

BULLETIN
OF THE
UNIVERSITY OF TEXAS

1916: No. 39

JULY 10

1916

The Planning of Simple Homes

BY

MARY HEARD ELLIS

AND

RAYMOND EVERETT

Adjunct Professor of Architecture



Published by the University six times a month and entered as
second-class matter at the postoffice at
AUSTIN, TEXAS

The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston.

Cultivated mind is the guardian genius of democracy. . . . It is the only dictator that freemen acknowledge and the only security that freemen desire.

President Mirabeau B. Lamar.

THE PLANNING OF SIMPLE HOMES

GENERAL CONSIDERATIONS. In building a home an effort must be made to meet the demands of comfort, convenience, appearance, and pocketbook. Unfortunately, these often conflict. Cost often prevents securing the greatest convenience or beauty, while the greatest comfort many times conflicts with the most beautiful arrangement. It is difficult to satisfy all these demands, particularly if those of the purse are loudly insistent, but it is a task that confronts each home builder so to choose among them as to make her home as convenient, comfortable and beautiful as her means allow. Building is as much a process of elimination as of choice. A choice often carries with it the necessity of eliminating something almost if not quite as desirable as the thing chosen. It requires a fine sense of discrimination finally to choose between comfort and beauty where these conflict, or between two forms of convenience where both are not possible. Generally speaking, the demands of comfort and convenience should have first consideration; and while these do not necessitate the sacrifice of beauty, and should not be allowed to do so, a compromise will often have to be made to secure the desired comfort and convenience combined with the greatest possible beauty.

SIZE. Among the most important first things for determination are the approximate size of the house, the arrangement of the rooms with reference to each other, the arrangement of each room for comfort and convenience, and the exposure of rooms and porches. The size of the house and the number of rooms should be determined by the actual needs of the family, as well as by ability to pay. There are undoubtedly many families that need a house larger than they can afford to pay for, but there is also a large number who can and do pay for a much larger house than they need, thus making a lot of unnecessary labor for the housekeeper, or requiring the employment of servants to do superfluous work. The upkeep of a place must be considered as well as the first cost. A large place not properly cared for is a monument to the lack of judgment and foresight on the part of the owner. A house

just big enough for the actual needs of the family is the ideal. Of course, needs vary indefinitely. One family will unquestionably need considerable space for entertaining, whereas to another this would be pure waste. The home builder should try to fit the house to the family requirements.

ARRANGEMENT. A proper arrangement of rooms means merely a care for comfort, convenience and beauty. It would seem too obvious a truth to bear repeating that the rooms should be arranged with an eye to the convenience of the housekeeper, and yet large numbers of houses seem to be designed with any other idea in mind. The home is the housekeeper's workshop, and should be planned as such. But it is also the rest and recreation place for the whole family, and should be planned to this end as well. To have the kitchen separated from the dining room by a long or exposed passage is unjust to the one who does the cooking; to fail to plan for ease in going from one part of the house to another, or for securing the best vistas from one room into or through the adjoining room is to be inconsiderate of the whole family.

In each room, the location of the doors and windows and the placing of the furniture may make all the difference between pleasant ease and irritating discomfort in working. The doors and windows should be placed not only with reference to the light and breeze, but also so as to accommodate the furniture necessary to the room. The direction of the opening of doors is a comparatively small matter that often means a great deal in the way of convenience or the opposite.

EXPOSURE. Inseparable from the arrangement of the rooms is the exposure of the same. In general, we recognize in this climate the southeast corner as the best location for any room. This fact has led to the plan of jutting rooms out on the south or east to catch both exposures. But these breaks in the wall add to the expense of building, and also in a small house to the difficulty of making an attractive exterior. If the walls and roof line are to be kept plain, a choice must be made as to the rooms that are to get the best corner. Nine times out of ten it is best to give the sleeping quarters this position. We feel we must have a refreshing sleep, even if we suffer somewhat from heat during the day. This does not mean

necessarily that the bedrooms be on the front of the house or that the house must face east, though there is a strong local prejudice in favor of an east front. A great many times a house can be most advantageously planned with a west or a north front, thus putting living and sleeping rooms at the back and giving them the protection from sun and wind that hall and kitchen will afford. Nor should the kitchen in such a house be uncomfortable. A northwest kitchen is more comfortable in the morning than an unprotected southeast one, and a northeast kitchen with a small east porch is often more comfortable than a southwest one.

THE EXTERIOR. The exterior should be a true elevation of the plan; that is to say, it should give honest expression to the plan, and make no attempt to disguise it. Conformity to this mandate would eliminate such things as false windows, and turns and juts not required by the floor plan, as well as all unnecessary ornament stuck on by a confused notion of beauty. In a small house simplicity of line is especially desirable. Fortunately, this fact is beginning to be recognized. The small homes that are being built today are very superior in this respect to those of fifteen or twenty years ago. But in our efforts to attain honesty and simplicity we must not lose sight of proportion. Be a house never so simple, if it is too tall for its width it is still an ugly object. No less ugly is the house of good proportion that is trimmed with unrelated gewgaws. In addition to possessing simplicity, honesty and good proportion, the exterior of the house should conform in a general way to the nature of its environment, to the nature of the country or of the neighboring houses. This means that a tall narrow house is not as appropriate upon the prairie as a broad, low one, because the general line of the prairie is horizontal and not vertical. This means that if there are fine native trees on the lot, such as oaks, elms or cedars, every effort should be made to design the house that will look at home among them. It may be said in this connection that color is of as much importance as design. Tradition favors white houses, but we should realize that a white house looks its best when shaded and relieved by much foliage. A bare white house on the bald prairie is painful to the eye. When colors are used, they should

be soft and dull and harmonious with the green of foliage and the gray and brown of tree trunks. Of course, this does not mean that gray or brown either one must be used exclusively, but that whatever color is used should not be antagonistic to the beauty of surrounding trees and shrubs. Likewise, if the neighboring houses are good enough to have given an attractive character to the locality, the new house should be of such a nature as will be harmonious with this character. Of course, it is not necessary or desirable for all the houses of a neighborhood to be of only one architectural style, but it is desirable that they be of styles that are harmonious. For instance, a tall house with steep roof, sharp gables and close trimmed eaves—granting that this type should ever be used in Texas—does not make a congenial close neighbor to a low house with spreading roof and broad eaves. Where lots are large and a good many trees as well as a good deal of space separate one house from another, this is, however, not a matter of primary importance.

ADAPTATION TO CLIMATE. From some points of view, more important than the foregoing is the adaptation of the house to the climate. It is not appropriate, in the hot climate of Texas, to copy English and Eastern houses with narrow eaves, designed to afford a maximum exposure to the sun, and with steep roofs to allow the snow to slide off easily. Broad eaves that throw deep shadows on the walls, and low-pitched roofs that make the broad eaves possible, are more in keeping with our need of relief from the brilliancy of the almost tropical sun.

PLANS

PLANS AND SKETCHES ARE MERELY FOR SUGGESTION. The plans which we present should be considered in the light of illustrations of the above principles of planning and as suggestions rather than as models to be literally followed. Local conditions and individual needs vary too much for universally model plans to be possible. The perspective sketches which accompany the plans conform as far as possible to the demands made above. They are simple, well proportioned and logical expressions of the plans. The estimates have been made by a careful and experienced contractor, using Austin prices as a basis. The cost will naturally vary with the prices of material and labor.

Plan A. As drawn, plan A will probably be most comfortable if faced south. This would put the porch in the southeast corner and protect it from the afternoon sun. The bedroom would have south, east and west exposure. If desired, the main entrance can be planned for the other end of the living room by extending the kitchen porch and making a door in the end of the living room. In this case, comfort would be secured by a northern or a western facing. If this suggestion is followed

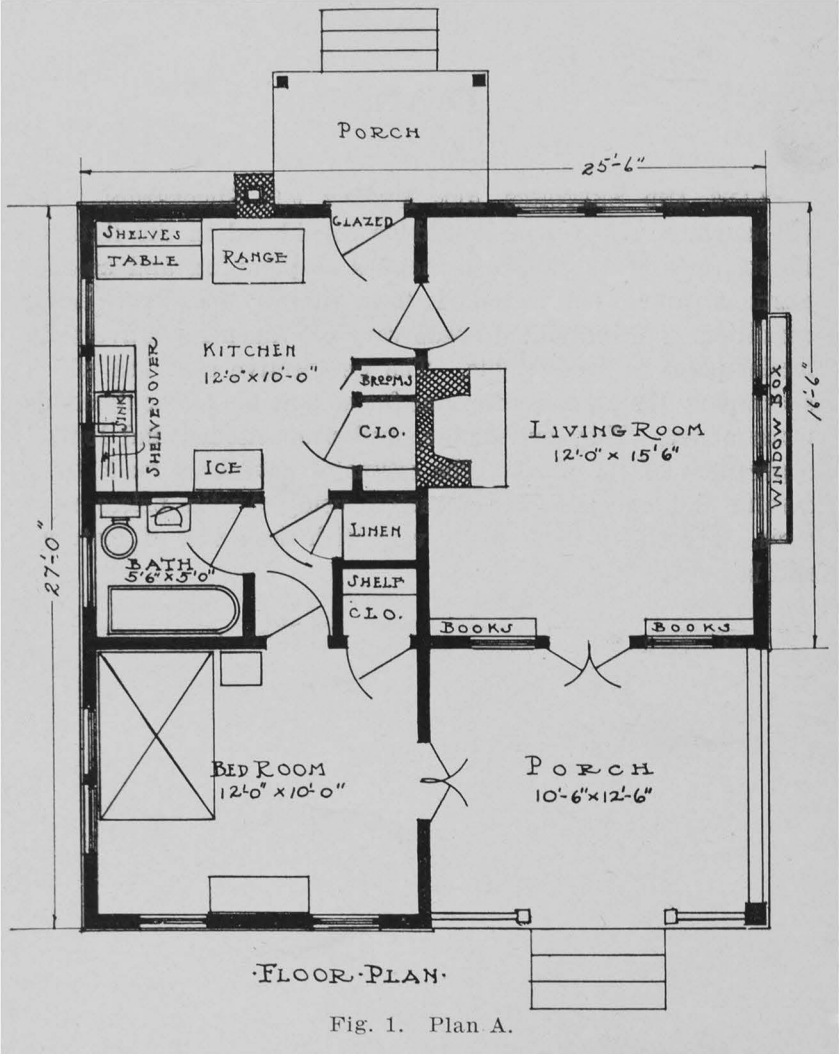


Fig. 1. Plan A.

