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Farmhouses

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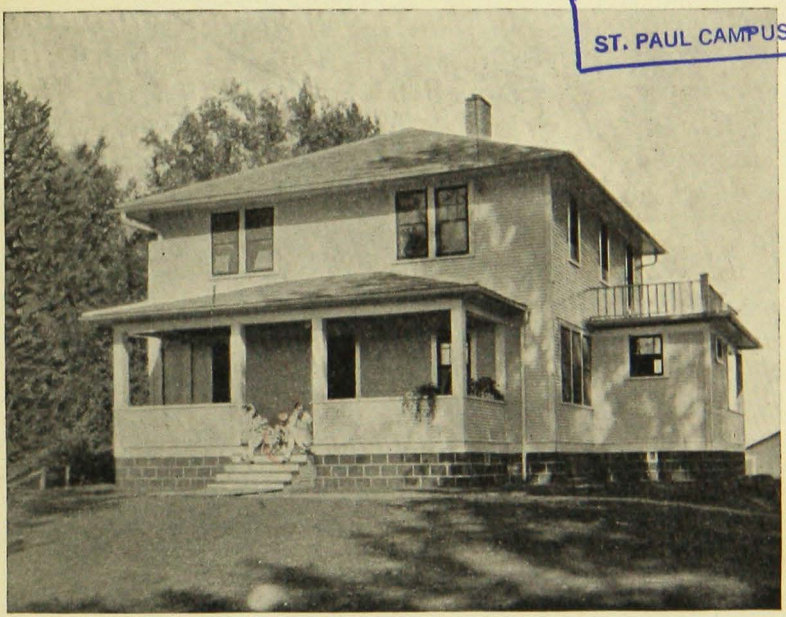
DIVISION OF AGRICULTURAL ENGINEERING



MODERN FARMHOUSE

UNIVERSITY OF MINNESOTA
AGRICULTURAL EXTENSION DIVISION

THE building of a farmhouse calls for careful planning in advance. Much more satisfactory results can be secured if the farmer, before setting out to build, confers with his wife as to the arrangements desired. A good plan is to look over houses which seem to offer attractions and to come within available means. Such houses, through inspection, will suggest possibilities that might not otherwise be thought of; possibilities of location, of size, of construction, of arrangement, and of equipment.

Having reached a decision as to the general character of the house, and as to the site it is to occupy, prospective builders can get definite plans—drawings and specifications. In this they may be aided by consulting, by mail or in person, with members of the staff of the Engineering Division of the Department of Agriculture of the University of Minnesota, which has reproduced in this bulletin several farmhouse plans. Local builders and lumbermen can also be of help.

If forethought is taken, a much more satisfactory house is likely to be the outcome. A good house, well adapted to the farm on which it is erected, adds greatly to a farm's value.

CHOOSING A LOCATION

The farmhouse is usually located on the highest spot of the building site. If the farmstead is on a highway, the house is set back 100 to 150 feet from the farm line. A house on the east side of a dirt or graveled road may be placed farther from the road to avoid dust.

The drainage from the basement is so important that it is frequently necessary to raise the site slightly above natural grade by using earth excavated from the basement to fill outside the foundation wall. For a 7-foot basement a 5-foot excavation will allow sufficient light in the basement. The ground should slope away from the house.

The views from the house toward a town, lake, school, or highway should be kept open so that such points of interest will not be lost. One may have the house face the driveway that comes in from the public road, as a farmhouse is seldom approached on foot from the road. If the front door is to be used, it must be as easily reached from the driveway as is the back door.

SQUARE TYPE IN FAVOR

The rectangular or square two-story farmhouse has taken the place of the ell-shaped house and has become a type in the Middle West that has many features to justify its popularity. It is economical to build, is easily heated, and has cross-ventilation upstairs. For smaller houses the one-and-one-half and one-story houses are popular.

REQUIREMENTS DETERMINE SIZE

The size of the house is usually given as its over-all measurements, as 26 x 28 feet, or by the number of rooms. Halls, closets, and bathrooms are not counted.

In determining the size of a farmhouse, the work that is to be carried on in it must be considered. As a rule, the more the farm business is developed the more such operations as dairy work go from the house to special rooms or buildings, such as the milk house.

The five-room farmhouse is common. It consists of a kitchen, living room, and three bedrooms. The meals are eaten in the kitchen. A six-room house usually has a kitchen, dining room, living room, and three bedrooms.

