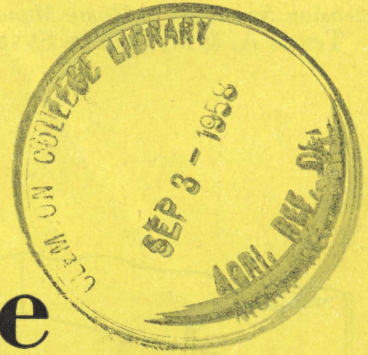


C 2



# kitchen storage devices

you can make



**CHARLOTTE TOMPKINS**

*Extension Specialist in Home Management*  
Texas A. & M. College System

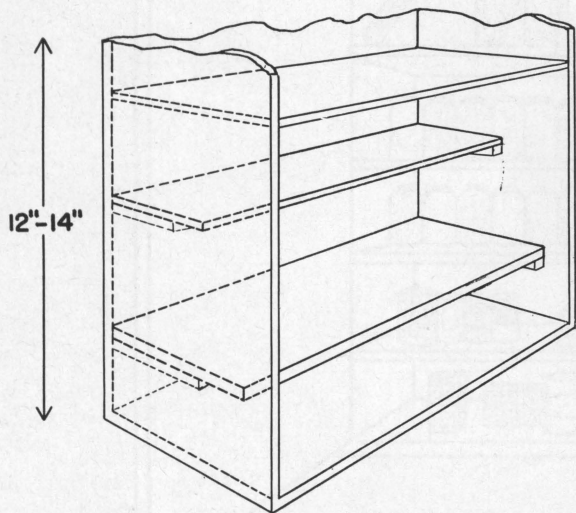
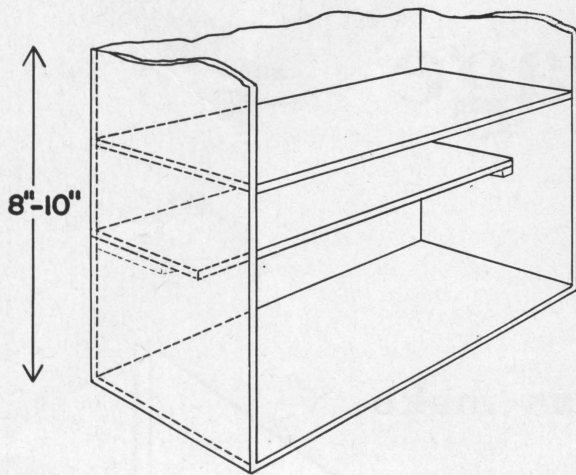


Figure 1. *Narrow shelves: top, 1 shelf added between shelves 8 to 10 inches apart; bottom, 2 shelves added between shelves 12 to 14 inches apart.*

It is possible for the homemaker to have attractive and easy-to-use storage areas in her kitchen even though her cupboards have been built a long time or she lives in a rental house. This publication presents some ideas and designs for kitchen accessories that can be built at little or no expense. An inexperienced home carpenter can convert her present kitchen cupboards into convenient, easy-to-use ones by making some of these storage aids. No measurements are given for the storage devices since the articles to be stored and the space in which they are stored will differ from home to home.

## Tools and Supplies

Most homes have the few tools needed to make simple shelves and racks, but you may wish to buy more if you plan to make several cupboard devices.

The following tools are considered essential for making the articles described in this publication:

Square

Hammer

Saw—carpenters' handsaw, coping saw or utility saw

Rule—folding, steel tape or yardstick

Wooden boxes or scraps of wood are suitable materials for many of the cupboard accessories, provided that the pieces are large enough. Or, you can buy softwood, which is easy to work with. Pieces of softwood at least  $\frac{1}{2}$  inch thick are suitable for the endpieces of many of the shelves and racks. Lattice stripping,  $1\frac{1}{4}$  to  $1\frac{3}{4}$  inches wide, is suitable for many purposes as it is already cut and finished in the width needed. Lumberyard operators often will cut new materials that they sell to the desired size at little or no extra cost.

Use small nails or brads with thin wood so that it will not split. An 18-gauge wire nail or brad is suitable for many purposes. The length of the nail will be determined by where it is used. A 1-inch nail or brad is suitable for many of the storage devices.