and the entrance is west, it might be better to interchange the positions of the two sides of the house, putting the kitchen and bedroom on the north and living room and porch on the south. The bedroom would still have south and east breeze, and the porch would be on the southeast corner.

Attention is called to the provision for cross ventilation in this plan. By opening outside kitchen door and doors into the bedroom, a draft is secured through bedroom and kitchen, or by opening door between living room and kitchen and windows in each room, there will be a draft through these two windows. It is sometimes more important to have a draft of air through the house than to keep the cooking odors in the kitchen. The French windows opening out and hooked back against the porch walls add to the coolness of the bedroom and living room and are less in the way than the ordinary door would be.

The porch is large enough to serve as a sitting and dining room in summer, or as a sleeping porch.

The bedroom is well ventilated, has a good clothes closet, and windows placed for convenience and comfort in furnishing, the dresser space being between two windows to light the mirror from both sides and the bed space by a window where a breeze will blow over it.

The bathroom is small, but has the necessary furnishings.

A linen closet is provided across the passage from the bath.

The possibilities in the kitchen are good. With shelves over the table for materials and utensils, shelves over the sink for china, and shelves over the range or hooks back of the range for cooking utensils, the space along the fourth wall is left for storage and broom closets. The range might be placed in this corner and the flue for it built in the chimney. This would be more economical of material than the arrangement indicated, but not so economical of the housewife's footsteps. The ventilation is good. There is outside ventilation from two directions and cross ventilation from the other two.

In the living room provision is made for bookcases under two of the windows. This room is well lighted and well ventilated, so that nothing is sacrificed in making these windows rather high from the floor in order to leave space for bookcases of three or four shelves. Books, fireplace, window grouping and flowers in

the window box combine to make this a very attractive room. The dining table placed between fireplace and the group of three windows will serve for reading and study between meals and at night.

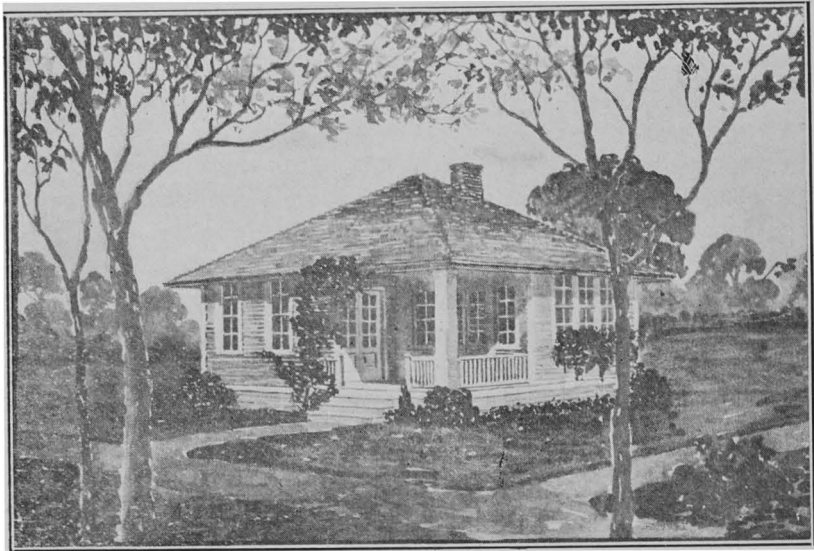


Fig. 2. This exterior has rather low walls, broad eaves, and attractively grouped windows, all combining to give it a dignified simplicity. Attention is called to the small panes of glass as being more decorative than single large ones. They are also less expensive.

Specifications and estimates for this plan will be found on pages 24 to 31.

Plans B1 and B2. Plans B1 and B2 are drawn to the same dimensions and for the same exterior. As drawn, plan B1 would be satisfactory facing south and somewhat less so facing west. If the house faced south one bedroom would be southeast and one northeast in exposure. The northeast room secures south breeze through the door opening into southeast room. If the house faced west the front bedroom would be thrown to the southwest corner and the other to the southeast. If the bedrooms are kept on the east side, the plan could face north fairly satisfactorily. Cross ventilation is so well provided for by having windows and doors in line that the living room and kitchen would have a circulation of air in any case.

In this plan, too, the living room and dining room are one. Particular attention is called to the bookcases on each side of the fireplace, making a very beautiful and convenient arrangement. The flue for kitchen range is accommodated in the chimney. Here there is space enough for a work table by the range.

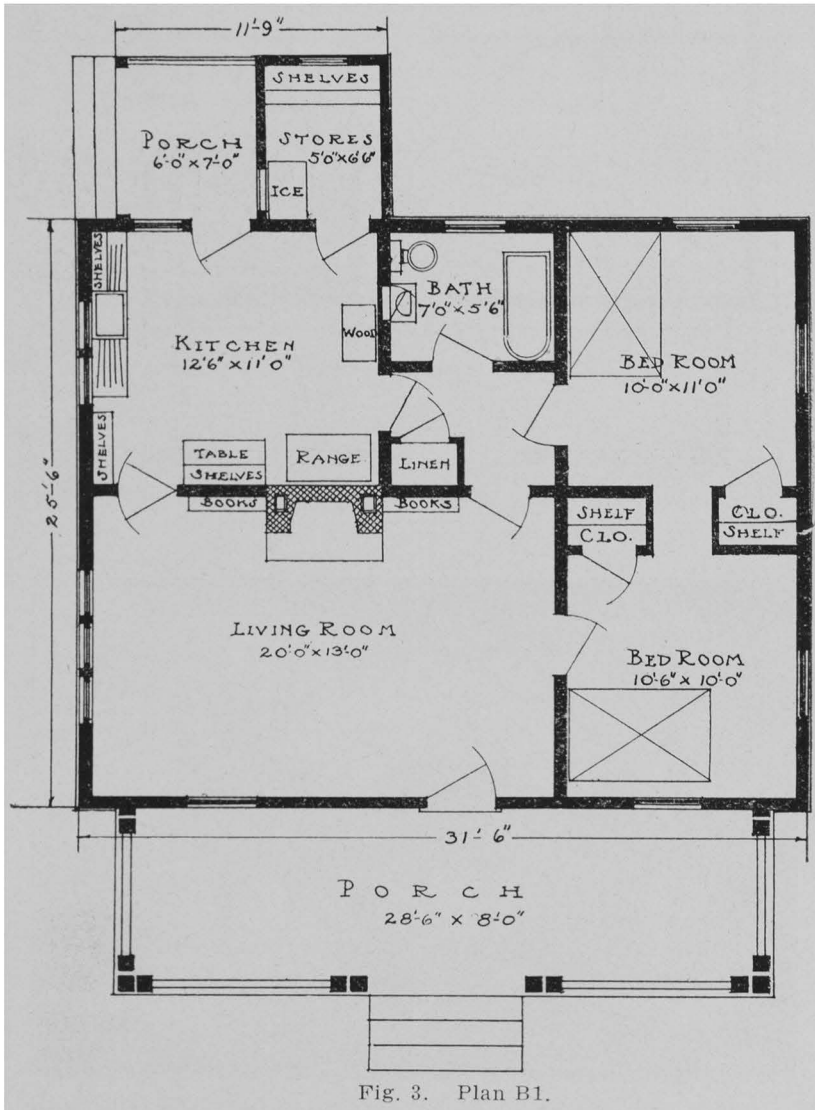


Fig. 3. Plan B1.

