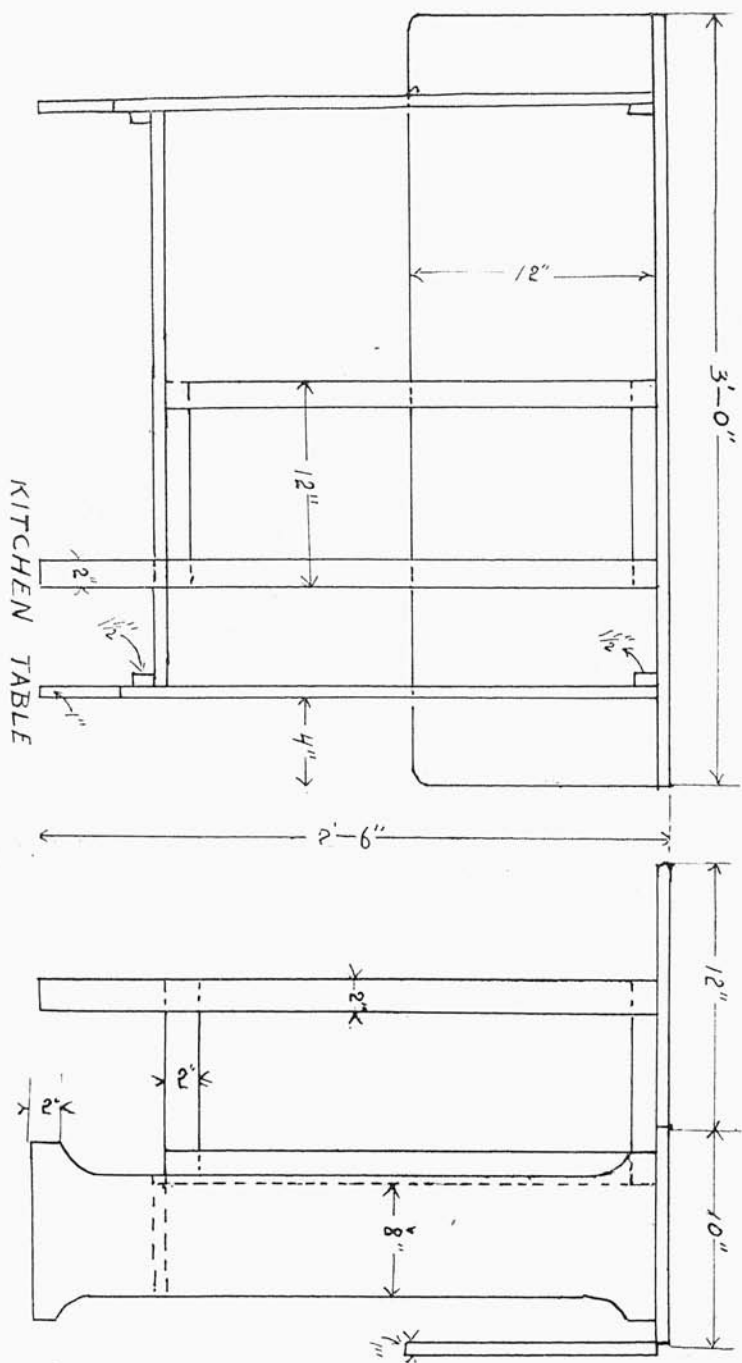


hinges, three dozen FHB No. 10 inch-and-three-quarter screws, one quart linseed oil, one quart of shellac.

Tools—Carpenter's square, saw, plane, brace and bit, chisel, hammer and screwdriver.

Stock Bill—Two pieces, 1 by 12 inches by 3 feet, top. One piece, 1 by 10 inches by 3 feet, top. One piece, 1 by 10 by 28 inches, lower shelf. Two pieces, 1 by 12 by 30 inches, legs. Two pieces, 1 by 2 by 30 inches, movable braces. Two pieces, 1 by 2 by 24 inches. Four pieces, 1 by 2 by 12 inches. Four pieces, 1½ by 10 inches, cleats.