Very rough wood may be sanded with coarse (#2) sandpaper until it is fairly smooth, then finished with a fine sandpaper (#2/0). If finished wood, like plywood, is used, only the finest sandpaper is needed.

## General Procedure

1. Decide on the type of storage device needed. Look at the pictures on the following pages for suggestions.

# Storage devices *you can make*

Measure the cupboard and the articles to be stored to determine what size to make the storage device. Write in the size of the rack or shelf on the picture of the article in this publication.

Decide on suitable wood for the different parts. The end-pieces of shelves and racks generally are made of wood at least  $\frac{1}{2}$  inch thick; the lengthwise piece may be of thinner wood unless the articles to be stored are heavy.

Measure and mark the wood. When marking, remember that the lengthwise grain of the wood is stronger and will hold more weight than the crosswise grain. You will want to place the pattern for the device so that the strain will be borne by the lengthwise grain of the wood. Check measurements carefully to be sure that the device will fit the articles to be stored and the place in the cupboard where the device is to be used.

Saw the wood along the marked lines.

With a wood file and sandpaper smooth the cut edges of the wood but do not round them.

Nail the pieces of wood together. To make the joints stronger, they may be glued before they are nailed.

Paint or finish like the cupboard or wall where the storage device is to be used.

## Shelves

Narrow shelves may be added where the present shelves are far apart. These shelves may be held in place by:

Narrow strips of wood nailed in place (these are called cleats).

Metal brackets or angle irons.

Large screw eyes placed so that the shelf will rest on the flat surface of the screw eyes, or screw eyes and hooks.

Pegs inserted in holes bored in the side of the cupboard.

Adjustable metal shelf standards and supports.

## FIGURE 1

One narrow shelf may be added between shelves 8 to 10 inches apart. If shelves are 12 or more inches apart, two narrow shelves may be added. The article to be stored in the space will determine how wide and how far apart you make the shelves.

## FIGURE 2

Narrow shelves may be added between the counter top and the upper cupboards. If two are built, the upper shelf may be wider than the lower. Canisters or other frequently used

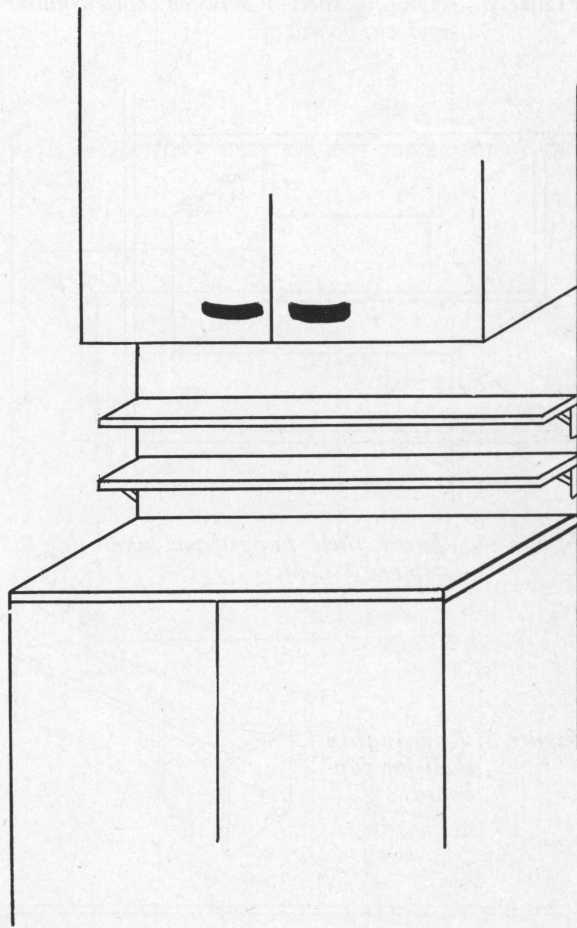


Figure 2. *Narrow shelves added between counter top and cupboard.*

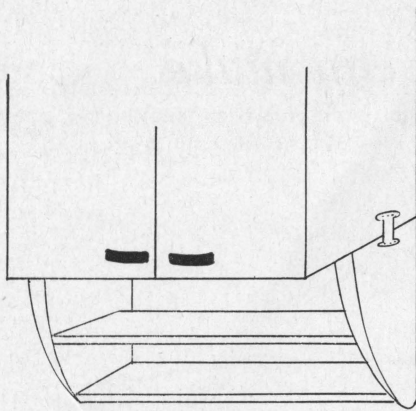


Figure 3. Hanging shelves between work counter and cupboard.