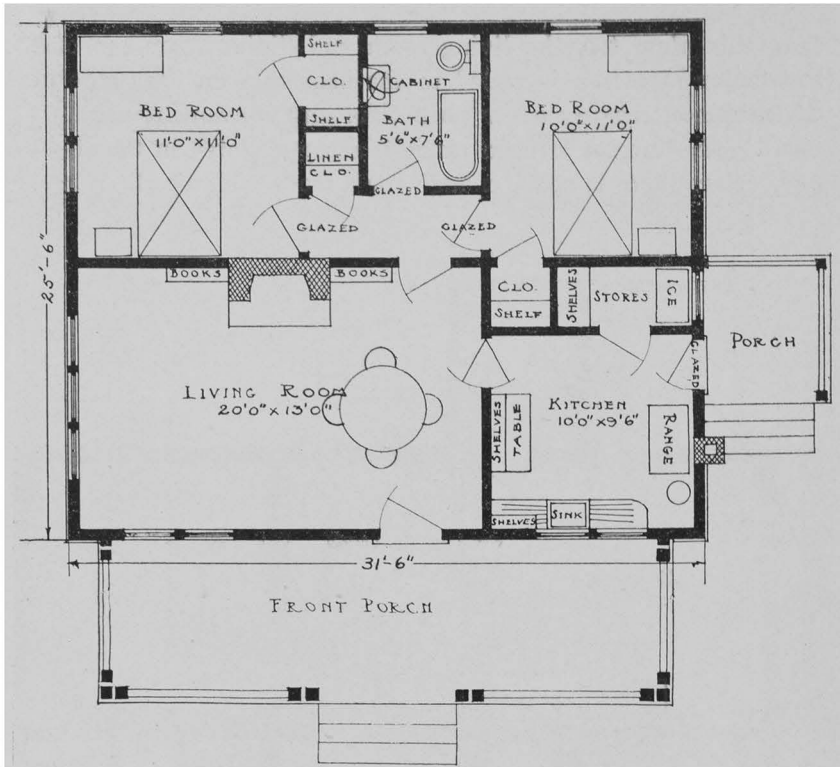


Fig. 4. Plan B2.

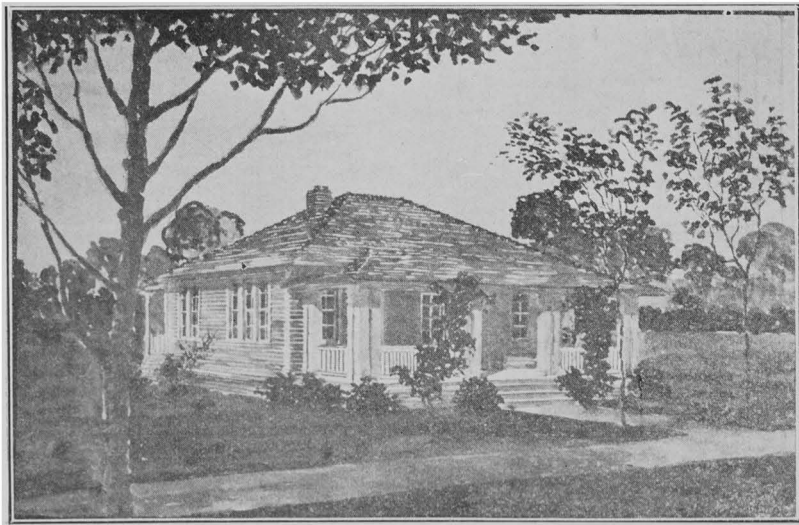


Fig. 5. This design has the merit of simplicity and good proportion. The long porch is a very attractive feature.

With shelves over the table or a built-in cabinet for materials, with shelves each side the sink for dishes and canned goods, this kitchen is well equipped. If gas, gasoline or kerosene range is used it would be advisable to put the refrigerator in the position occupied by the woodbox in the drawing. The waste in ice will be compensated for by the saving in time and energy on the part of the housekeeper. The bathroom has shelves for towels, there is a linen closet in the hall and each room has a closet for clothes.

There is one objection to this plan that makes it somewhat undesirable for a family of all grown people. In going from the front bedroom to the kitchen or bath, either the living room or the back bedroom must be passed through. To meet this objection plan B2 was drawn. The porch and living room are exactly the same, but the kitchen is put next the living room on the front and both bedrooms put at the back. It will be easily seen that to give the bedrooms the best exposures this plan must face either north or west. With the house facing north one bedroom is thrown to the southwest and one to the southeast. With the house facing west, one bedroom is on the southeast and the other on the northeast. This plan also shows ample closet space, but the kitchen arrangement is not quite so good as that in plan B1. To keep heat from the living room the range is placed on the outside, whereas convenience in serving meals would demand that it be placed next the living room. This kitchen should contain a small double decked table, not larger than eighteen inches by two feet in size, on rollers upon which to carry foods from the table to the range. When not in use this table could sit next the storeroom wall.

Specifications and estimate for this house will be found on pages 24 to 33.

the fireplace, the glazed doors and bookcases give the living room a cordial aspect. The dining room is small but ample for a small family. If desired, the doors between living room and dining room may be omitted and simple curtains hung in their place. The kitchen arrangement is very convenient, with sink, work table and range so close together, and with large shelf space. No matter how this house is placed the kitchen will be comfortable with its windows on three sides. A pantry neces-

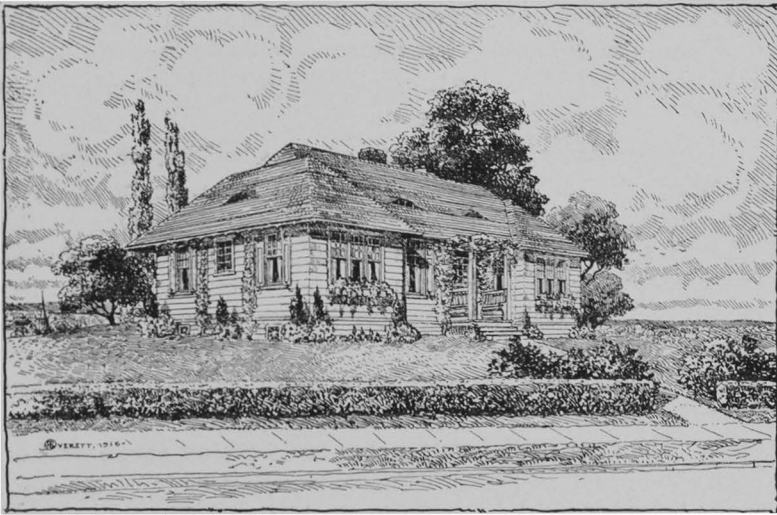


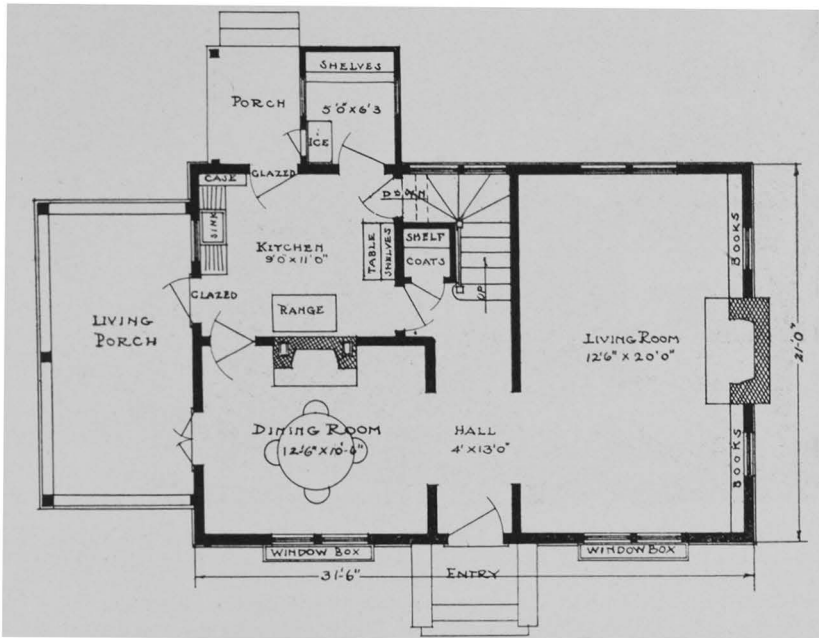
Fig. 7. Here again, the low walls, long roof line and overhanging eaves give the house a very dignified and homelike appearance. The living porch is at the back, but the pergola makes a very inviting entrance. Attention is called to the part the trees and other planting play in the design as a whole.

sitates more steps, but gives larger space for china and linen, and a working place away from kitchen heat. It should be noted that there is wall space against which to hook back the outside kitchen door to get it completely out of the way. The drawing shows a recessed tub in the bath room. This kind of a tub costs more than the ordinary kind on legs, but since it fills in completely the space it occupies and is cemented in place, no space being left behind or under to be cleaned, it is much more sanitary and convenient than the old kind.

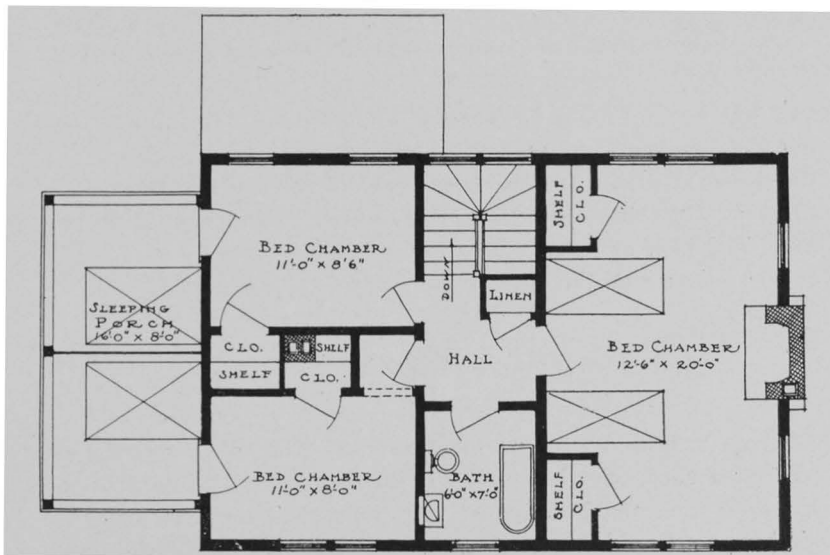
Estimates of the cost of this house will be found on pages 33-35.