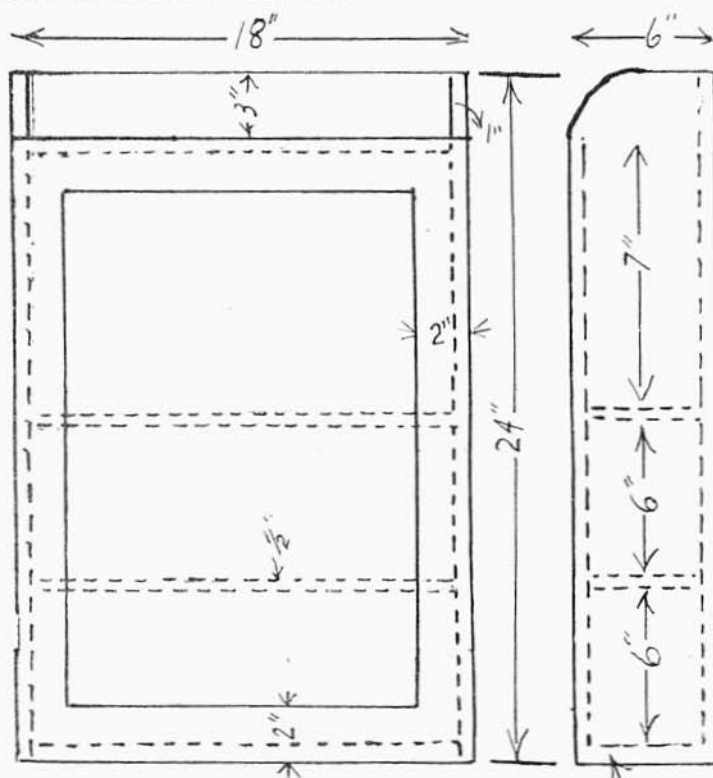
Steps in Construction—Cut all pieces to dimensions given in stock bill. In movable braces assemble the short and long pieces



by the thru mortise and tenon joints. Lay out the legs as indicated in the drawing and cut to shape. Fasten cleats on legs as indicated in drawing by means of screws. Attach bottom shelf and narrow top board by means of screws to the legs. Next fasten leaves to the top board with butt hinges. Bore $\frac{1}{2}$ -inch hole in shelf and top board for dowel pins for movable braces. Drawing on page 17 shows how each leaf is supported by movable brace which is connected by two horizontal pieces to upright which extends from bottom shelf to top of table. This upright swings on dowel pins. Side view at left shows brace folded up. End view shows brace supporting leaf. Finish table with sand paper, oil and shellac, or enamel.

EMERGENCY CASE

The emergency case, or as sometimes called, medicine cabinet, is a very useful article to have in the kitchen or bath room, for medicine, first aid articles, etc. This case may be made of soft wood, either stained or enameled.

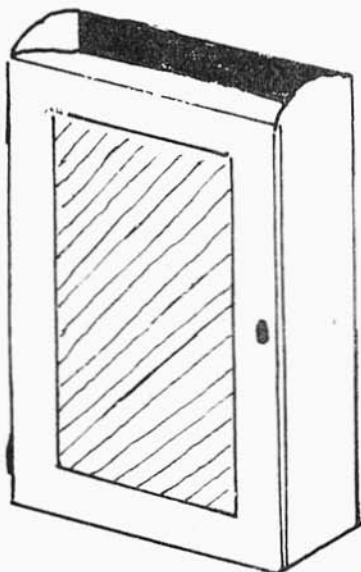


FRONT AND SIDE ELEVATION OF EMERGENCY CASE

Materials—Two pieces, 1 by 6 inches by 8 feet. One piece, 1 by 2 inches by 8 feet. One piece, $\frac{1}{2}$ by 14 inches by 6 feet. Butt hinges and cupboard catch.

Stock Bill—Two pieces, 1 by 6 by 24 inches, sides. Two pieces, 1 by $5\frac{1}{2}$ by 16 inches, top and bottom. Two pieces, 1 by 2 by 21 inches, door frame. Two pieces, 1 by 2 by 18 inches, door frame. One piece, $\frac{1}{2}$ by 15 by 18 inches, door panel. Two pieces, $\frac{1}{2}$ by 8 by 24 inches, back. Three pieces, $\frac{1}{2}$ by 6 by $16\frac{1}{2}$ inches, shelves.

Steps in Construction—Cut all pieces to dimensions, lay out design of sides, cut to design. Bore holes on inside of the ends for pegs for adjustable shelves. Assemble the sides and top and bottom by either nails or screws. Make door frame either by thru mortise and tenon or mitre joint. Before assembling the frame rabbet the edges for panel. Nail on the back. Cut off 10-penny nails for pegs for the shelves. Stain or enamel.



THE EMERGENCY CASE

Measure Your Lumber

WHEN YOU BUY a piece of two-inch dressed lumber, you are likely to find that it is only an inch and a half thick. All dressed lumber varies in this way from true dimensions in thickness and width. Length will be full stock length.

In working out some of the problems in this bulletin, the club member will find that the pieces in the stock bills are listed too long. If your cross pieces are full width, you will have to saw off this extra length, but if the cross pieces are narrow, you will need it.

