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THOMAS P. COOPER, Dean and Director

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WIFE SAVING KITCHENS



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By MARY MAY MILLER

Field Agent in Foods

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Section 1

THE HOME KITCHEN

The home kitchen may well be called the housekeeper's workshop. It is here that the greater part of the housework is done and especially that which pertains to the preparation of the family meals. The ideal kitchen is well lighted, well ventilated, has sanitary floors, walls and woodwork and has suitable protection against flies and vermin of all kinds. It is conveniently located with reference to the rest of the house and has the necessary equipment so arranged that the work can be done with the least possible expenditure of time and energy.

The kitchen often serves as the living room, laundry, wash room, entry from out doors and the passageway to other parts of the house, as well as the place for the preparation of the family meals. Each housekeeper should make a study of her own home conditions and decide whether it is best for all concerned to have a kitchen for a general-purpose room or to plan one for use only in the preparation of food and for related tasks.

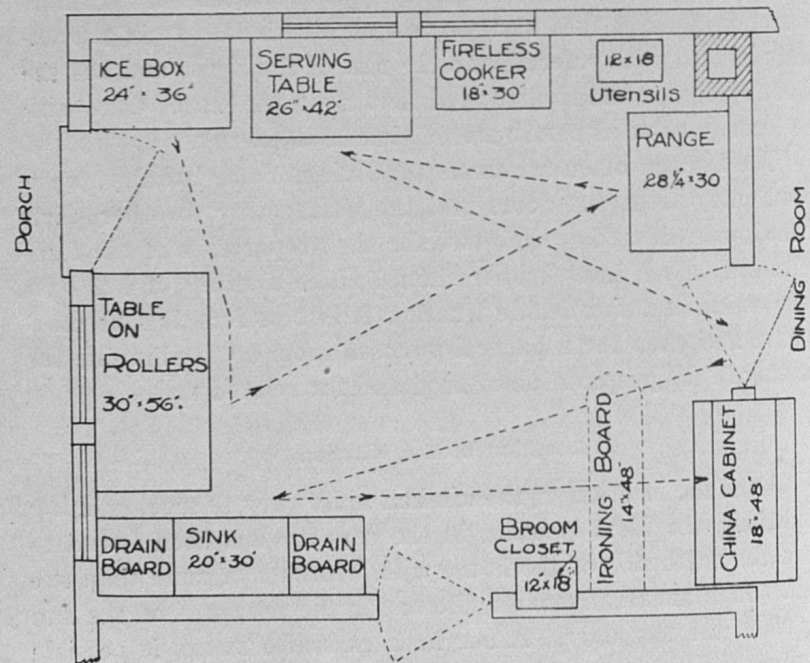
Location of the Kitchen

Altho the location of the kitchen must vary to meet existing conditions, the ideal location in the country has been found to be on the north side of the house with windows in more than one wall. Such an arrangement allows for the entrance of the sun a part of the day only. A northern exposure makes it possible to place the refrigerator on the north wall and, with the instal-

lation of an outside opening, to use the box for cold storage without ice in winter. The cold box is a good substitute for the refrigerator in localities where ice cannot be obtained and should be built thru the north wall. The connection between the kitchen and dining room should be as direct as possible.

Size of the Kitchen

The first step toward reducing time spent in the kitchen is to have one that is compact. The kind of work, number of persons doing the work and the size of the house and family should determine the size of the kitchen. A floor space of 10x12 feet is usually suitable for one worker and a floor space 2 feet larger each way for more than one worker. The kitchen that is slightly oblong makes it possible to arrange the equipment to best advantage and promotes good ventilation. The plan given below shows a kitchen that is used for preparation of food and related tasks only.

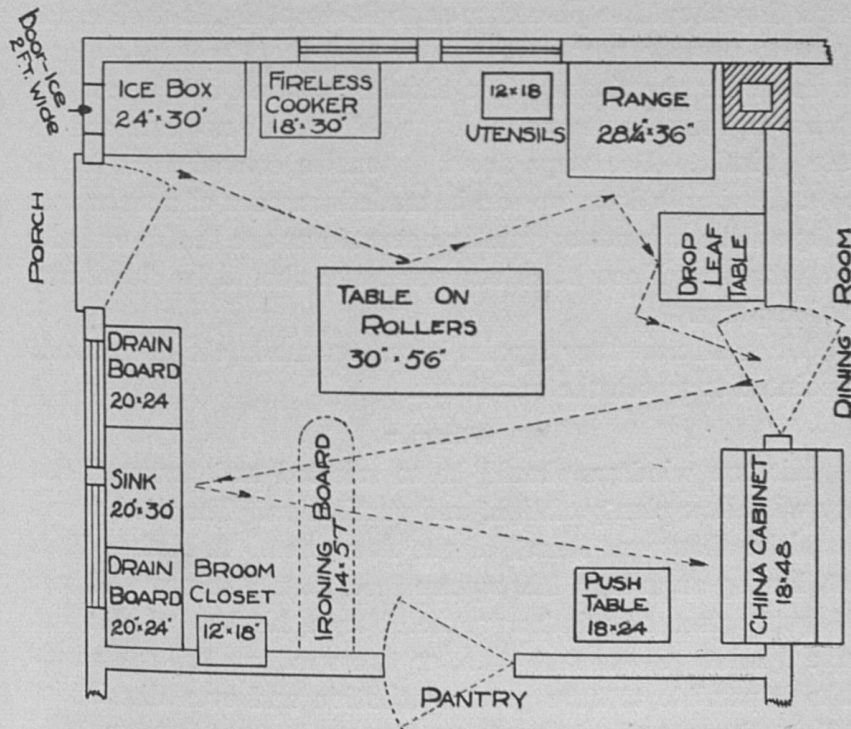


1.—Poor Arrangement of Kitchen Equipment.

Arrangement of Doors

After the location and the size of the kitchen have been determined, the place of the openings should be considered. The inconvenience of many kitchens can often be traced to poorly arranged doors and windows. As many as six doors can be found in one kitchen, thus breaking the wall space, causing poor arrangement of equipment. One should remember that every time a door is cut, the wall space is divided, establishing a new path of travel between two points. A diagram should be made of all lines of travel between doors when the kitchen is planned, so that the doors can be well spaced.

Altho several doors are needed in connection with the kitchen, with careful planning, suitable combinations can be made. By placing the outside door, cellar door and the door leading to the back stairway, if there is to be one, in an outside entry there will be less broken wall space in the kitchen. In a well planned kitchen two or three doors in a corner or in one wall



2.—Improved Arrangement of Kitchen Equipment.

will usually provide for a compact arrangement of stove, sink, worktable and cupboard.

Doors two feet eight inches by seven feet make satisfactory doors between kitchen, pantry and dining room. The outside door, opening into a screened porch, should be three feet wide and seven feet high to provide room for moving large equipment thru it.

The doors between kitchen, pantry and dining room should be hung so as to swing both ways and should be provided with door stops. If the door leading to the dining room is placed near a corner and is hung so as to swing toward the center of the room and not against the wall, there will be no direct view from the dining table into the pantry or kitchen.

If old doors are to be entirely satisfactory, it is necessary that they fit the door frame. If the doors sag so that they cannot be closed tightly they should be rehung. If the doors rub against the frame so that they are not easily opened and closed they should be planed so as to fit smoothly. It is often necessary to provide new door sills so that there will be no large cracks under the doors. One should examine door knobs and catches and supply new ones, if the old ones do not turn and operate quickly. Doorstops are inexpensive conveniences for all doors. A simple doorstop can be made by means of a screw hook and eye altho it is not as quickly operated as one that is made for that purpose. Knot holes and rat holes should be closed with wooden plugs.

When all necessary repairs have been made, the doors should be painted to match the woodwork.

Windows

Kitchen windows should be so selected and arranged that they will allow plenty of light and ventilation. The window area should be about one-fourth of the floor area. A kitchen 10x12 feet, having an area of 120 square feet, should be provided with 30 square feet of window space. For a kitchen of this size, three windows 2½x4 feet each, or two windows 3x5 feet should make it possible to have good ventilation and even distribution of light thruout the day.

For best results, the windows should be placed high, far apart and in more than one wall. They should not be more than one foot from the ceiling so that the heat and odors can readily escape. If the windows are placed with the sills about 4 feet from the floor, the wall space underneath can be used to good advantage.

Further ventilation in the kitchen may be secured by providing the range or gas stove with a hood that has a pipe running up into the flue. Such a provision makes it possible to concentrate the drafts around the surface of the stove so that the heated air, gases and odors will pass out thru the pipe connected with the hood that has been suspended above the stove.

Unless there is an eastern or southern exposure, windows are ideal above the sink. However, if the windows are placed high and are provided with adjustable blinds that can be lowered over either sash or both, the glare and heat might not be too great for the comfort of the worker.

Double hung sash, that can be raised from the bottom or lowered from the top by means of a pole provided with a right-angled metal hook, are good for kitchen windows. All windows should be fitted with tight screens thruout the fly season. Sash that can be tipped back and forth are an advantage, since the entire space is available for ventilation, when desired. Special screens can be secured for these windows. The casement windows that are hung on hinges are attractive, but rather difficult to operate. They are more convenient and can usually be made to fit more tightly if hung so as to swing to the outside. However, it will be necessary to provide these windows with special screens.