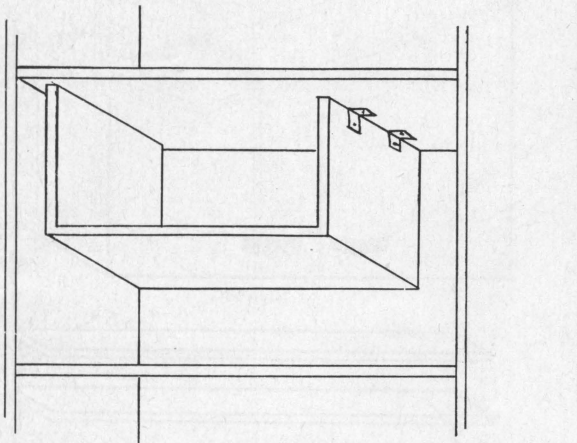


Figure 4. Extra shelf hung from underside of cupboard shelf.

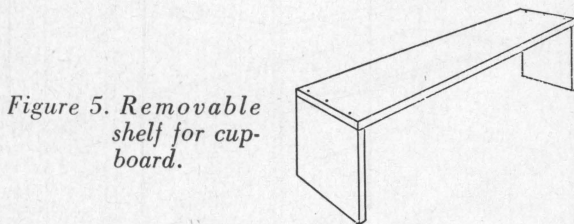


Figure 5. Removable shelf for cupboard.

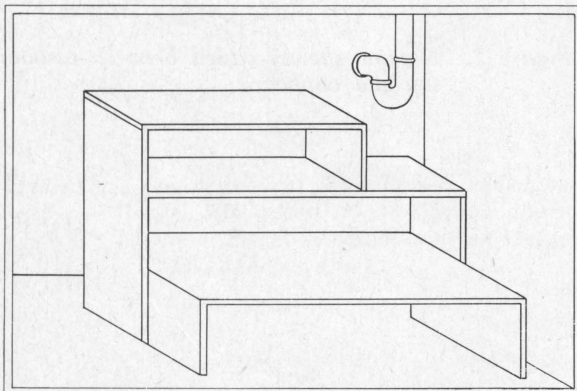


Figure 6. Removable step shelf.

articles may be stored on these shelves so that they will be easy to reach yet not interfere with using or cleaning work surface. When it is not possible to fasten shelves on wall, perhaps they can be hung as in Figure 3.

## Hanging Shelves

FIGURE 3

Two shelves may be fastened to end pieces and hung in the easy-to-reach space between the work counter and upper cupboards. In this case, the lower shelf should be narrower than the upper one, and the end pieces shaped to conform to the width of the shelves. Fasten these shelves to the upper cupboards with flat strips of metal, with angle irons or with screw eyes and hooks. These shelves are convenient at a mixing center for storing frequently used articles such as seasonings and measuring cups.

FIGURE 4

An extra shelf may be hung on the underside of a shelf in an upper cupboard where the original shelves are far apart and where the added shelf is not to be as long as the cupboard shelf. Fasten the shelf in place with angle irons with screw eyes and hooks. A wide, low shelf of this type may be used for a platter—narrow one for cups or glasses.

## Removable Shelves

Removable shelves are easy to make and may be used for many purposes. They are especially convenient in old cupboards, and cupboards in rented homes.

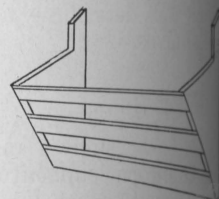
FIGURE 5

The size of the shelf will be determined by the articles to be stored and the place where it is to be used. A shelf 12 inches wide and 15 inches long will hold 12 juice glasses. If this shelf is 5½ inches high, average-sized water glasses can be stored on the shelf underneath. A shelf 7 inches wide, 10 inches long and 5 inches high will fit over a stack of 12 dinner plates and hold a vegetable bowl.