Plan D. As drawn, plan D should face north or east to bring the living and sleeping porches to the east or south. North facing would give a sweep of air from north to south through the living room. The west windows could be protected by trees. The dining room would be northeast, admitting the morning sun—a very desirable feature in winter. The kitchen would be southeast and the living porch east. Upstairs the large bedroom would have the same exposure as the living room and the two small bedrooms would have easterly exposure, with sleeping porch on the east. An eastern porch has shade more hours of the day than a southern one, but the plan would be to many people just as satisfactory facing east with the porches on the south as facing north with the porches on the east.

The convenience and economy of the plan deserve close observation. The entrance hall is only four feet wide, but the two wide doorways relieve this narrowness and actually give the effect of space. Straight curtains could be hung here. If sliding doors are desired, the walls must be thicker and the expense increased. The stair arrangement is both convenient and economical. By being placed at the back one stair serves all purposes. It looks well from the front door, and can be reached from the kitchen without a view from the dining room or living room. The turn in the stair leaves room for an ample coat or linen closet, and underneath the stairs would be built the stair to the basement, with entrance in the kitchen. The living room has excellent proportion, beautiful arrangement of fireplace, bookcases and windows. Likewise, the dining room is well planned. If this house should be furnace heated, it would be better to leave out the fireplace in the dining room and use the space for a sideboard. In the kitchen the number of doors necessitates some scattering of the furnishings. The working table, however, is only two feet from the range. Undoubtedly many people prefer the table a short distance from the range on account of the heat. The water is too far from the table for the greatest ease in working. A faucet could be put in the wall above the table and a small drip basin set in the table, but if this extra expense must be avoided many steps can be saved by keeping a bucket or pitcher of water on the table. The refriger-



First Floor Plan.
Fig. 8. Plan D.



SECOND FLOOR PLAN.
Fig. 9. Plan D.

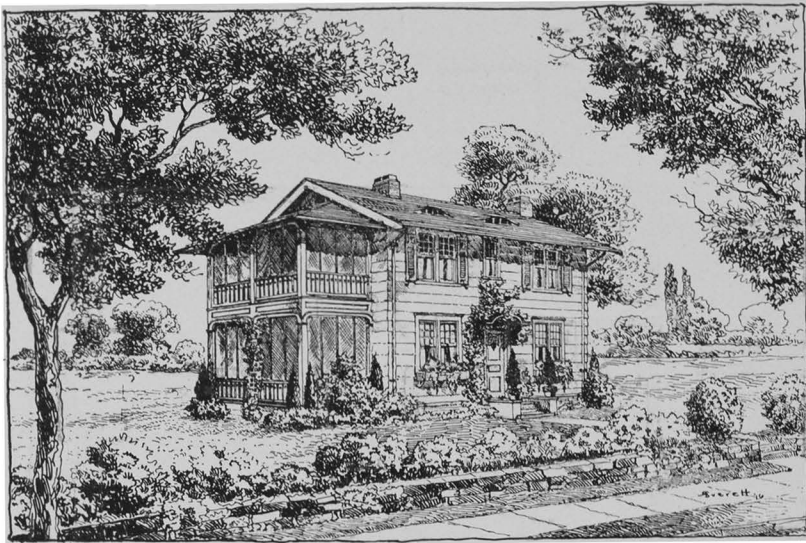


Fig. 10. This design illustrates in a two-story house the same ideas expressed in the preceding. Attention is called to the fact that the house would be a little short for the height if the porch were not on the end to carry on the line of the roof. Much greater privacy may be enjoyed here than if the living porch were on the front. The entrance porch is no larger than is necessary to afford a covered place for the waiting guest to stand, but the attractive hood and doorway combined with the planting give this tiny entrance an air of cordiality. The curve introduced in the hood is repeated on the living porch and gives a pleasant variation from the straight line.

ator can be iced from the outside, and the daily cleaning after the ice man thus eliminated. Upstairs, attention is called to the closets of each room, the linen closet in the hall and the accessibility of the bathroom to each bedroom. The sleeping porch can be divided or not as preferred.

For estimate of the cost of this house see pages 35-37.

THE KITCHEN.

A comfortable and convenient kitchen is such an important part of a successful home that it seems wise to devote a little space to the consideration of the characteristics that make a kitchen merit this description. It is wise to save the time

and strength of a servant, and it is even wiser to conserve the time and strength of the mother who is doing all her work, the demands upon whom are so many and so varied. To have a kitchen in which cooking and cleaning up can be done with quickness and ease means for the housekeeper more time and a better spirit for attending to other phases of home life, such as the care of the children, and her own improvement. Money spent upon labor saving devices and proper furnishings in the kitchen is true economy, for it economizes time, strength and labor. Just as the man needs the best equipment for his farm, factory or store, so his wife needs the best equipment for doing her share of the work. Just as he wants steam power at his factory, running water at his barn, or modern planters and cultivators on the farm, so she wants running water in her kitchen and bath, and every device possible for saving her time and strength and for making the work go smoothly. The wife who is trying to do her share has a right to expect her husband to be willing and glad to supply her with these things as fast as his means will allow.

It is impossible to give a single model plan for a kitchen, as each individual kitchen presents its own problems of location, placing of doors, windows and furniture, but certain general principles of arrangement apply to all kitchens. In the first place, a well designed kitchen need not be large. In fact, largeness is a fault in a kitchen unless it is planned with the greatest care, as it takes more steps to cover a large space than a small one. In general, kitchen work consists of two operations, the preparation of food to be eaten, and the cleaning of the dishes and utensils used in the preparation and eating of the food. The furniture should be grouped with regard to convenience in accomplishing these two processes. This means that the work table or counter or kitchen cabinet for preparing foods should be equipped with bins or containers of some sort for materials used in bread making, and for the other dry materials used in the preparation of all the common daily foods. Here, too, should be the knives, forks, spoons, bowls and other implements used in their preparation. This piece of furniture may be a cabinet of the most elaborate sort or one such as an ordinary carpenter

can make, or simply a table with large cans below for flour and sugar and shelves above for other material and implements. The principle is the same in any case, that is, to put together things that are to be used together. This table or cabinet should be located near the sink on the one hand in order that water may be reached without walking across the room and near the stove on the other in order that the food may be put on to cook with only a step. It is also very desirable to have the refrigerator near the working table, as materials are usually taken from it in the preparation of foods. But foods are taken from the refrigerator directly to the dining room also and hence the refrigerator should be near the dining room, too. At times the arrangement of the dining room and kitchen is such that the refrigerator can not be near the working table and the dining room both. In case it must be near the dining room and far from the work table, a tray may be used upon which to carry several things at one time to the table. Stew pans, roasters, etc., should be near or in the cabinet and near the stove. Open shelves over the stove may hold them. Open shelves are much more convenient for the vessels that are used constantly than closed ones. A small zinc covered serving table is a great convenience near the stove. When serving time comes the preparing table is often full of soiled utensils or of materials not yet put away and this free table saves much annoyance during the last busy moments of taking up the meal.

For the cleaning of the dishes there should be a table or shelf to receive the soiled dishes to be scraped, a sink to the left of the shelf with running water, hot as well as cold, if possible, and a drain board, table or shelf to left of sink to hold the washed dishes to be scalded. If a draining rack is used when the dishes are scalded most of the labor of wiping the dishes can be saved. There should be shelves over or near the sink on which to put away the clean dishes without walking across the room.

There should be a stool or chair of proper height to work at the sink or table so that the housewife may sit down whenever the nature of the work will permit her to do so. Lastly, the kitchen should have good ventilation. These are the essentials

of a comfortable and convenient kitchen, whether it is expensively or cheaply built.

The furnishing of the kitchens in the foregoing plans is as far as possible planned in accordance with the principles laid down above. Where these have been violated there has been what was thought to be a good reason for so doing. For instance, in plan A an extra flue is recommended for the range instead of carrying this flue in the chimney in order to have the range near the work table instead of across the room from it. In plan B1 in the kitchen the sink is as near to the table as the position of the doors will allow it to be. In B2 the range is put on the outside wall to take the heat away from the living room and to avoid putting the flue in the front part of the roof. In plan D the arrangement is as good as the very much broken walls will allow, and on account of the smallness of the room, is better than it seems on first sight.