Windows with one or two panes of glass are not as difficult to clean as those having several small ones to each sash. Frosted glass or one of the substitutes for stained glass can be used in the lower sash where it is desirable to shut off the view from the window. When homes are constructed close together, it is usually necessary to hang curtains over the lower sash for privacy. They should be made of white, inexpensive cotton material that can be easily laundered. Side curtains with scant, narrow ruf-

fles between, when made of small checked gingham in colors to harmonize with the color scheme of the room, always add a pleasing finish to the kitchen windows if sash curtains are not needed.

Dark, poorly ventilated kitchens can be greatly improved by adding new windows or rearranging the old ones. Additional light can be secured by placing glass panels in doors and transoms over the doors. The windows should fit window frames so that they can be easily opened and closed. If the strips around windows have become loose, they should be tightened so that the windows can be opened without difficulty. All broken panes should be replaced in order that the windows can be made more sightly than when stuffed with rags and papers.

New Kitchen Floors

Kitchen floors should meet the highest ideals of sanitation. They should be non-absorbent, smooth, tight and as easy to clean as possible. The floors of adjoining rooms should be on the same level since steps between rooms are dangerous and inconvenient.

Wood flooring is very satisfactory in the kitchen if well seasoned, properly laid and given a durable finish. To lessen the swelling and shrinking due to changes in atmospheric conditions, any kind of wood flooring should be well seasoned before it is laid. Quarter-sawed flooring is less likely to shrink and swell than the plain sawed. Flooring seven-eighths of an inch thick by two and one-half inches wide is a good size. However, if linoleum is to be used, a wider flooring is satisfactory and less expensive. Hard woods wear more evenly and take a more durable finish than soft woods. Maple is especially satisfactory as the pores are small making the surface smooth and can be made impervious to grease and water when properly oiled. Beech, Georgia pine and spruce are also desirable and can be oiled or painted.

There are a variety of "composition" floor materials on the market which are good for use in kitchens. The material generally comes in powder form and is mixed and spread after the manner

of cement. Two or more coats are applied, the first one frequently being applied to metal lath and forming a continuous surface with the baseboard. These materials come in a variety of colors and do not absorb grease or water. Some of them tend to crack and chip with wear and are hard to stand on but can be made more resilient by a supply of mats. To be entirely satisfactory, they should be laid by the manufacturers' own workmen.

Cement and tile floors are often advocated for kitchens. They are attractive, durable, sanitary and easily cleaned, but cause fatigue since the surfaces are hard and non-resilient. Tile floors are too expensive to be practical for use in the average home but the cement floor is a good choice if provided with a generous supply of rubber mats to prevent fatigue. The cement floor should be given a finish of stain or paint and wax so that it will not absorb grease.

Since cement contains lime, which is injurious to paint, it should be scrubbed with a solution made by dissolving three or four pounds of zinc sulphate in one gallon of water before the paint is applied.

Finishes for Kitchen Floors

Unfinished wood floors are never satisfactory, as constant scrubbing splinters the wood, enlarges the cracks and shortens the life of the floor. Even hard wood floors are likely to show spots and stains with the best of care. Two or three coats of hard deck paint will help to prevent roughening of soft woods and hard woods can be made less absorbent of grease and stains if treated with oil.

Paint is often used on soft wood floors and old floors that need renovating. It is not a very durable finish, but mats can be placed in front of the stove, worktable and sink to protect the paint where wear is great. No paint should be applied until all cracks and pores have been filled. A filler can be made by melting glue with a little water over hot water, thickening with fine sawdust and coloring to match the floor finish to be used. This mixture should be worked into the cracks while hot. The floor should then be planed or sandpapered until smooth, then

scrubbed and dried thoroly. It is important that the floor and room be free from dust, so that dust will not settle in the fresh coats of paint. Each coat should be thoroly brushed into the wood, lengthwise of the grain, and allowed ample time to dry. If desired, a coating of equal parts of turpentine and linseed oil can be rubbed on with a soft cloth after the last coat of paint has thoroly dried, and the floor then polished with a soft woolen cloth. This gives a soft, lustrous finish and makes the paint wear longer.

Oiling is an economical and common way to finish hard wood floors in the kitchen. The oil is easy to apply, gives a durable finish and makes the wood practically impervious to grease and water. The floor should be clean, dry and free from dust before it is treated with oil. A mixture of turpentine and oil will penetrate the wood more quickly and leave a thinner film on the surface than the clear oil. Most new floors will absorb two coats of oil. The oil should be brushed on with the grain of the wood and then rubbed in with a soft, oily cloth. Excess oil should be removed with a dry cloth and the floor allowed to dry, after which it can be polished with a covered block of wood or a covered weighted brush.

Varnish is not a very satisfactory finish for kitchen floors that receive hard wear. An oil varnish dries slowly, but gives hardness and durability to the floor. A spar varnish contains more oil and is impervious to moisture. Before the varnish is applied, the floor should be treated according to the directions given for painting floors. See page 9. The varnish can then be applied with the grain of the wood in a smooth, thin coat with an absolutely clean brush. Each coat should be allowed to dry about twenty-four hours with a temperature near 70 degrees if possible.

Floors will retain the finish longer if no water is used but the floor swept with a soft brush and wiped with a *slightly* oiled mop. When a more thoro cleaning is necessary, a cloth wrung out of warm water containing a small amount of some mild soap can be used and a cloth slightly moistened with oil or kerosene used in polishing the floor. Soap solutions should be used only

occasionally and the floor kept dry. White water spots should be rubbed with kerosene or a floor oil. A floor oil can be made by thinning one part of linseed oil with three parts of turpentine. Oil should always be used sparingly so that it will not be tracked from one room to another.

Old Kitchen Floors

An old wood floor that has become splintered and badly worn thru constant scrubbing should be made tight, level and smooth and then coated with some floor finish or covering. It is sometimes advisable to lay an entirely new floor rather than to attempt to make over an old rough floor. If, however, the old floor is to be renovated, the holes and cracks should be filled with a filler. After using the filler one should plane or sandpaper the floor until smooth. The floor should then be scrubbed and dried. When the floor and room are as free from dust as possible the first coat of finish can be applied or the floor covered with linoleum.

A wood floor that has been finished in paint or varnish should be scrubbed, dried and renovated by applying a new coat over the old, if the wood is not too badly worn. If the floor is rough and badly worn the old finish should be removed by using a paste made by mixing three tablespoons of lye with one quart of starch solution made as for starching clothes. This paste should be applied with a *vegetable fiber* brush. In a few minutes the loosened finish can be scraped off and floor scrubbed several times with clean water. This paste should be kept from clothing and hands. Stains can be removed by rubbing a solution of oxalic acid on the spots and leaving over night. All traces of this acid should be washed away with hot water and the floor dried. The floor should then be made tight, level and smooth by using a filler and by planing according to previous directions. When the floor and room are as free from dust as possible the first coat of the new finish may be applied, or the floor covered with linoleum.

If the old wood floor has been finished in shellac and it is necessary to remove the old coats, they can be removed by using

denatured alcohol and scouring with steel wool. After removing the old coats, the floor should be made tight, level and smooth. It should then be thoroly scrubbed and dried. When the room and floor are as free from dust as possible the new coats of shellac or any other finish may be applied in the same way as for varnish or paint, or the floor covered with linoleum.

An old floor that has been oiled often becomes dark and dingy. The oil can be removed with the lye paste as for varnish or paint. After thoro cleaning and after the floor has been made tight, level and smooth and free from dust it may be treated with oil.

Linoleum

Linoleum makes an ideal covering for kitchen floors, but will give complete satisfaction only when properly laid with every seam cemented. The three grades of linoleum on the market are the printed, inlaid and plain or battleship linoleum. The printed linoleum is a thin grade with the pattern only on the surface and is not very durable. Altho its wearing qualities are limited, this grade can be satisfactorily used on kitchen floors that do not receive great wear, especially if given an occasional coat of varnish. The inlaid linoleum is a heavier grade and its pattern is more durable since it extends thru to the backing. These two grades are made in strips that range from two to four yards in width. The battleship linoleum is a very heavy grade and is made in strips six feet wide. It is comfortable to stand and walk on and is restful to the eye. All linoleum is sold by the square yard.

In order to obtain the best service, one should be sure that the floor is smooth, level and dry before laying the linoleum. Linoleum should be laid in as few pieces as possible and if purchased in cold weather, the roll should be stood in a warm room for two or three days before it is unrolled, to avoid the possibility of its cracking. The quarter round at the foot of the baseboard should be removed and the strips of linoleum placed across the boards if possible. The strips should be fitted tightly and left untacked for two or three weeks so as to allow for expansion.

It must fit the floor smoothly or it will buckle. As the linoleum expands the edges can be trimmed so that the quarter round will just cover them. The quarter round should fit so tightly over the edges of the linoleum that dirt and water will be kept from working under it. Metal strips should be tacked along all exposed edges of the linoleum. It is usually desirable to cement all seams. Directions for using the cement can be obtained from the dealer.