FIGURE 6

A small removable shelf may be placed on top of a larger one to form a step shelf. These are convenient when the cupboard shelves are more than 10 inches apart and when small articles are to be stored. It is a particularly handy arrangement where two shelves of different lengths are needed.

Figure 7. Rack for cupboard door.



## Racks

FIGURE 7, 8, 9, 10

Racks on cupboard doors must be shorter than the width of the door to allow for opening and closing the door. It is necessary for the racks to be placed so that they will be between the shelves when the doors are closed. When you design the rack, plan to make the front of it high enough to prevent stored articles from falling out when the door is opened. Use a narrow strip of wood or wire for the front of spice racks, placed so that the labels on the containers may be seen.

Racks may be held in place with screws, small angle irons or screw eyes and hooks. If screws are used, bore a hole through the narrow upper part of the endpieces. A rack that will be used to store a heavy article such as flour or sugar may need to be fastened on the door with screws and braced at the bottom with an angle iron. The door on which a heavy rack is fastened may need an extra hinge to prevent sagging.

## Racks for Cutlery

Racks for cutlery may be purchased for a small sum, but it is not always possible to find one that suits your knives or the place where you want to use the rack.

FIGURE 11

A cigarbox can be used to make a rack that will protect the knife blades. From a piece of wood  $\frac{3}{4}$  inch thick, cut a block the size of one end of the cigarbox. Mark on the block the position of the slots for the knife blades. Set the cigarbox on end, open out the lid, and place the marked block on the upper end of the cigarbox. Before sawing, fasten the block in place, nailing from the inside so that the nailheads will not show on the outside. Check carefully to be sure there will be no nails where the slots are marked. Saw the slots while the lid is open; then nail the lid of the cigarbox in place. Use screw eyes and hooks for hanging the rack.

FIGURES 12 AND 13

A narrow knife rack may be made by fastening three pieces of  $\frac{1}{4}$ -inch plywood together. The outside pieces of wood are solid, and slots are cut in the middle piece to fit the knife blades. The rack may be rectangular or curved to fit a cabinet. Measure the longest knife blade and add 1 inch.

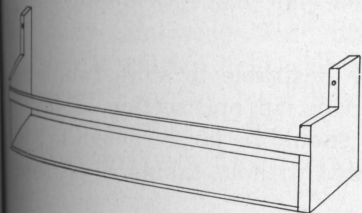


Figure 8. Spice rack for cupboard door.

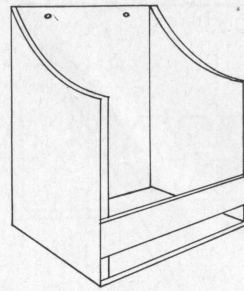


Figure 9. Heavy-duty rack for cupboard door.

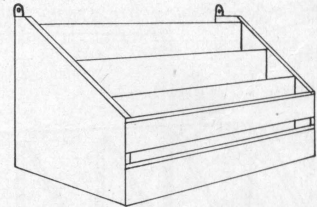


Figure 10. Rack with dividers for cupboard door.

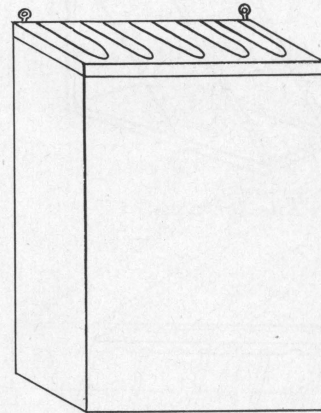


Figure 11. Knife rack made from a cigarbox.

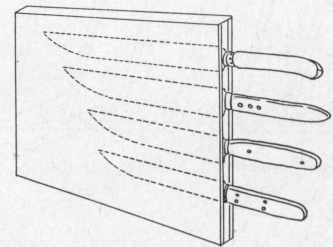


Figure 12. Narrow, rectangular, knife rack.

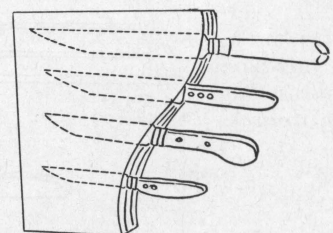


Figure 13. Narrow, curved, knife rack.