A Kitchen Plan. Figure 11 illustrates one good arrangement in accordance with the principles outlined above. Provision for food preparation consists of the zinc covered counter, a small sink, the range and serving table. Below the counter are bins for flour, sugar, meal; also open shelves for the heavier utensils. Above it are open shelves for materials and utensils. A space of at least eighteen inches should be left between the counter and the lowest shelf. Immediately below the lowest shelf may hang many small utensils, such as egg beaters, can openers, etc. A small sink is placed at one end of the counter to avoid a journey across the room every time a little water is needed. As suggested elsewhere, a bucket or pitcher of water will to some extent take the place of a sink. If, however, there is hot water at this sink, many vessels used in cooking can be washed here and walking across the room thus prevented. The range is only two feet from the counter, so that the foods are taken from counter to range with a minimum of exertion. The range is provided with brick or terra cotta flue and hood for carrying off the odors. Back of the range may hang some stew pans and a rack for lids. The zinc covered serving table affords great convenience in changing the cooked food from cooking vessels to china, and is very con-

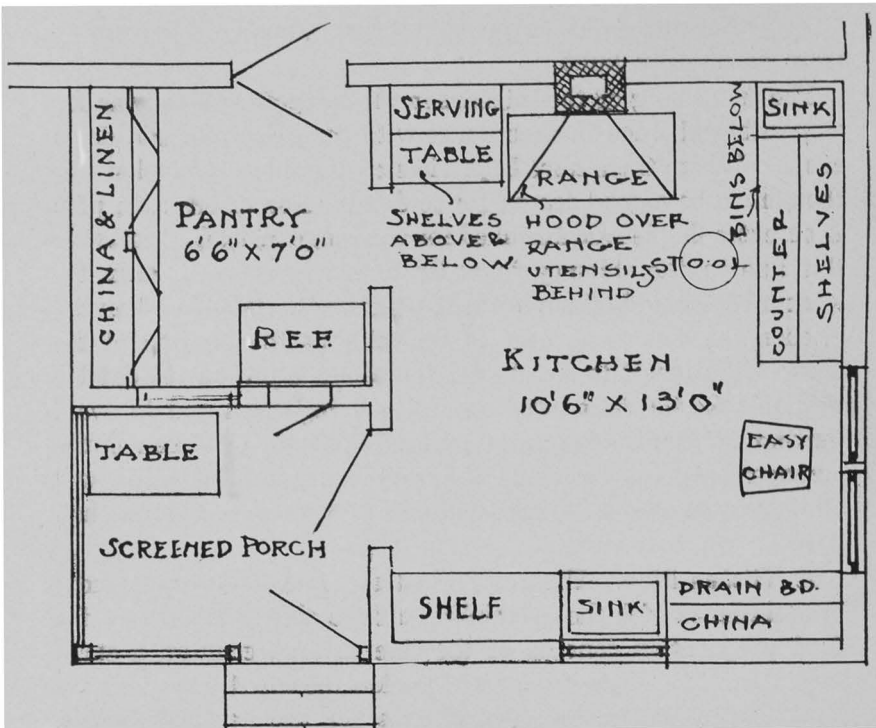


Fig. 11.

venient to the dining room. Above the serving table are more shelves for materials or utensils. Below it may be kept wood, if a wood range is used.

In cleaning up, the soiled dishes are taken to the shelf on the right of the sink, there scraped, washed at the sink, drained and scalded on the drain board, dried and put away on the shelves above. Below this broad shelf and drain board may be compartments for ice cream freezer and other large utensils and under the drain board, also drawers for towels.

A stool and easy chair complete the furnishing of the kitchen.

The kitchen has ample light and ventilation, with two windows on one side, another over the sink, and glazed door opening on the porch. A door should not be hung between kitchen and pantry, as it would be in the way and is unnecessary.

The pantry has a window, a seven-foot cabinet for china and

linen, and a corner for the refrigerator. The refrigerator is iced from the porch. A little screened porch is provided with table for receiving groceries, or at which to work on hot days.

QUESTIONS.

1. What are the purposes that the home should be arranged to serve?
2. What factors are considered when determining the size of the house?
3. What bearing do the direction of facing and general exposure have upon the planning of the house?
4. Discuss the effect of east, west, north and south facing on a plan which is before the club.
5. Why is the placing of doors and windows a matter of importance?
6. What is meant by cross ventilation and why is it especially important in Texas?
7. What should be the primary aim in the kitchen arrangement?
8. From what two main standpoints should the arrangement of a kitchen be considered?
9. In the light of the demands of these two operations what should be the principal furnishings of a kitchen and how should these be placed in reference to each other, to the dining room and to the back entry?
10. Draw a plan of your kitchen and see wherein you might rearrange it for greater convenience.

SPECIFICATIONS AND ESTIMATES

Specifications for the drawings of three and four-room houses on pages 8, 10, 11 and 12 with bill of materials attached.

INTENTION.

It is the intention of this specification to cover the details of construction and the materials required for the erection and completion of three-room and four-room houses in accordance with the accompanying drawings.

GENERAL DESCRIPTION.

These buildings will be of frame construction on cedar post foundation and will be weather-boarded on exterior walls and have shingle roofs. Interior walls will be shiplap covered with canvas. All floors will be laid with edge grain yellow pine. Each building will have front and rear porches as shown in the drawing.

FOUNDATIONS.

Foundations for both buildings will consist of cedar posts, the smallest diameter of which shall be not less than 6", and they shall be placed not more than 6', center to center. After all foundation posts are in place and in perfect alignment, they shall be sawed accurately to the level required. The outer face of all cedar posts shall be roughly hewn to a straight line to provide nailing surface for shiplap boards which will enclose the underpinning. The 4"x6" sills of the building shall be spiked to the cedar posts with two 20 penny nails to each post.

BRICK WORK.

Place chimneys where so required on the drawings. Carry up all flues the size as shown on the drawings, all flues to be lined with crock tile flue lining and extend above the capping 9".

The fireplace to be faced with hard burned brick laid up with $\frac{3}{8}$ " rake joint. The brick for the hearth shall also be a good grade of hard burned brick set on edge.

CARPENTER WORK.

LUMBER. All lumber used shall be yellow pine, thoroughly seasoned and kiln dried. All sills, joists, and framing timbers shall be No. 1 dimension stuff. All siding and finishing lumber shall be first grade. All interior and porch floors shall be of edge grain yellow pine, not over $2\frac{1}{2}$ " face width. Shingles shall be of cypress, first grade. All doors and glazed sash shall be of white pine.

FRAMING. All framing shall be done in the most secure manner; sills shall be halved together at corners and over posts where joints are necessary. No joints shall be made in sills between bearings. In each building a line of 4"x6" sills shall extend the full length of the building half way between the side walls, and entirely around the building under all exterior walls. The 4"x6" sill does not extend under porches. Ceiling joists shall be 2"x4" for 12' span or less, 2"x6" for 12' to 20' and 2"x8" for over 20' spiked to the side of the rafters and to the plate and hung to rafters in the middle with 1"x4" nailed with not less than two 8 penny nails at each end.

ROOF RAFTERS shall be 2"x4", spaced two feet on centers, with hip and ridge rafters 2"x6". The outer ends of the rafters shall extend beyond the wall line and shall be dressed to form show rafters, the amount of projection for these show rafters being shown in the drawing. Rafters shall be run to wall plates and securely spiked to wall plates and ceiling joists where possible.

STUDDING shall in all cases be 2"x4" for both interior and exterior walls. Studding shall be cross-bridged once in the height of the wall.

SIDING. Exterior walls shall be covered with drop siding or novelty or V joint siding as may be selected by the owner. Siding shall be put on in lengths and shall be securely nailed to every bearing. All nails shall be set so that the nail holes may be put-tied up when the building is painted. Baseboards and frieze mouldings shall be provided, and corner boards and outside trim

shall be planted on over the siding. Below the baseboards on exterior walls on the underpinning shall be closed in with shiplap boards securely nailed to the cedar posts and fitted tightly together.

FLOORING. All flooring shall be of the first grade edge grain yellow pine, $\frac{7}{8}$ " thick, T. & G. not over $2\frac{1}{2}$ " face width, and shall be laid in long lengths, tightly driven up and securely blind nailed at every bearing. A block of flooring shall be used in driving up strips of flooring, so that the edge of tongue is not battered, as it will not be permitted to break off a strip of battered tongue to allow the next strip of flooring to be easily driven up. All butt joints in flooring shall occur over supports, and butt joints shall not line up within less than four boards. Flooring shall be carefully laid so as not to show hammer marks, and special care shall be taken to protect the edges of flooring, so that there will be no cracks or holes in the finished floor. Flooring shall in all cases extend to the outside line of wall studs so as to make the exterior walls rat proof and prevent drafts.

PORCH FLOORS shall be laid with white leaded joints. Strips of flooring the full width of the porch shall be used in all cases in laying porch floors, and the flooring shall project over the base board not less than $1\frac{1}{2}$ ". Before placing porch columns on porch floors, the base of columns shall be heavily coated with white lead and oil, and the seat of the column on the floor shall be thickly coated with white lead and oil. On completion all floors shall be dressed off, leaving same perfectly free from rough places of any description. Care shall be taken to protect the floors from injury until the finish is applied as specified under the heading of painting.

CEILING. All interior walls and all ceilings shall be ceiled with 1"x8" shiplap nailed to all bearings with two 8-penny common nails.

INTERIOR TRIM. All interior rooms shall be finished with baseboard and picture mould as per detail for plan C. All shelves, pantry closets, cupboards, linen closets, bookcases, etc., shall be finished according to the detail sheet for plan C. All window and door trim shall be according to the detail sheet for plan C.

DOOR FRAMES. All interior door frames shall be made of $1\frac{1}{8}$ " thick material.