Linoleum covered floors require special care in order to preserve the linoleum. The daily care can be the same as for other floors. As moisture causes linoleum to deteriorate, it is important that the floor never be flooded and only a small area cleaned at a time. Warm soap suds can be used when the surface is unusually soiled, if followed by clear rinsing water and thoro drying. Too frequent use of soapsuds should be avoided as soap tends to destroy the oil in the linoleum, making it brittle. Glass or wooden shoes placed under the casters of heavy equipment will prevent unnecessary breaks in the linoleum. Small mats placed in front of the stove, sink and worktable will protect the floor covering. If newspapers are spread on the floor near the stove when frying foods that make the grease spatter, the floor will not become unsightly.

Walls and Woodwork

Plaster is usually the most satisfactory material for the walls of the kitchen. The mortar should be properly mixed and the plaster thoroly dried before applying the finish so that cracks and blisters will not form.

Plaster board is often used in place of plaster. It is a composition board and when well placed resembles plaster. It does not warp and is slightly higher in price than beaver board. The beaver board is a fairly satisfactory covering for rough board walls. It is made in strips which should be placed so as to run from ceiling to floor. In order to secure a uniform effect, the strips should be so cut that those on opposite walls will correspond in width and size. It is usually desirable to use wood strips over all seams. The nail holes should be filled with a plastic

filler made for that purpose. If the beaver board is nailed to the uprights, without a wall behind it for a foundation, it is likely to warp and work loose.

If plain wood walls are to be used they should be made of smooth, close fitting boards and should be free from crevices. Wood wainscotings are not sanitary and are difficult to clean.

The woodwork in the kitchen should be as free from grooves and trimmings as possible. It should not be dark; cherry, mahogany or even golden oak are too somber. Pine, maple or birch in natural finish are more cheerful, but not as desirable as clean, light colored paint for finish.

Finishes for Walls and Woodwork

The most desirable finish for kitchen walls and woodwork is one that will not peel, is easily cleaned or cheaply renewed. A good oil paint is very satisfactory as it can be dusted with a dry wall brush or cleaned with a damp cloth and mild soap. This paint can be used on any kind of surface and is durable. A cold water paint such as alabastine can be satisfactorily used over rough plaster, plaster board and beaver board. It makes a very inexpensive finish since one five-pound package will usually be sufficient for two coats for the average room 10x12 feet. Since it cannot be washed or cleaned easily, a new coat should be added annually. Directions for removing old coats are given on page 16. A satisfactory treatment can be secured by finishing the side walls and woodwork with oil paint and the ceiling, which is difficult to clean, with a cold water paint that can be cheaply renewed.

Wall paper, unless varnished, is easily loosened by heat and steam and is not a very sanitary covering for the kitchen wall. Oil cloth paper is more sanitary, since its smooth surface can be easily cleaned. However, water must be used sparingly as this paper will loosen if water seeps thru the seams.

Light colors make the kitchen a cheerful room in which to work and reflect the light in such a way that there are no dark corners. A pleasing effect can be secured by painting the woodwork and furniture two shades darker than the walls. If the

ceiling is finished in cream or white, the walls in a pale tone of the chosen color and the floor somewhat darker than the walls, a good relation between the surfaces will result. Pale greens, blues and grays are suitable for sunny kitchens, and creams, buffs and tans for kitchens that lack sunlight. Good color combinations would be: (1) ceiling cream, walls pale apple green, woodwork and furniture in light gray, floor painted in dark gray or covered with green and white linoleum; (2) ceiling in white, walls cream, woodwork and furniture buff, floor covered with brown and buff linoleum or painted a soft gray or a good shade of brown; (3) ceiling cream, walls cream or buff, woodwork and furniture a light gray, floor dark gray linoleum or a brown and buff linoleum.

Old Walls and Woodwork

A kitchen is often made dark and dingy by the use of somber colors that will not show dirt. It is not always economy to use real practical colors in the kitchen. It is much more desirable to use light colors so that the kitchen duties can be done in bright, cheerful surroundings. The old gloomy kitchen can be made more pleasing by the use of suitable color combinations.

Old, unfinished wood walls can be made more sightly by the application of a few coats of paint. A cold water paint, such as alabastine, makes a very inexpensive finish for walls that are not too smooth, and is perhaps the most practical for very old wood walls. This paint comes in powder form and should be mixed with cold water and applied with a good paint brush with long strokes. As the solution dries quickly, it is best to use it on cool days. One should be sure that each stroke is made close to the previous one and that the strokes are made with a downward sweep. This paint is easily applied and does not require as much skill and time as the oil paints which have to be brushed into the wood.

If an old wood wall has been painted with a cold water paint or whitewash, the wall may be made more sightly by the application of a coat of new paint from year to year. Since only four coats can usually be applied with satisfaction, it is

advisable to remove them before attempting to apply a new one. The old coats can be removed by moistening the wall thoroly and then scrubbing with warm water and a mop. When the wall has dried thoroly, the new coats can be applied according to the directions on the package.

If an old board wall has become badly discolored and has large cracks between the boards, it is usually advisable to cover the walls with plaster board or beaver board. It is not usually necessary to paint new plaster board or beaver board but when it has become slightly soiled a cold water paint or an oil paint can be used. The effect is usually more pleasing if the wooden strips at the seams are painted to match the beaver board.

An old wall that has been finished in an oil paint can be improved by cleaning with a weak soap solution or by applying a new coat of paint over the old one. Two or three coats of a light color can be applied over a dark coat. Old coats of oil paint can be removed, when necessary, by applying the lye paste described under "Old Kitchen Floors." After the old coats have been removed and the wall washed several times in clear water, the new coats can be added.

Altho paper is not considered sanitary for a kitchen wall and is easily loosened by heat and steam, temporary improvement can be secured with little expense by the application of two coats of cold water paint over old wall paper. If the paper has become loose, it can be pasted in place and the paint then applied. The patterns on the wall paper and ordinary dirt will not show thru this paint, but water stains, that often occur on the ceiling, should be shellaced and dried before the paint is applied. When these walls have become unsightly again, it would be advisable to remove the paper and then use an oil paint.

Old unfinished woodwork should be sandpapered until smooth and then scrubbed and dried before a finish is applied. Oil paint makes the most satisfactory finish for woodwork and should not be used until the kitchen is as free from dust as possible. The doors and woodwork should be finished in a color that will harmonize with the walls. Old coats can be removed

by using the starch paste or some commercial remover. For suitable color combinations for kitchen walls and woodwork see page 15.

Storage Facilities

Only essential facilities should be provided as too much space encourages careless housekeeping. If limited, but well planned facilities are installed, it will be necessary for the housekeeper to organize, eliminate and arrange compactly, which is desirable. The location of the home and the size of the family will tend to determine whether pantries or built-in cupboards are needed.

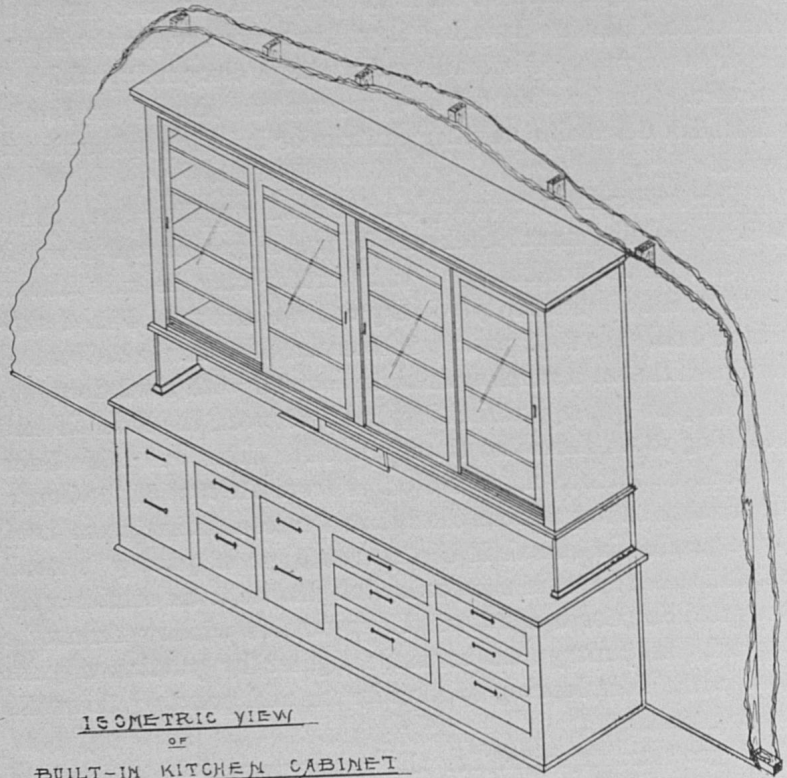
The food pantry is intended for food supplies that cannot be kept in the warm kitchen. When a gas or oil stove is used and ice is available, the refrigerator may be substituted. However, if it is necessary to keep a large amount of food supplies on hand, the food pantry is essential and should be located, when possible, on a north wall and provided with a window.