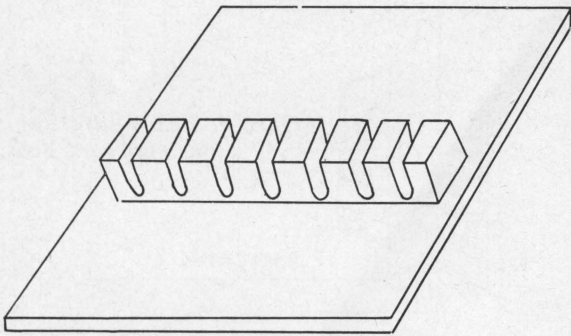


Figure 14. Knife rack for drawer storage.

This measurement will be the length of the rack. The width of the rack will be the combined width of the knives, plus space between them for ease in grasping the handles. Make a paper pattern the size decided upon and check for size by laying the knives on the pattern. Cut three pieces of plywood the size of the pattern. Lay the knife blades on one piece of wood and mark around them. Saw along the marks with coping saw. Glue the three pieces of wood together with the slotted piece in the middle. To make the rack stronger, put it in a vise or weight it down with a heavy object until the glue sets. With four wire brads or nails, fasten the rack vertically to the side of the cupboard or horizontally under a shelf or an upper cupboard.

FIGURE 14

A slotted strip of wood may be used for storing knives or other tools in a drawer. Cut a strip  $1\frac{1}{2}$  inches wide from wood at least  $\frac{3}{4}$  inch thick and as long as the drawer is wide. Cut the slots 1 inch deep and space them so that the handles of the tools are easy to grasp. The width of each slot will be determined by the tool to be stored in it. For instance, the handle of a wooden spoon will require a wider slot than the blade of a knife. The rack may be glued to the bottom of the drawer or fastened at the ends with screws. Or, a piece of plywood or hard board may be cut the size of the drawer, the knife rack fastened to it and the whole thing set in the drawer.

## Files

Vertical and horizontal files provide storage for shallow articles that cannot be stacked. These files may be built with sides and a bottom and set on a shelf or in a drawer, or they may be built in permanently if removable dividers are used. The dividers may be made of plywood, hard board, metal, thin crate wood or any other similar thin material. Their shape and size should be such that the dividers will not interfere with grasping the stored article. The dividers may be held in place by solid pieces of wood between them, narrow strips of wood on each side, pieces of quarter round molding or a series of brads or staples. Or, if you have the tools, you may cut grooves in the wood to hold the dividers. You might wish to have the boards grooved at the lumberyard when you purchase your materials.

FIGURES 15 AND 16

Pan files may be made with a bottom and a back or with a bottom and a top. The ends and dividers may be solid pieces of wood, or if scrap wood is being used, strips may be cut to fit.

In some cases it may be desirable to store two or more like articles, such as pie pans, in one section of the files. When this is done, the space should be large enough to permit removing the pan that is needed without taking all of the pans out.

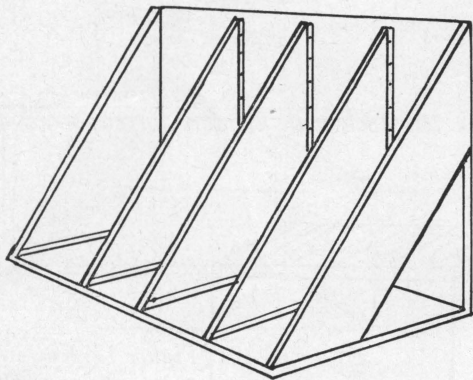


Figure 15. File for pans.

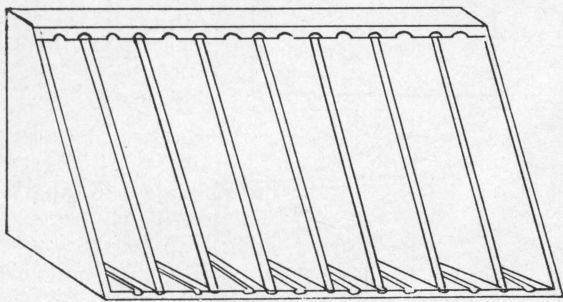
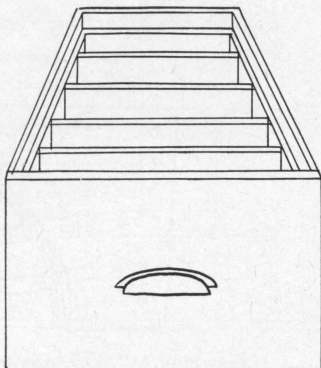


Figure 16. File for pans.