WINDOW FRAMES. All window frames shall be made for double hung stock windows with pulleys, weights and cord as per bill of materials attached.

WINDOWS. All windows shall be made of white pine 1 $\frac{3}{4}$ " thick. All window sash for double hung windows shall be cheek rail sash. The bottom rail of all double hung sash shall be at least 3" deep, and all sash shall be glazed with A grade glass.

DOORS. See bill of material sheet.

PORCH CONSTRUCTION. The columns for the porch will be 10"x10" square box columns, with corners rabbetted together. Two-inch blocking shall be used inside the columns and spaced about 18" apart to prevent the columns from warping or seasoning. The column cap as shown in the drawing will be made of $\frac{7}{8}$ "x $\frac{3}{4}$ " pieces, planted on the box column as indicated, and furnished with a small cove mould at the top. The balustrade to the porches shall be formed as per drawing and material sheet attached.

SHINGLING. All roofs shall be shingled with the best grade of 5" cypress shingles, laid 4 $\frac{1}{2}$ " to the weather. All roofs inside the wall line shall be stripped with 1"x3" strips to receive the shingles. Shingles shall in each case be nailed with not less than two nails to each shingle. Shingles shall be put on in perfectly true and level lines and shall be cut to perfectly straight and true lines in all valleys.

SHEET METAL WORK.

All valleys shall be lined with best grade "IX" roofing tin. Gutters shall be hanging gutters, 6" half round, secured in place by galvanized iron gutter hangers, spaced 3' apart. Downspouts shall be 4" round galvanized iron, provided with an elbow above grade to throw water away from building. Do all flashing around chimneys with the best grade "IX" roofing tin, securely worked into the brick work and built into the shingling as the shingles are laid. All sheet metal work shall be painted on the under side and inaccessible places with one coat of metallic paint before being put in place.

SCREENS. Provide screen frames for all windows and doors. screens for windows to be full size hung from the top with patent fasteners and covered with 14 mesh galvanized iron wire.

PLUMBING.

This specification can only indicate the articles required as the types and prices of fixtures, etc., depend entirely upon the kind selected by the owner.

LAVATORY. 11"x15" D-shaped bowl. Patent overflow, rubber stop.

WATER CLOSET. Low, syphon closet, wash down type, china tank.

TUB. Cast iron, white enamel tub on legs, rubber stop and chain complete.

SINK. 20"x30", one piece, centre outlet, roll rim back.

HARDWARE.

All windows and doors shall be fitted with suitable hardware, design to be selected by the owner. All double hung windows shall be hung over 2 $\frac{1}{4}$ " mortise axle cast iron pulleys and hung on $\frac{1}{4}$ " Sampsons spot sash cord, counterbalanced by cast iron weights. All doors shall be hung on 4"x4" loose-pin steel butts. Double hung windows shall be provided with eccentric sash locks with one window lift to each sash. Interior doors will be fitted with mortised latch bolts with knobs on each side. Exterior doors shall be provided with an approved cylinder lock.

GLAZING

All glazing shall be done with the best grade A clear glass. On completion of the building all glass shall be left perfectly clean.

PAINTING

All painting shall be done with the best grade of white lead and linseed oil paints. Ready mixed paints or stains shall be used and shall be the equivalent of those manufactured by Berry Bros., Sherwin-Williams, or Murphy Bros. Paints shall be delivered in original packages and shall be used without adulteration of any kind. All painting shall be done on perfectly dry and clean surfaces. No painting shall be done in

damp weather or extremely cold weather. All nails shall be set and nail-holes puttied up after the priming coat. The preceding coat shall in all cases be thoroughly dry before the next coat is applied.

EXTERIOR WOODWORK. All exterior work shall be finished with two coats of lead and oil, of color to be selected.

METAL WORK. All exterior metal work shall be finished with one coat of metallic paint and two coats of lead and oil paint in color to be selected by the owner.

INTERIOR PAINTING. All interior trim, base boards, picture moulds, window and door trim, doors and glazed sash, shall be finished in one coat of a walnut oil stain and two coats of Berry Bros. dull gloss varnish.

INTERIOR FLOORS. All interior floors shall be given one good coat of Sherwin-Williams "Wax Oil" finish, applied boiling hot. In place of "Wax Oil" finish, plain boiled linseed oil may be used, with one pound of paraffine dissolved in each gallon and applied boiling hot.

ESTIMATED COST OF PLAN A.¹

This plan could be carried out for approximately \$950, with two coats of paint and 25 cent paper. Plumbing, \$125 to \$175 extra. Bill of materials and approximate cost to build in Austin, Texas.

- 100 ft. 6" Cedar Blocking.
 - 8 pc. 4"x6"x14' Sills.
 - 1 pc. 4"x6"x18' Sill.
 - 44 pc. 2"x10"x14' Joists.
 - 44 pc. 2"x6"x14' Joists.
 - 120 pc. 2"x4"x20' Studding Plates for Scaffolding.
 - 30 pc. 2"x4"x18' Rafters.
 - 4 pc. 2"x6"x24' Hip Rafters.
 - 600 ft. 1"x4" Sheathing.
 - 1,400 ft. 1"x8" Ship Lap.
 - 1,000 ft. 1"x10" Clear Cornice Shelving Wainscoting.
 - 800 ft. Clear Siding—style to be selected.
 - 10,000 best Cypress Shingles.
 - 350 ft. V-Groove Siding for Cornice.
 - 1 10"x10" Box Column, cap and base.
 - 2 6"x6" Solid Columns, cap and base.
 - 1 Top Rail for Banister, 2"x6"x9'6".
 - 1 Top Rail for Banister, 2"x6"x6'4".
 - 1 Bottom Rail made from 4"x4"x9'6".
 - 1 Bottom Rail made from 4"x4"x6'4".
 - 28 pc. 2"x4" Banister—20", sawed to fit bottom rail.
 - 1 Window Box and Brackets. See plan for sizes.
 - 2 pc. 6"x6"x9' Posts for Back Porch.
 - 250 ft. 1"x4" Ceiling for Porches.
 - 3 pc. 1¼"x12' for Steps.
- The following size windows (frames, weights, cords, pulleys, etc.), complete, and door frames, etc. Complete trim as per detail for Plan C.
- 9 Windows, 12"x18" Glass, 8 Lights, 1⅜" Check Rail.
 - 3 Windows, 10"x12", 8 Light, 1⅜" Check Rail.

¹The following estimates were prepared by J. B. Webb, contractor, Austin, Texas.

- 2 Windows, 10"x12", 8 Light, Front Porch.
- 2 pr. French Doors for 3'x7'x1 $\frac{3}{4}$ " jambs, made for 2'x4" rebate so as to swing out.
- 1 Rear Door, Glazed, 2'8"x7'x1 $\frac{3}{4}$ ".
- 4 Inside 1 Panel Birch Veneered Doors 2'6"x7'x1 $\frac{3}{8}$ ".
- 3 Inside 1 Panel Birch Veneered Doors 2'x7'.
- 1 Broom Closet Birch Veneered Door 1'x7'.
- 1 Kitchen Closet Birch Veneered Door 1'x2'.
- 1 Closet Birch Veneered Door 2'x2'.
- 1 Working Table with drawers and shelves above (similar to Detail C).
- 1 Medicine Cabinet (similar to Detail for Plan C).
- 1,000 ft. 1"x3" Edge Grain Flooring.
- 250 linear ft. 1"x6" Bevel Top Base.
- 1,000 linear ft. $\frac{1}{2}$ "x2 $\frac{1}{2}$ " for Panels.
- 120 ft. 2 $\frac{1}{2}$ " Bed Mould.
- 400 ft. Quarter Round Moulding.
- 200 ft. 1"x1 $\frac{1}{2}$ " Wainscoting Cap.
- 400 ft. 1" Cove Moulding.
- Shelf and Brackets for Fireplace.
- 120 ft. 2 $\frac{1}{2}$ " Picture Mould.
- 2 3'x7' Screen Doors.
- 1 2'8"x7' Screen Door.
- Full size outside screens for all windows to be hung at the top.
- 1 keg 8-penny Common Nails.
- 1 keg 8-penny Casing Nails.
- 25 lbs. 8-penny Finishing Nails.
- 20 lbs. 4-penny Finishing Nails.
- 35 lbs. 3-penny Shingle Nails.
- Shelf Hardware, \$30.

ESTIMATED COST OF PLANS B1 AND B2.

The estimates for these two plans, which are based on the plan with the two porches, came within \$25 of each other. so it did not seem advisable to print the two bills of materials which are so nearly identical. This house might be built in Austin, using 25 cent paper and two coats of paint, for \$1350: plumbing, from \$150 to \$200 extra.