The pass pantry, which is placed between the kitchen and the dining room, furnishes closet space for china and table linen and shuts off kitchen noise and odors from the rest of the house. The number of steps from the kitchen to the dining room need not be greatly increased if the narrow type of pantry is used. It is desirable to extend the pantry lengthwise to an outside wall, thus providing for a window. If an outside window cannot be supplied, the pantry can be made lighter by putting a glass panel in the door leading to the kitchen and painting the walls white.

A good arrangement for the pantry would be a series of well spaced shelves supplemented by a table with drawers below. Such an arrangement makes it possible for one to do some of the kitchen work away from the heat. It is not good economy of space to equip the pantry with cabinets only, as there will be an excess of working surfaces at the expense of necessary storage shelves.

In many homes the detached pantry with its poorly spaced shelves is responsible for much of the fatigue of the housekeeper.

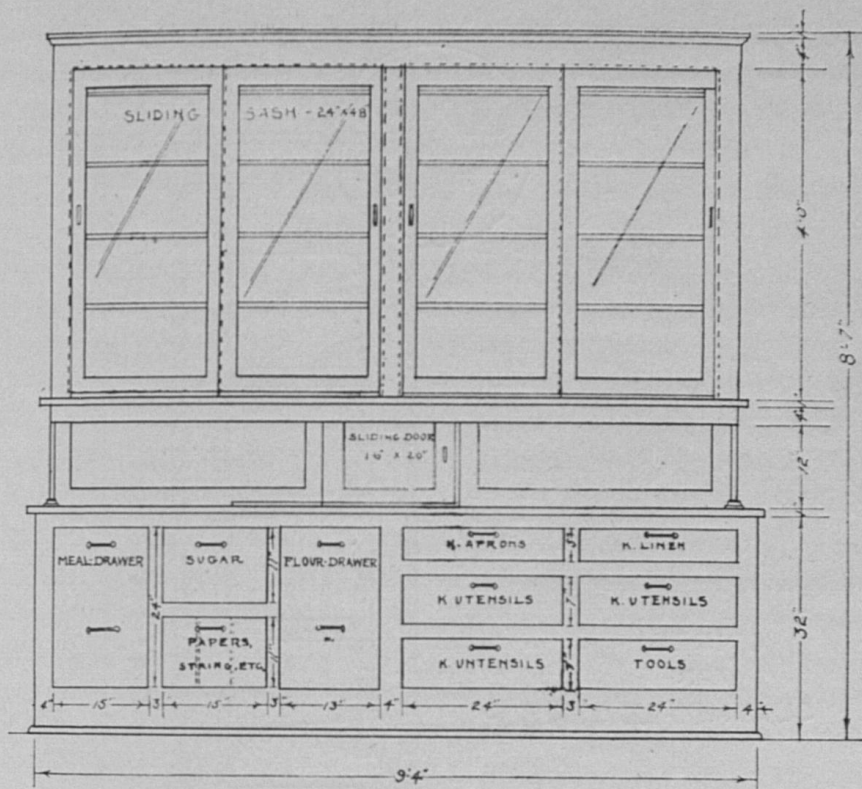
Such a pantry can be made more convenient by rearranging the shelves or by converting the pantry into a cupboard opening into the kitchen. This cupboard may be a series of shelves or a cabinet that would serve as a worktable and cupboard combined. This cabinet is especially good for a small kitchen.



ISOMETRIC VIEW
OF
BUILT-IN KITCHEN CABINET

3.—A Built-in Kitchen Cabinet.

Old kitchen safes or cupboards can be improved by new paint, new casters, catches and pulls. Drawers can be made more efficient by means of partitions and wide, deep drawers can be made more convenient by inserting trays that can be pushed back and forth.

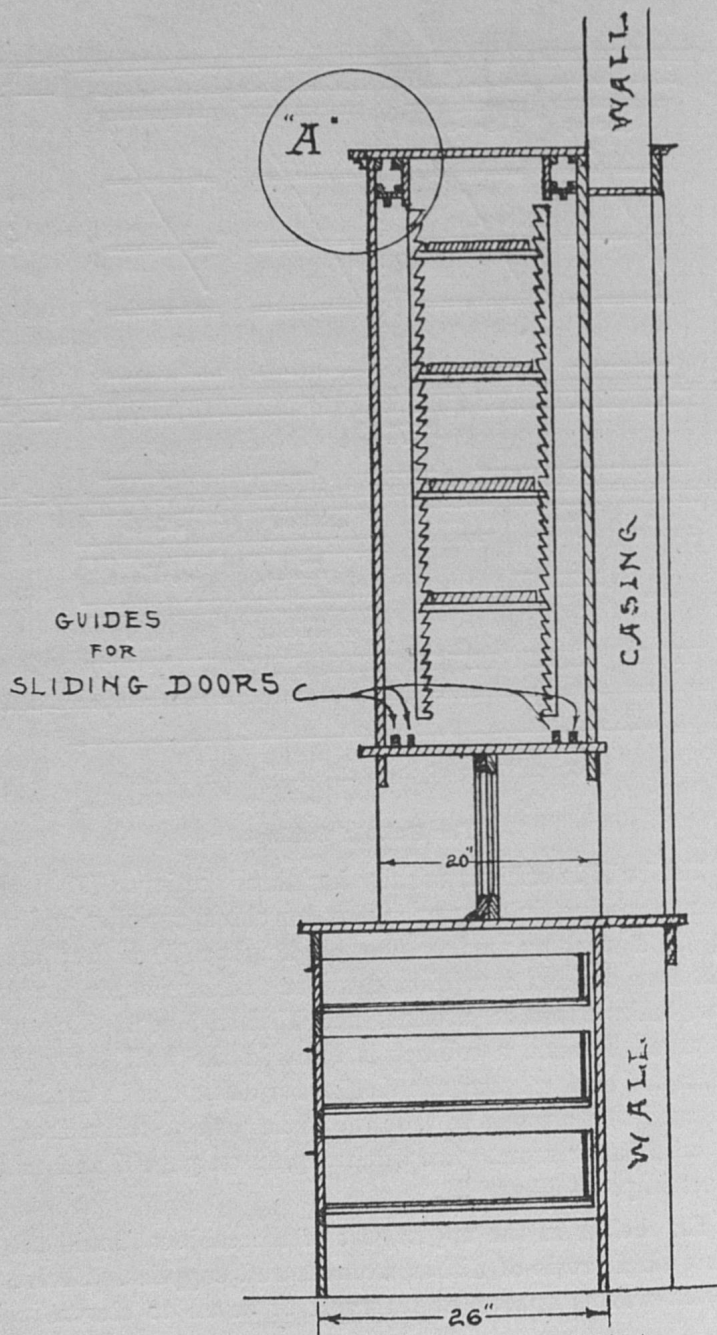


4.—Front View of the Built-in Kitchen Cabinet.

The Built-in Cabinet

The built-in cabinet usually has three sections: (1) a series of narrow shelves in the upper part for china, supplies and utensils; (2) a working surface at table height; (3) a deep section at the base divided into bins, drawers and cupboards for flour, sugar, bulky supplies, utensils and kitchen linen. See cut on this page. If such a cabinet is built in the wall between the kitchen and dining room, the section for china can be made with openings in both rooms so that the dishes can be taken from the shelves in either room. See kitchen plan on page 5 and cuts of cabinet on pages 20 and 22.

The shelves in the upper part of the cabinet should accommodate single rows of dishes, utensils and supplies. Shelves of different widths spaced at intervals of seven to eleven inches



5.—A Cross Section of the Built-in Kitchen Cabinet.

usually give satisfaction without waste spaces between the shelves. If they are finished with smooth white paint, instead of covered with paper that tears and pushes out of place, the work of keeping shelves clean and in order will be lessened. Glass doors encourage neat arrangement of shelves, and if made to slide easily do not take up as much room, when open, as the hinged doors and are less likely to cause breakage of dishes.

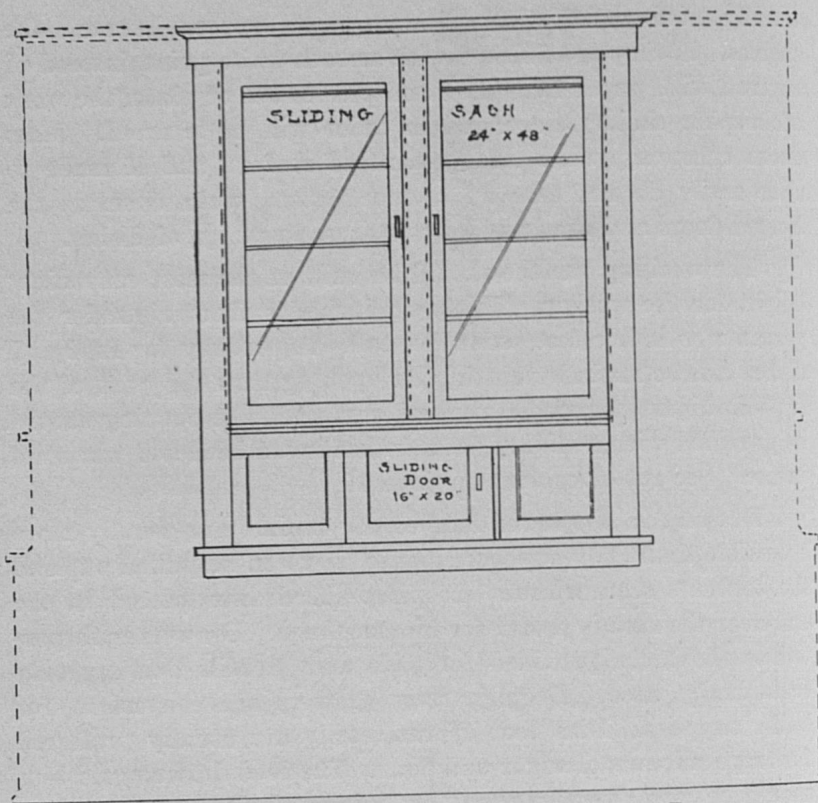
The working surface should be built at the most convenient height for the worker. Thirty-six inches is about right for the person who is five feet six inches tall. A passway for food and dishes can be made by cutting an opening thru the back of the cupboard, just above the working surface. The opening should be provided with a sliding door so that it can be closed when not in use. See cut of cabinet on page 19.