Figure 17. Box-type file set in a drawer.



FIGURES 17 AND 18

A file may be built like a box without a bottom and set on a shelf or down in a drawer. The dividers should not extend so close to the front of the shelf or to the top of the drawer as to interfere with grasping the articles stored there.

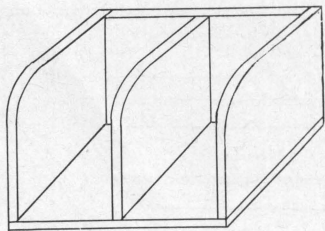


Figure 18. Box-type file for a shelf.

FIGURE 19

A horizontal file with slanting dividers may be used for platters that are too wide to set on a shelf. Narrow cleats are used to hold the dividers in place.

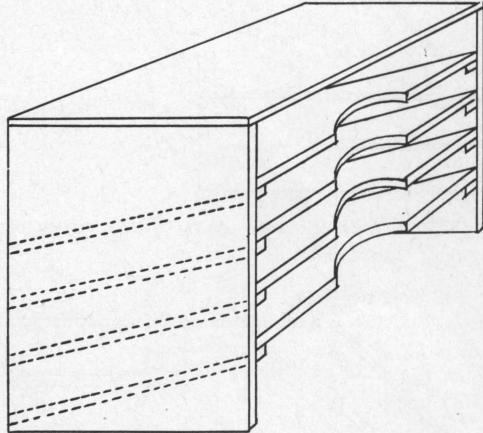


Figure 19. File with slanting dividers.

Drawer Dividers

Dividers and partitions in a drawer will keep articles separated so that they are easy to see and pick up. Inexpensive, commercially made dividers are satisfactory when they fit the drawer and the articles to be stored, or you may want to make your own.

FIGURES 20, 21, 22

To make dividers, first cut a piece of paper the size of the bottom of the drawer and make a pattern from it. Place each article to be stored on the paper where it is to be kept in the drawer. Mark the spaces required for each article. From this pattern you can measure the length of wood needed and know where to place the partitions. The sides of the drawer should be deeper than the partitions.

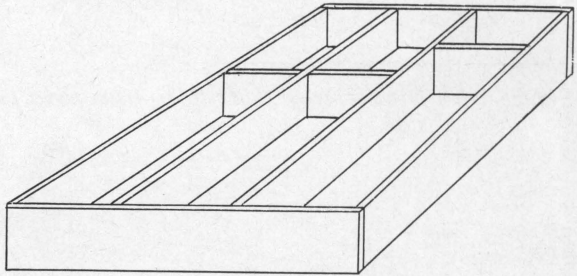


Figure 20. Drawer dividers.

The drawer will be easier to clean if you make dividers that are removable. One way is to make the frame the size of the inside of the drawer with dividers fastened into the frame. If a frame is not used, small cleats may be nailed to the side of the drawer to hold removable dividers in place. Masking tape may be used to hold the dividers in place if lightweight articles are to be stored in the drawer.

Sliding Trays

Shallow trays that slide from front to back or from side to side may be made in order to use drawer space to better advantage. A tray generally covers one-third to one-half of the drawer to permit access to the articles stored below it. Small articles that do not interfere with opening and closing the drawer can be stored in the tray.

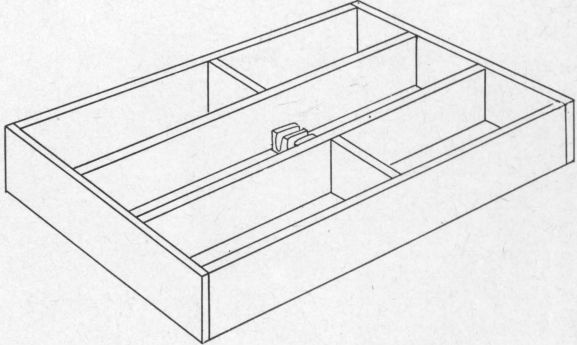


Figure 21. Drawer dividers.