- 150 ft. Cedar Blocking, not less than 6" at small end.
- 6 pc. 4"x6"x16' Sills.
- 2 pc. 4"x6"x14' Sills.
- 2 pc. 4"x6"x12' Sills.
- 26 pc. 2"x10"x14' Joists.
- 26 pc. 2"x10"x12' Joists.
- 12 pc. 2"x10"x20' Porch Joists and Sills.
- 220 pc. 2"x4"x12' Studding and Scaffolding.
- 30 pc. 2"x4"x22' Plates.
- 30 pc. 2"x4"x18' Porch Joists and Framing.
- 34 pc. 2"x6"x12' Front Porch Joists and Rafters.
- 16 pc. 2"x6"x14' Joists.
- 36 pc. 2"x6"x18' Rafters.
- 4 pc. 2"x6"x24' Hip Rafters.
- 800 ft. 1"x3" Sheathing.
- 1,800 ft. 1"x8" Ship Lap.
- (All the above lumber to be No. 1 Common.)
- 12,000 best Cypress Shingles.
- 320 ft. Clear Ship Lap for Underpinning.
- 1,500 ft. Siding, pattern to be selected.
- 450 ft. V-Groove Siding for covering exposed part of Rafters.
- 200 ft. 1"x5" Fascia and Corner Boards.
- 250 ft. 1"x8" Frieze Boards for Porches.
- 200 ft. 1"x6" Base and Corner Boards.
- 1,400 ft. 1"x3" Edge Grain Flooring.
- 400 ft. $\frac{5}{8}$ "x4" Beaded Ceiling for Porches.
- 14 Columns $7\frac{1}{2}$ " square, 9' long, cap and base.
- 3 Half Columns.
- 3 pc. $1\frac{1}{4}$ "x12"x14' Clear Stock for Steps.
- 2 pc. Top Banister Rail made from 2"x6"x8'.
- 4 pc. Top Banister Rail made from 2"x6"x6'.
- 2 pc. Bottom Banister Rail made from 4"x4"x8'.
- 4 pc. Bottom Banister Rail made from 4"x4"x6'.
- 100 2"x4"x20" Banisters sawed at bottom.
- 15 Windows, 12"x18", 8 Light, Check Rail $1\frac{3}{8}$ " white pine, frame. (Complete inside and outside trim, cord, pulleys and weights.)
- 7 2'6"x6'6"x1 $\frac{3}{8}$ " with inside frames cased both sides with 2 2'6"x6'2"x1 $\frac{3}{8}$ ", 1 $\frac{1}{4}$ " Plinth, Jambs 1 $\frac{1}{4}$ "x5 $\frac{1}{4}$ ".

- 1 3'x7'x1 $\frac{3}{4}$ " Glazed Front Door, with outside frame jambs.
- 2 2'6"x7'x1 $\frac{3}{4}$ " Glazed Side Doors, rabbeted, made from 2"x6", cased two sides.
- 800 ft. 1"x12"x18' for Wainscoting and Shelves. Must be Clear B or better.
- 250 linear ft. 1"x8" Base.
- 250 linear ft. 1"x3 $\frac{1}{2}$ " Top Rail.
- 250 linear ft. 1"x1 $\frac{3}{8}$ " Cap.
- 450 linear ft. 1" Cove Mould.
- 300 linear ft. 1" Quarter Round.
- 170 linear ft. 2 $\frac{1}{2}$ " Picture Mould.
- 150 linear ft. 2 $\frac{1}{2}$ " Bed Mould to cut between Rafters.
- 1 Shelf as per detail for the Fireplace Plate of Details.
- 15 full size Screens for Windows.
- 1 Screen 3'x7'x1 $\frac{1}{4}$ ".
- 1 Screen 2'6"x7'x1".
- 1 Medicine Cabinet as per detail sheet; glass 14"x20".
- 1 keg 8-penny Common Nails.
- 1 keg 8-penny Casing Nails.
- 50 lbs. 6-penny Finishing Nails.
- 40 lbs. 3-penny Shingle Nails.
- 15 lbs. 4-penny Finishing Nails.
- 20 lbs. 20-penny Common Nails.
- 20 lbs. 16-penny Common Nails.
- Shelf Hardware, about \$35.

ESTIMATED COST OF PLAN C.

This plan can be built for \$1650 in Austin, with 25 cent paper and two coats of paint. Plumbing and wiring, \$200 to \$250 extra. This plan is designed to face the northwest.

- 200 ft. 6" Cedar Blocking.
- 8 pc. 4"6"x14' Sills.
- 4 pc. 4"x6"x12' Sills.
- 1 pc. 4"x6"x22' Sills.
- 1 pc. 4"x6"x18' Sills.
- 50 pc. 2"x10"x12' Joists.
- 16 pc. 2"x10"x14' Joists.
- 18 pc. 2"x10"x22' Joists.

- 50 pc. 2"x6"x10' Ceiling Joists.
- 16 pc. 2"x6"x22' Ceiling Joists.
- 8 pc. 2"x6"x14' Hip and Valley Rafters.
- 4 pc. 2"x6"x18' Hip and Valley Rafters.
- 300 pc. 2"x4"x20' Plates for Rafter Studding.
- 1,400 ft. 1"x4" Sheathing.
- 18,000 best Cypress Shingles.
- 4,500 ft. 1"x8" Ship Lap.
 - 2 6"x6"x10' Front Columns.
 - 2 Seats as per Detail.
 - 2 pc. 6"x8"x10' for Plates.
 - 7 pc. 2"x8"x10' Rafters for Entrance.
 - 8 pc. 2"x8"x18' Lookouts.
 - 2 pc. 4"x4"x10' Posts for Rear Porch.
- 3,000 ft. 1"x12" or 1"x10" Siding and for Shelves.
- 600 ft. V-Groove Siding for Cornice.
- 350 ft. V-Groove Ceiling and Banister Rail for Back Porch.
 - 3 pc. 1¼"x12"x10' Steps.
 - 2 Window Boxes with Brackets as per drawing.
 - 2 Frames and Ventilators in Foundation.
 - 6 Frames and Glass for Ventilators in roof.
- 14 Windows and Frames, complete—weights, cords, pulleys, etc. Openings 30"x66", bottom sash glass 26"x30", 9 light upper sash, 1⅜" white pine.
- 6 Windows as above, bottom sash glass 24"x20", top sash 6 lights.
- 1 Casement Frame and Sash, opening 30"x42", 16 lights.
- 6 pr. Outside Paneled Blinds, as per plan for front and bedrooms.
 - Full size Outside Screens for Windows without blinds.
 - One-half Inside Screens for those with blinds.
- 300 ft. 2½" Bed Mould.
- 1,400 ft. 1"x3" Edge Groove Flooring.
- 300 ft. Base Moulding 7⁄8"x9".
- 200 ft. Picture Mould.
- 4 Leaded Glass Doors in Book Case.
 - Working Table, Drawers, Shelves in Pantry, Drawers and Shelves in Linen Closet as per Detail Sheet.
 - Shelf for Fireplace and Medicine Cabinet as per Detail Sheet.

- 1 3'x7'x1 $\frac{3}{4}$ " Front Door, frames trimmed both sides as Detail Sheet.
- 2 2'6"x7'x1 $\frac{3}{4}$ " Rear Doors, detail of inside doors.
- 1 French Door opening 5'x7' as per Detail.
- 1 French Door opening 3'6"x7' as per detail.
- 6 2'6"x7'x1 $\frac{3}{8}$ " Birch Veneer Doors.
- 2 2'x7'x1 $\frac{3}{8}$ " Birch Veneer Doors.
- 1 14"x7'x1 $\frac{3}{8}$ " Birch Veneer Doors, frames complete, cased both sides.
- Shelf Hardware, \$40.
- 2 kegs 8-penny Common Nails.
- 50 lbs. 16-penny Common Nails.
- 50 lbs. 20-penny Common Nails.
- 1 keg 10-penny Casing Nails for Siding.
- 15 lbs. 4-penny Finishing Nails.
- 50 lbs. 8-penny Finishing Nails.
- 100 sq. ft. Galvanized Wire, 14-Mesh.
- 2 3'x7'x1 $\frac{1}{4}$ " Screen Doors.
- 300 ft. 1" Quarter Round.
- 100 ft. Cove Moulding.

ESTIMATED COST OF PLAN D.

This house can be built for \$2200; \$150 to \$200 extra for basement, \$200 extra for plumbing, and extra for heating system, if such is installed, according to the type selected. 10'x16'x7'6" basement under kitchen and stairway, 6" concrete wall, 6"x18" footing, 3 $\frac{1}{2}$ " concrete floor, if in soil that can be picked up easily, will cost about \$150.

- 4 pc. 4"x6"x16' Sills.
- 3 pc. 4"x6"x22' Sills.
- 1 pc. 4"x6"x12' Sills.
- 1 pc. 4"x6"x14' Sills.
- 52 pc. 2"x10"x18' Floor Joists.
- 34 pc. 2"x10"x14' Floor Joists.
- 32 pc. 2"x6"x22' Ceiling Joists.
- 300 pc. 2"x4"x20' Studding Plates and Scaffolding.
- 44 pc. 2"x4"x16' Rafters.
- 800 ft. 1"x4" Sheathing and Braces.
- 12,000 best Cypress Shingles.