Drawers in the lower half of the cabinet are usually more accessible than deep cupboards since they can be pulled out and the contents seen without stooping. A drawer placed in the end near the sink is useful for kitchen linen. Drawers with partitions should be provided for tools and utensils that are only occasionally used. Deep, narrow drawers are convenient for bulky supplies. Bins that operate easily are usually preferred for large amounts of sugar and flour. The food drawers and bins should be made vermin proof by linings of zinc.

Screens and Screened Porches

A kitchen is never complete unless all windows and outside doors are screened. A very inexpensive means for screening the windows would be to use cotton screening which will keep out dust and insects. With care, it should last one season and is much better than no protection against flies and mosquitoes.

Altho cloth or wire netting can be tacked to the outside of the windows, it is much more satisfactory to use wire covered frames made to fit the windows. Wire netting will last much longer if the screens are removed at the close of each fly season. Each window and screen should be numbered so that they can be matched without difficulty each spring.



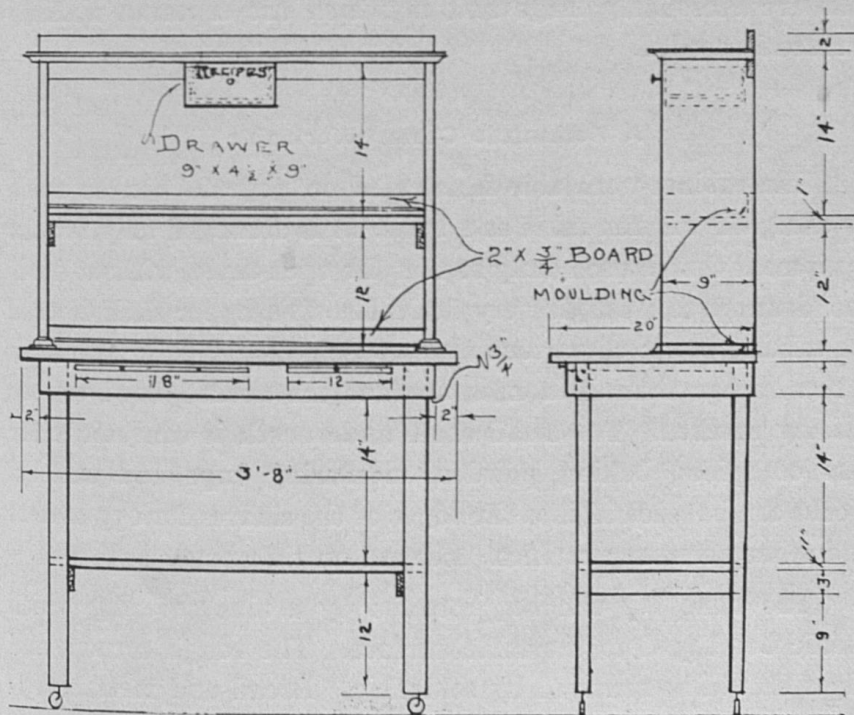
6.—A View of the Built-in Cabinet from the Dining Room.

Bronze screening, which is guaranteed not to rust, is durable but expensive. Galvanized and Monel metal screenings are quite rust proof and less expensive. Monel metal screening has less sheen than the galvanized, so it is less conspicuous. Ordinary japanned screening is not rust proof but is more durable if painted.

One of the most important steps in improving a kitchen is to see that the doors and windows are properly screened. Since it is difficult to fit framed screens to windows that have warped, suitable screens can be made by binding pieces of cotton netting or screening with dark denim or canvas. The piece of netting or screening should be cut to fit the whole window, or, if desired, to fit the lower half of the window only. Holes should be worked

at intervals in the binding so that the screen can be buttoned over brass tacks or other kind of nails driven into the window frame. If this screen is to be used over the lower half only, and the top sash can not be lowered, the tacks should be driven into the bottom rail of the top sash and into the frames at the sides of the lower sash.

Much of the kitchen work can be done on a screened porch during the warm months if the porch is placed where it will not receive the rays of the hot sun during the hottest part of the day. Meals can be served on this porch when practicable. The screens for the doors should have strong springs or other self closing device so that they will close tightly. Further protection against flies can be obtained by placing a large fly trap on the ground near the back steps. Directions for making a fly trap are given in Extension Circular 124, Experiment Station, Lexington, Ky.



7.—A Homemade Cabinet Worktable.

Section 2

SELECTION OF KITCHEN EQUIPMENT

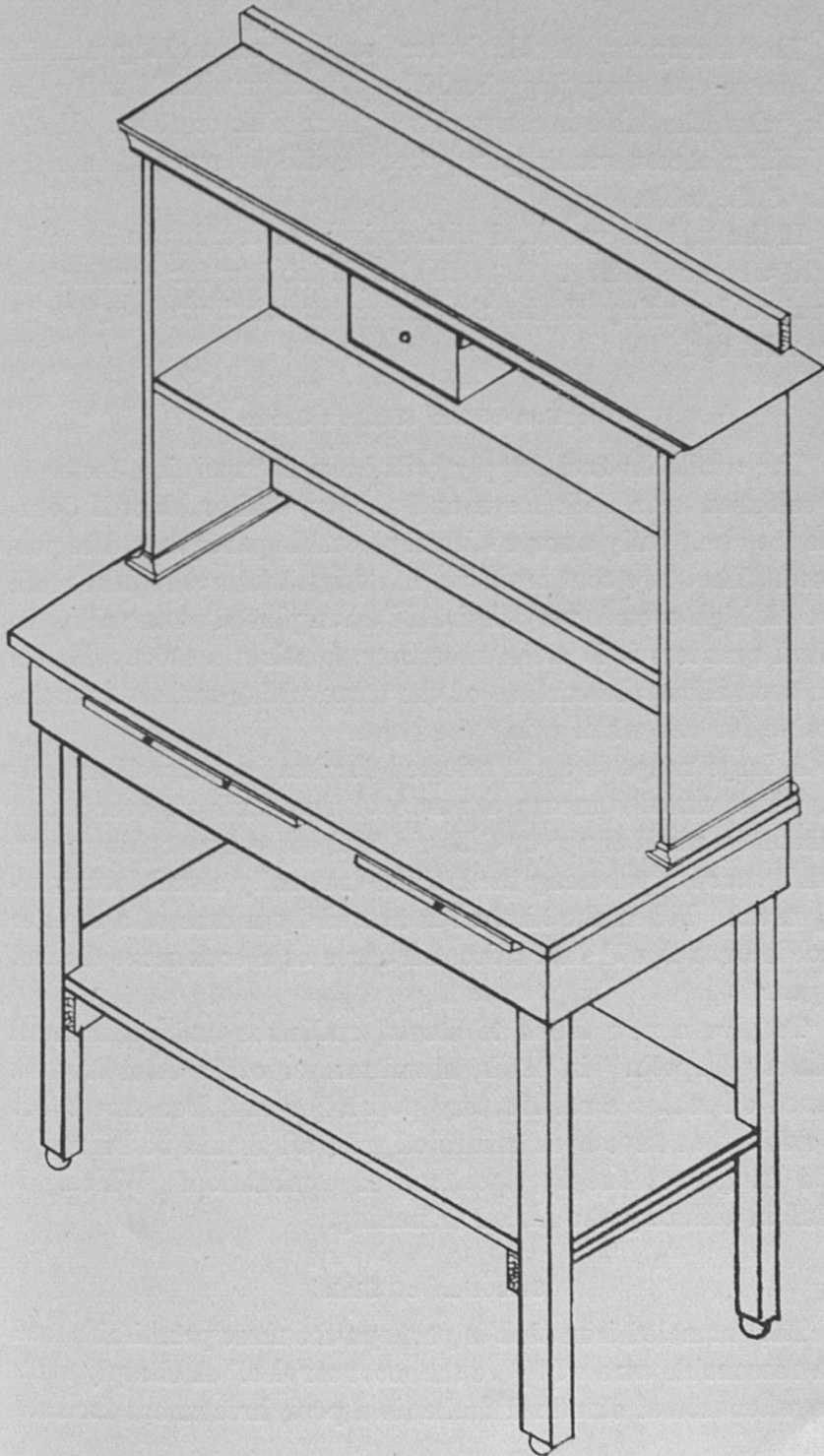
Commercial Cabinets

There are many excellent cabinets on the market that are especially useful in limited quarters. In selecting a commercial cabinet, it is important to choose one that is vermin proof, will not warp, one of convenient height, one that will fit the wall space and will fulfill the needs of the worker. The built-in cabinet described in section 1 is an advantage over a commercial cabinet since it can be built to meet the exact needs of the housewife. The built-in cabinet can serve as a cupboard and worktable in small kitchens, or as a convenient supplement to the combination cabinet-worktable described below, for use in kitchens that are reasonably large and in which the separate working surface is needed.