FIGURES 23 AND 24

The sides of the tray may be made of lattice stripping or other fairly thin wood. Thin plywood is unsuitable for the sides since it will not hold well where it is nailed together at the corners. Plywood, hard board or other thin wood may be used for bottom of the tray. Lattice stripping or other narrow wood may be used for the runners on which the tray slides.

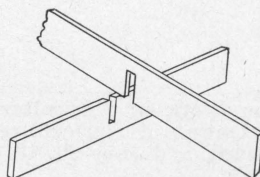


Figure 22. Drawer dividers.

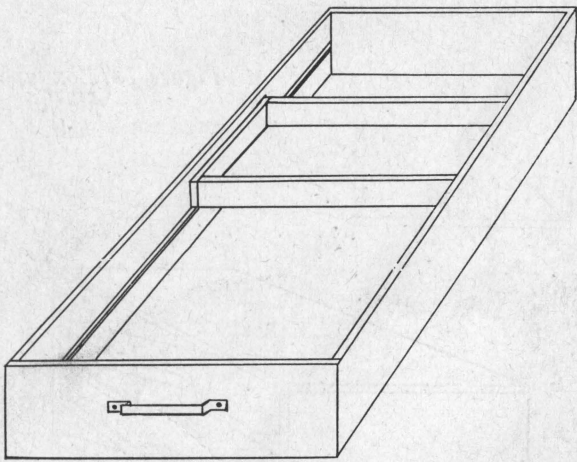


Figure 23. Drawer tray that slides from front to back.

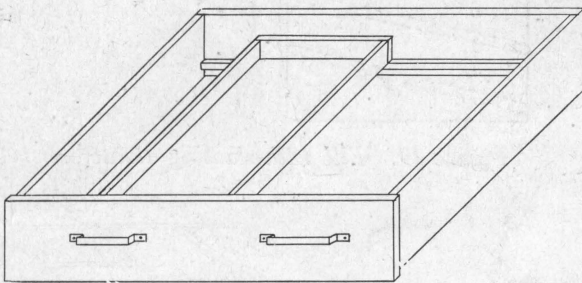


Figure 24. Drawer tray that slides from side to side.

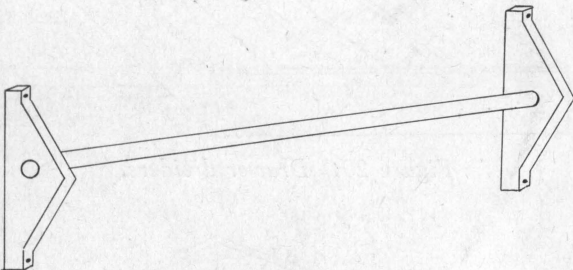


Figure 25. Towel rack.

Determine the depth of the tray, allow some clearance at the top and nail the runners in place on the sides of the drawer. Cut the bottom of the tray and fit it into the drawer to see that it slides easily. Fit and cut the four sides of the tray. Plan them so that the pull will be against the nails at the corners. For example, in a tray that slides from front to back, the pieces at either side will extend over those at the front and back. Nail the four sides of the tray together at the corners; then nail the bottom to the sides.

## Towel Racks

FIGURE 25

It is sometimes difficult to find a towel rack that will fit the space in which you want to put it. You can make one from a scrap of wood  $\frac{3}{4}$  inch thick for the endpieces and a broomstick for the rod.

Cut the endpieces of the rack so that the grain of the wood will be parallel to the surface where the rack will be fastened. Cut the bar the desired length either from a broomstick or from  $\frac{1}{2}$ -inch doweling. In the endpieces, bore holes the size of the bar. Practice boring holes in scrap wood first to be sure that you use the proper size bit. The rack will be more attractive if the holes are bored only halfway through the wood, but it will be stronger if the holes are bored all the way through the wood. Glue the bar into the endpieces. Check carefully before the glue hardens to see that the endpieces are straight.



The information and storage ideas in this publication are based largely upon work done by the U. S. Department of Agriculture, by cooperating experiment stations of the Land Grant Colleges and by the Agricultural Extension Services of various states.