- 4,500 ft. 1"x8" Ship Lap.
- 2,200 ft. 1"x10" Clear for Siding and Shelves.
- 400 ft. V-Groove Siding for Cornice.
- 6 pc. 6"x6"x4'6" for Corbels in Gables.
- 4 pc. 2"x10"x16' Clear for Face Rafters in Gables.
- 6 pc. 7½"x7½"x8' Columns.
- 4 pc. 3½"x7½"x8' for Column Trim.
- 16 Quarter Circle Brackets, 12" radius, sawed from 6"x6",
for Soffit between columns.
- 1 6"x6"x8' Back Porch Column.
- 2 Segmental Gable Windows.
- 2 Segmental Roof Lights.
- 2 Brackets for Front Hood.
- 2 pc. Cypress 3"x14" for Pedestals.
- 2 pc. 1½"x12" Clear for Steps.
- 2 Flower Boxes and Brackets.
- 8 Rect. Top Banister Rails made from 2"x4" plowed
13-16".
- 8 Rect. Bottom Banister Rails made from 2"x4" rabbeted
13-16" and beveled.
- 116 pc. 1"x6"x20" Banisters sawed as per plan.
- 400 ft. 1⅝"x1⅝" Moulding for Screen Porch.
- 400 ft. Lattice 5-16"x1⅝" tacked over wire.
- 2,500 ft. 1"x3" Edge Grain Flooring.
- 8 Windows and Frames, complete, with weights, pulleys,
cords, etc., cased on both sides, size of opening 30"x
62", bottom sash glass 26"x28", top divided into 9
lights; all sash 1⅜" Check Rail.
- 6 Windows and Frames as above, bottom sash 26"x20",
top 9 lights.
- 10 Windows and Frames as above, bottom sash 26"x26",
top 9 lights.
- 1 Front Door with Frame and Segmental Transom, door
3'x7'x1¾".
- 2 Back Doors 2'6"x7'x1¾", glazed as per Detail Sheet,
Front Door as per Sketch.
- 450 ft. 1"x4" Ceiling for Porches.
- 1 pr. French Doors, opening 3'x7', Doors 1¾".
- All inside trim according to Detail Sheet C.

4 1-Panel Birch Doors, 2'6"x7'x1 $\frac{3}{8}$ ".

1 1-Panel Birch Door, 2'x7'x1 $\frac{3}{8}$ ".

6 1-Panel Birch Doors 2'6"x6'6"x1 $\frac{3}{8}$ ".

5 1-Panel Birch Doors 2'x6'6"x1 $\frac{3}{8}$ ".

All the above door frames with 1 $\frac{1}{4}$ " Plinth Blocks complete.

Table and Shelves in Kitchen. Shelves in Pantry, Medicine Cabinet, Drawers in Linen Closet and Mantel Shelves as per Detail Sheet for C.

10 pr. Window Blinds as per Sketch.

250 ft. 2 $\frac{1}{2}$ " Bed Mould.

500 linear ft. 1"x9" Base.

600 linear ft. 1" Quarter Round.

100 linear ft. 1" Cove Mould.

400 linear ft. Picture Mould.

Stairway as per Plan. 15 Treads. 6 of them Winders, house wall stringer and outside stringer housed for 1 $\frac{1}{4}$ " Treads.

If Basement is used, 2"x12" Rough Stringers with 1"x12" Treads.

\$65 for Shelf Hardware.

3 kegs 8-penny Common Nails.

1 keg 10-penny Casing Nails.

1 keg 8-penny Finishing Nails.

1 keg 20-penny Common Nails.

50 lbs. 16-penny Common Nails.

10 lbs. 4-penny Finishing Nails.

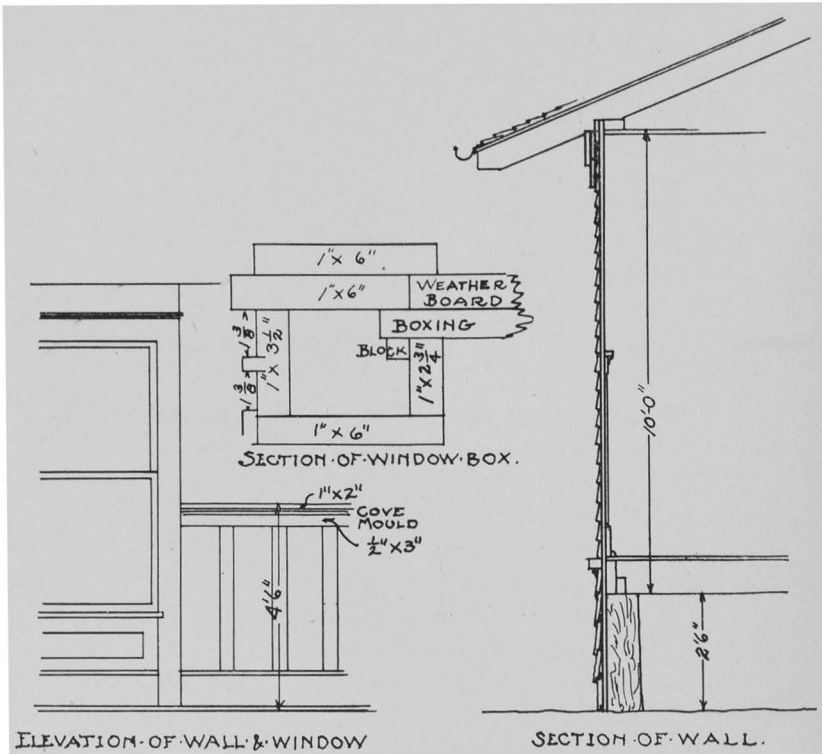
10 lbs. 6-penny Finishing Nails.

500 ft. 14-Mesh Galvanized Wire.

Full size Screens for all Windows without Blinds.

Half Screens for all Windows with Blinds.

Front and Back Door Screens.



ELEVATION OF WALL & WINDOW

SECTION OF WALL.

Fig. 12. Details for a very inexpensive box construction for plans A. and B. While this construction is not as good protection from heat and cold as the double wall with studding, it is strong and not unattractive in appearance.

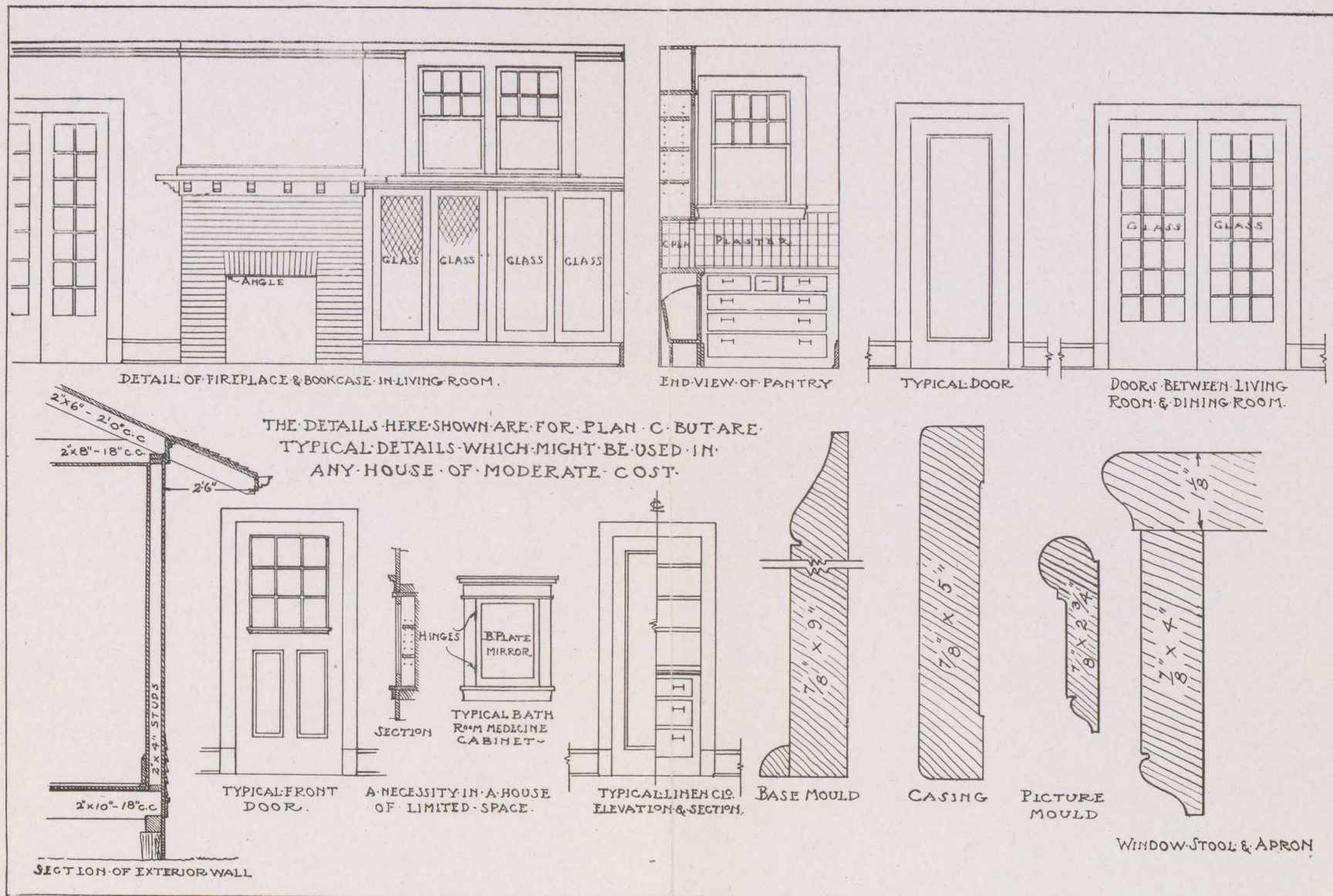


Fig. 13. Detail sheet from Plan C, but suitable for any other moderate-cost home.