A Homemade Cabinet-Worktable

The cabinet-worktable illustrated on page 23 can be made by using the kitchen table as a basis. It is arranged only for the equipment that is used daily so that the open table, without doors and drawers to clean, is very desirable. The upper shelf is used for mixing bowls of various sizes, which should be arranged in a row rather than in a nest, so that the needed bowl can be quickly reached. The small shelf underneath is convenient for jars of spices, baking powder, measuring cups and cutlery. Hooks can be screwed into the edges of the shelves for egg beaters and other necessary articles. See cut on title page.

The table top can be protected by a zinc covering which should be shaped to the table surface. The rough corners and edges should be removed by soldering. Bread and meat boards can be conveniently made so that they can be pulled out from under the table top. See cut on page 25.



8.—A Homemade Cabinet Worktable.

The saucepans, double boiler, and other cooking utensils that are needed every day should be placed on a shelf under the table, when the table is conveniently near sink or stove. Hooks for baking sheets, muffin pans, etc., should be screwed into the ends of the table.

If the table is provided with swivel casters, it can be easily moved when necessary. A table that is too low for comfort can be raised by using blocks that have been hollowed out to fit the table legs.

Selection of the Kitchen Stove

The available fuel supply will be a determining factor in the selection of a cook stove and the type of work will determine the size. Only a stove with replaceable parts should be purchased. The stove that is simple in design will not require much care. A high oven is very desirable when placed at one side. In limited quarters it is often necessary to select a stove with the high oven above the surface of the stove which makes it uncomfortable for one when using the stove.

A large range is often selected for heating as well as cooking, which usually means a waste of fuel and an over-heated kitchen. A small range or a liquid fuel stove for cooking and a small heater for warming the kitchen is usually a satisfactory arrangement. When the kitchen is heated by means of a register or radiator, a liquid fuel stove can serve as a cook stove thruout the year.

To give a new finish to stoves, radiators and other metal surfaces "Sapolin" in black, aluminum or other color is good. Linseed oil makes a satisfactory polish for cast iron stoves, but the cloths that have been saturated with oil should be burned to avoid danger of fire by spontaneous combustion. Whiting is useful in cleaning the nickel trimming.

Selection of Sink

The enameled iron sink is perhaps the most practicable, and with reasonable care will give the most service. A cheaply made sink, when not of standard make, is a poor investment for hard

use, as the type of porcelain used is not durable. The sink that is molded in one piece, including drain boards and back, that extends back of the sink and drains is a very desirable one as there are no crevices in which dirt can accumulate. The sink should be deep and large enough to accommodate two dishpans if dishes are to be washed in the sink. For the average kitchen, a sink 30x18x8 inches with drain boards two feet long on either side is a satisfactory size. If the sink is small and there is to be but one drain board, the board should be placed at the left, for the rinsing pan.

If a sink without drain boards is selected, inexpensive ones can be made of hard wood, altho they are never as satisfactory as the enameled drainboards. The wood drainboards should be grooved and placed so that they will slope toward the sink. They should be treated with linseed oil so that they will not crack and will become quite impervious to water and grease.

The sink should be installed with open plumbing with the rim about 36" from the floor for the person who is five feet five inches in height. If the sink is hung from the wall, rather than mounted on legs, the floor can be cleaned with greater ease. The anti-splash type of faucet should be selected and provided with rubber tips to help prevent breakage of dishes.*

Coarse grit powders should not be used on porcelain as they will destroy the smooth finish. The porcelain surface can be kept in good condition if washed with hot soap suds and if cleaned occasionally with turpentine or kerosene to remove the coat of grease that often forms in the sink. Greasy water should not be emptied into the sink as the grease will harden in the wastepipe causing stoppage of the pipe. If water seems greasy, it should be cooled and the hardened grease skimmed from the surface of the water before it is poured into the sink. Washing-soda can be used in drain pipes to cut grease.

The height of all working areas is very important and should be adjusted to suit the worker. The housewife should test the various heights and determine the convenient height for her

*Send to Experiment Station, Lexington, Ky., for Extension Circulars Nos. 125 and 139 for information on water supply systems.

worktable and sink. The following table gives the "standard heights" for sink and worktable:

Height of Worker	Height of Working Surface
5 feet 0 inches	34½ inches
5 feet 2 inches	35½ inches
5 feet 4 inches	36½ inches
5 feet 6 inches	37½ inches
5 feet 8 inches	38½ inches
5 feet 10 inches	39½ inches

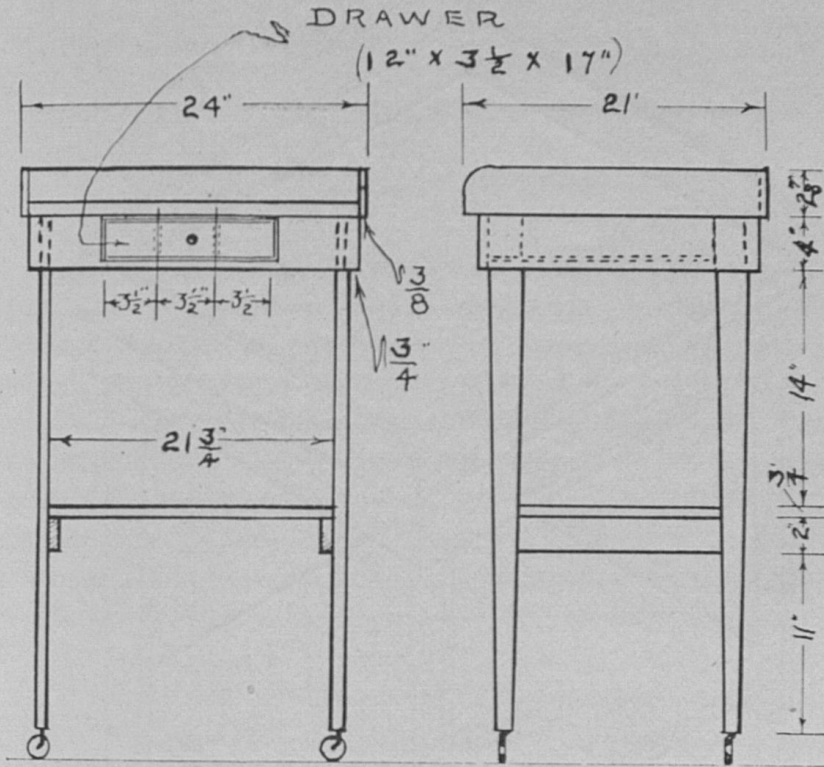
Refrigerators

A refrigerator is almost indispensable in a modern kitchen, in addition to a storage room or cellar for vegetables, canned goods and other supplies. A refrigerator should be made with such layers as flax paper, wool felt, tar paper and wood in order to secure a low temperature. From a sanitary standpoint the refrigerator should have a one-piece porcelain lining, a simply constructed galvanized ice container and an accessible drain. The ice compartment should be located at one side and kept full of ice. In order to secure the best service one should keep the refrigerator out of a draft and see that the temperature within the refrigerator is cool and dry. When a gas or oil stove is used, the heat will not affect the ice supply to a very great extent if a well insulated refrigerator is placed in the kitchen.

Since warm air and odors rise, those foods which have odor should be kept on the upper racks of the refrigerator. Foods with strong odors, such as cabbage and onions, should not be kept in a refrigerator. If wire racks are used for shelves, the cool air will circulate thruout the refrigerator. Racks of glass, or racks that have been covered with paper will interfere with free circulation. It is more economical to purchase a refrigerator that has three or four doors so that it will not be necessary to open a large portion of the box at one time. A refrigerator that is durable, well insulated and sanitary from all standpoints will cost about \$60.00, depending on size and finish.

Where ice is not available the cold box or iceless refrigerator may be used to good advantage if given proper care.*

*Directions for making the cold box or iceless refrigerator may be secured by writing to the Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 927.



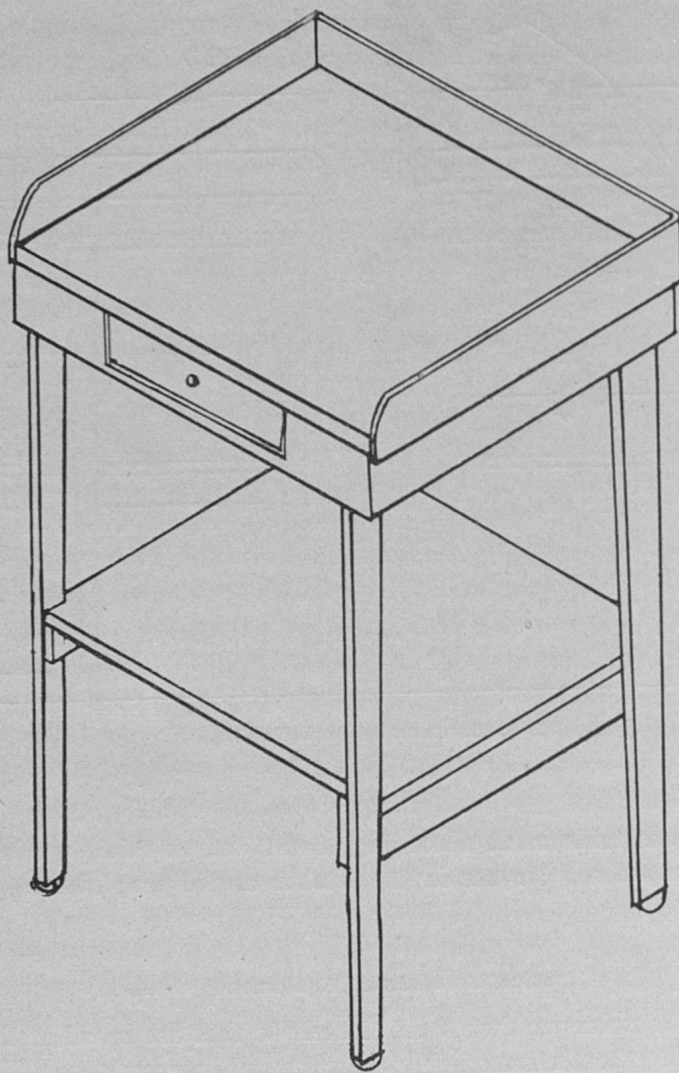
9.—A Homemade Push Table.

Push Table

A push table made according to the cut on this page is a great convenience for use in the kitchen and dining room.

Selection of Small Equipment

The housekeeper should select utensils that are broad at the base, as they heat more quickly than the tall, narrow ones. She should select the sizes best suited to her needs and avoid an over supply. Utensils that are free from seams, crevices and rough edges are easily cleaned. They should be light in weight, comfortable to grasp and substantially made. Since a bail handle which hangs at the side soon becomes overheated, the vessel with the hollow metal handle that extends out from the edge is a



10.—A Homemade Push Table.

good choice. Lids with metal knobs or bars that have been riveted on are more desirable than those with rings or wooden knobs which soon work loose.

As nearly as possible the same kind of ware should be selected for vessels that serve the same purpose. If aluminum is

decided on for one saucepan, the same ware and shape should be chosen for the saucepans of all sizes. Mixing bowls that are of the same material, color and shape will improve rather than mar the appearance of the kitchen. The various materials used in the kitchenware have advantages and disadvantages and should be selected accordingly.

Aluminum is made in seamless shapes; it is light in weight and quite easy to clean. It is stained by water containing alkalis and is somewhat affected when salt is cooked with the vegetables. If vinegar is used to neutralize the alkalinity of the water the stains can usually be prevented. The amount of vinegar to use depends on the water but when properly proportioned it cannot be detected in the liquid or food. The heavy grade aluminum is durable and is suitable for all purposes with the exception of frying, when it soon becomes unsightly and in many instances bulges out of shape. Foods cooked in aluminumware will not become discolored if a wooden spoon is used for stirring.

Agate or enamelware is also light in weight, smooth in finish and easy to clean. The heavy grades give very good satisfaction if they are not permitted to boil dry, if they are not dropped or the edges struck with the stirring spoon. Wooden spoons will not scratch the finish. This ware is suitable for mixing bowls which should be deep and conical in shape. Baking dishes of enamelware or aluminum are especially well adapted to the quick, intense heat of gas ovens. Stewpans in enamel are satisfactory.

Earthenware is moderately light in weight and is very good for slow cooking processes. It has a smooth inner surface making it easy to clean. Custard cups, pudding dishes and casseroles in this ware give good results. Mixing bowls of earthenware are rather heavy but are preferred by many workers.

Tin is light in weight but discolors and dents easily. Only the best grades that are free from seams where food particles and grease can collect should be chosen. This ware is useful for bread pans, cake tins, funnels and other similar utensils. Cooking utensils of tin usually give the best satisfaction after they have been used a considerable length of time.

Iron is heavy but it is reasonably easy to clean. It is the most popular material for skillets and for use in deep fat frying, even tho it is heavy to handle. The Russia iron absorbs and gives out heat slowly so it is very well adapted for use in the oven of a coal range. Sheet iron is a popular choice for baking sheets and bread pans but it is difficult to keep clean.

Glassware is attractive and satisfactory for casseroles, pudding dishes, bread pans and cake pans. The ware is expensive but is easily cleaned with steel wool and saves dishes, since the food can be baked and served in the same dish. With care, it is durable as it is made to withstand intense heat. Ordinary glass jars, fitted with tops that can be quickly removed, are very desirable for the storage of cereals, dried fruits, spices and other package goods. Glassware being transparent, makes it possible for one to see at a glance the amount of supplies on hand. Jelly glasses, with suitable tops, make inexpensive containers for spices. Fruit jars or large glass jars with glass stoppers, such as are used by druggists, are excellent for cereals, dried fruits and other supplies that are usually purchased in bags or packages. All containers that are to be grouped together should be as nearly uniform in size and shape as possible. They should be neatly labeled with gummed stickers.

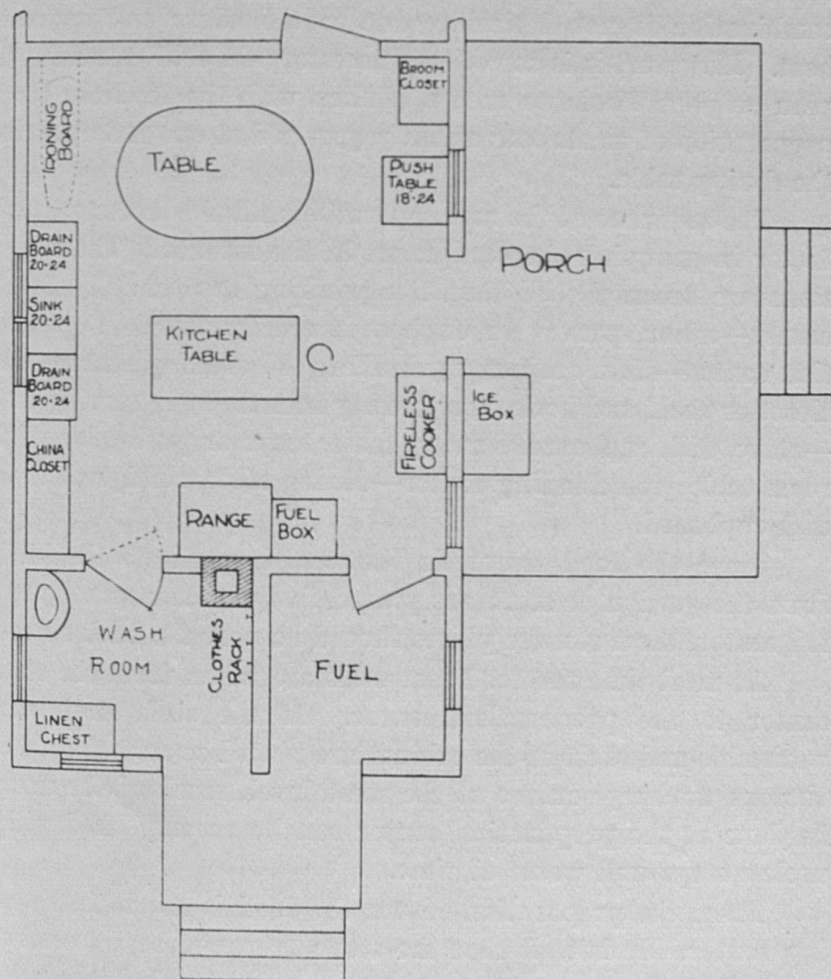
If the housekeeper would consider the following points before purchasing articles for the kitchen, only those articles that have a definite purpose, are well made and easy to clean will find a way into her kitchen: (1) Can the work be done just as easily without it? (2) Will its use save time? (3) Is it substantially made? (4) Is it comfortable to use and handle? (5) Will it be easy to clean and repair?

Section 3

ARRANGEMENT OF EQUIPMENT

Grouping Large Equipment

In the past little thought was given to the grouping of kitchen equipment so that all related tasks could be accomplished without needless crossing and recrossing the room. The sink was placed near a window and the cabinet in a corner because it fitted the wall space. But now, every thinking housekeeper studies the sequence of kitchen operations to be accomplished



11.—A Large Rural Kitchen Conveniently Arranged.

and groups the equipment accordingly. It is always possible to improve the arrangement even though an ideal plan cannot be followed thruout. For instance, the stove is usually a fixture and has to be placed with relation to the main chimneys of the house. However, it is possible to change the location of the sink and water pipes when the added convenience warrants the expenditure involved.

The plans on pages 4 and 5 show good and poor arrangements of equipment in a kitchen that is used for preparation of food and related tasks only. Many rural homes have one large room that serves as a kitchen and dining room combined. This combination is not desirable, due to the odors and oppressive heat. However, it is sometimes necessary in cold weather. The plan on page 33 shows such a kitchen with the facilities for the preparation of meals conveniently grouped at one end away from the dining table.

The sequence of the main operations should be the governing factor in grouping the equipment in the kitchen. These operations are accomplished thru five working centers: (1) Storage center—cellar, pantry or cupboard, refrigerator; (2) preparation center—sink, cabinet, worktable; (3) cooking center—stove, closet or shelf and hooks for cooking utensils; (4) serving center—stove, dish cupboard, serving table, trays or push-table, dining room table; (5) cleaning center—dining table, refrigerator, sink, dish cupboard.

Since the food materials that are brought to the kitchen from the garden or store are placed in the cellar, pantry or refrigerator, these storage places should be near the back entrance.

At meal time the food materials are taken from the storage center to the preparation center. If the sink, drainboards, worktable and shelf of the cabinet are placed so as to form a continuous working surface at the same level, much of the work to be done at the preparation center can be accomplished without useless steps and waste of time.

From the preparation center the food is taken to the cooking center. It is well that the stove or range be set somewhat apart from the preparation center on account of the heat. The

design of the stove usually makes it necessary to locate the stove where two or three sides will be accessible. The serving center is closely related to the cooking center and should be placed as conveniently near as possible.

The cleaning center is used in connection with the storage and preparation centers. The soiled dishes and left over food can be carried to these centers on trays or a push table. A direct connection from the dining room by means of an opening over cabinet or sink would be a great convenience. See cut of cabinet on page 19.

The work should be so organized that the equipment to be used in connection with the same operations can be grouped together. In most kitchens two continuous wall spaces lined with the large equipment with few gaps and changes in working levels give a good arrangement. The stoves should be placed on the third wall if room permits.

Grouping the Small Equipment

The housekeeper might select her equipment with care and have all necessary utensils but fail to put drudgery to flight by not grouping them where they are to be used. The old idea that the kitchen utensils should be grouped according to kind and should be kept out of sight when not in use is fast fading away. The bread knife is placed near the bread box and the paring knife at the sink. Utensils and cutlery that are to be used every day should be hung on right angled hooks or placed on open shelves so that it will not be necessary to open a door or drawer every time an article is needed. Articles that are used only occasionally should be placed in drawers or closed cupboards away from the dust.

Altho each housekeeper's needs vary, a suggested list of small equipment for a family of six is listed below. In placing the various articles, the built-in cabinet and cabinet-worktable described elsewhere are used. Those utensils that are used daily are grouped at the worktable, while the supplies and utensils that are used only occasionally are placed in the built-in cabinet. The articles are listed with reference to their grouping.

Articles to be Grouped at Worktable

On the top shelf of table—

- 5 sizes of mixing bowls in a row, bottom side up.
- 1 small clock.

On small shelf above table surface—

- 1 Dunlap bowl for whipping cream, in right corner.
- 1 blade beater on hook above bowl (to be used with Dunlap bowl).
- 8 jelly glasses with tops for salt, pepper and spices.
- 2 pint fruit jars for baking powder and soda.
- 2 cutters (2 sizes), biscuit, cooky.
- 1 aluminum measuring cup.
- 1 glass measuring cup.
- 1 wooden mixing spoon.
- 1 case knife and fork.
- 1 butcher knife.
- 2 tablespoons.
- 2 teaspoons.

On small hooks fastened to rack above table surface—

- 2 wire cake coolers on hooks at one end.
- 1 set of aluminum measuring spoons (if desired).
- 1 spatula with metal handle.
- 1 large Dover egg beater.
- 1 small Dover egg beater.
- 1 pair of scissors.
- 1 flat egg whip.
- 1 pastry brush.

On zinc-covered table surface at the back under small shelf—

- 1 bread board and 1 meat board under table surface.
- 1 food chopper screwed to table at one end.
- 1 small flour sifter in flour container.
- 1 enamel container for sugar, about 4 qt.
- 1 enamel container for flour, 6 qt.

On wide shelf under the table surface—

- 5 saucepans and kettles with lids (sizes from $\frac{1}{2}$ pt. to 6 qts.)
- 2 muffin pans (9 rings each) on hooks at one end of table.
- 2 baking sheets on hooks at one end of table.
- 2 pie pans for various purposes.
- 2 pudding pans for various uses.
- 1 double cooker, 3 pts.

Articles and Supplies in Built-in Cabinet

In upper half of cabinet, divided into three sections—

In section near sink { 6 small enamel pie pans to fit pans for left overs so can be used as lid.
6 small enamel pans for left overs.
2 layer cake pans, aluminum.
1 vegetable slicer, hanging up at end.
2 jelly molds—2 sizes.
2 glass casseroles—oval.
6 custard cups.
4 glass bread pans.
1 lemon squeezer.

In middle section { 1 set china (opening into kitchen and dining room.)

In third section { 12 glass jars for package supplies.
A few cans of vegetables, pickles, preserves.
Miscellaneous supplies not stored elsewhere.

On working surface of cabinet—

1 knife sharpener attached to cupboard or window frame.
1 large bread box at end away from sink.
1 bread knife near bread box.
1 bread board near bread box.
1 set kitchen scales.
1 large serving tray.
1 small serving tray.

In lower half of cabinet—

Oiled paper, strings, wrapping paper, sacks, etc., in deep drawer (with partition) between bins.
Miscellaneous supplies.
Chopping bowl and knife, one 4-sided grater in one of drawers.
2 dripping pans, 2 square cake pans and 1 tube pan in one or drawers.
Flour, large sifter and scoop in bin.
Kitchen aprons, holders, etc., in top drawer.
Kitchen linen in top drawer near sink.
Ice bag, ice mallet, hammer, nails, etc., in bottom drawer.
Sugar in deep drawer.

Grouped Near the Sink

On hooks above the sink—

- 2 paring knives (across hooks placed together).
- 1 apple corer (across 2 hooks placed close together).
- 1 curved fruit knife (across two hooks).
- 1 long handled dish mop.
- 1 magic mit for scouring pans.
- 1 wire strainer, small.
- 1 soap shaker.
- 1 small funnel.
- 1 can opener.
- 1 corkscrew.

In wire rack between faucets—

- 1 cake of mild soap.
- 1 vegetable brush.

At right of sink—

- 1 rod for hand towels or paper toweling.

Below the sink and drainboards—

- 1 can of cleanser and other cleaning materials (on shelf at right).
- 2 dish pans or one dish pan and one dish drain (on hooks).
- 1 colander on shelf or hook.
- 1 garbage can.
- 1 wash pan.
- 1 stool.

Grouped Near the Stove

On small shelf near stove—

- 1 coffeepot and container for coffee.
- 1 large salt shaker, 1 large pepper shaker.
- 1 teapot and container for tea.
- 1 small container for salt.

On hooks attached to shelf, rack or molding near stove—

- 2 iron skillets (sizes 8"x10" spread).
- 1 teakettle on the stove (about a 5 qt.)
- 3 pot lifters, one large and two small.
- 1 long handled 2-tined fork.
- 1 wire potato masher.
- 1 long handled ladle or spoon.
- 1 griddle cake lifter.
- 1 griddle, aluminum.
- 1 skimmer.
- 1 toaster.
- 1 match holder.

In Pantry

Large equipment and supplies that are seldom used—

Miscellaneous utensils and supplies.
Ice cream freezer.
Iron frying kettle.
Iron stew kettle.
Ice cream salt.
Roaster.

**REFERENCES TO BE USED IN CONNECTION WITH THIS
CIRCULAR.**

Write to the Experiment Station, University of Kentucky,
Lexington, Kentucky, for the following circulars:

Household Insects—Experiment Station Circular No. 15.
Pitcher Pump Installation—Extension Circular No. 125.
A Simple Hot and Cold Water System for the Kitchen—Extension
Circular No. 139.
Septic Tanks for Sewage Disposal—Extension Circular No. 131.
Woodworking Merit Course—Extension Circular No. 124.

Write to the United States Department of Agriculture,
Washington, D. C., for the following bulletins:

Floors and Floor Coverings—Farmers' Bulletin No. 1219.
The Farm Kitchen as a Workshop—Farmers' Bulletin No. 607.
Farm Home Conveniences—Farmers' Bulletin No. 927.
Conveniences for the Farm Home—Farmers' Bulletin No. 270.
Housecleaning Made Easier—Farmers' Bulletin No. 1180.
Home Laundering—Farmers' Bulletin No. 1999.
Water Systems for Farm Homes—Farmers' Bulletin No. 941.
Beautifying the Farmstead—Farmers' Bulletin No. 1099.
The Use of Paint on the Farm—Farmers' Bulletin No. 474.
Fly Traps and Their Operation—Farmers' Bulletin No. 734.
Homemade Fireless Cookers and their Uses—Farmers' Bulletin No.
771.
Use of Concrete on the Farm—Farmers' Bulletin No. 461.
How to Get Rid of Rats—Farmers' Bulletin No. 1302.
Cockroaches—Farmers' Bulletin No. 658.
House Ants—Farmers' Bulletin No. 740.