The seven-room house, including a kitchen, dining room, living room, and four bedrooms, meets most requirements for the average family. A farm office can be easily arranged in an eight-room house. Porches are used at the back and as a screened room off the dining room. The front porch is small or is omitted.

Sizes of rooms vary according to the number of occupants and the work to be done. The following are suggested:

Kitchen—10 x 12 feet	Closets—2 feet deep
Dining room—13 x 15 feet	Stairs—3 feet wide
Living room—14 x 20 feet	Halls—3½ feet wide
Bedroom—10 x 12 to 12 x 14 feet	Basement—7 feet high
Bathroom—5 x 7½ feet	First story—8½ feet high
Porch—8 feet wide	Second story—8 feet high

ARRANGEMENT COUNTS FOR MUCH

The arrangement of the rooms in a farmhouse is influenced by the direction the house faces and by the work that is to be done in the house, as well as by the location of driveways and other buildings. It is desirable to have the driveway and barn in view from the kitchen windows. The basement should be easily reached from the kitchen. The dining room, if included in the plan, should be reached from the kitchen by a double-acting door. The living room is generally more satisfactory if it is not too long in comparison to its width. The bedrooms are usually on the second floor. If there is a first-floor bedroom, a toilet room adjoining, with water closet and lavatory, is very convenient.

In some cases a toilet room in the basement is highly desirable, especially if the laundry is in the basement and there is a grade door. A grade door is one of the most labor-saving improvements made in houses. The grade door is just above the level of the ground. Inside there is a stair landing, called the grade landing. From this there are 4 steps to the level of the first floor and about 9 steps to the basement.

The stairs are at the rear of the house. This brings the grade door toward the barn so that the men can easily reach the basement to remove muddy or snowy clothing. Ashes can be taken from the furnace through the grade door, also the clothes from the laundry on wash day.

Plans are useful in studying the arrangement of rooms in farmhouses and will vary for many reasons. The direction in which the house is to face is one of the first considerations. In the rectangular plan the kitchen is frequently placed in the northwest corner when the house faces east; the northeast corner when the house faces south or west, and in the southeast corner when the house faces north. There are many exceptions to these rules. In choosing a plan that can be modified to suit the location, the direction of facing should be one of the first points to be settled. The outside doors and steps may need to be changed to reach the driveway or barn easily.

A plan may be turned or it may be reversed. The front of Plan No. 122 may be turned from south to east. This changes the kitchen from the northeast corner to the northwest corner. If the plan is to face north, it is reversed. This brings the kitchen from the northeast to the southeast and the dining room to the northeast.

CONVENIENCES SAVE LABOR

Built-in equipment makes housekeeping easier. The wood-box, ironing board, linen closet, cupboards, bins, bookcases, and shelves in closets and fruit cellars are important. They do not require as much work to keep them in order as movable pieces, and are in place when needed. The house is more usable and can be smaller, as built-in equipment usually does not require as much space as the furniture which it replaces. If installed when the house is built, they may be less expensive than furniture.

GOOD LIGHTING ESSENTIAL

The benefits derived from a well-lighted house are well recognized, and are carefully guarded in recent years. Porches that darken the rooms adjoining them are smaller or are left off altogether. The rooms are often lighted by twin- or triple-frame windows where formerly single windows were installed. The windows can be placed higher from the floor and thus allow furniture to be placed along the wall beneath them. The size of windows varies with the size of the house, but a glass of 24 x 26 inches is convenient, especially where storm sash must be handled. There is a tendency to use shorter windows in kitchens and in dining rooms. A size suitable above a kitchen sink is 20 x 16 inches. A basement sash with three lights 10 x 14 inches is satisfactory. The

grade door should have a glass in it to light the stairway. A square foot of window to 10 feet of floor area gives a well-lighted room. Kitchens should have one foot of window to 4 or 5 feet of floor space.

Electric lights in the middle of ceilings and above the kitchen sink and at each side of the medicine case are necessary. Bracket, floor, table, desk, and bed lamps are desirable.

VENTILATION IMPORTANT

The ventilation of the farmhouse is important. Bedrooms should have windows on two sides in order that the room may be cooled after the sun has been shining on the walls and roof during a hot summer afternoon.

Storm sash should swing out at the bottom and be fastened with adjusters. For severe cold spells, a ventilator in the lower rail of the storm sash is desirable. It can be made by boring several one-inch holes in a horizontal row and smoothing out the opening and pivoting a small board on the inside of the sash so as to close the opening when not needed. Basement sash are hinged at the top and swing in at the bottom; the basement storm sash swings out at the bottom.

FACTORS IN APPEARANCE

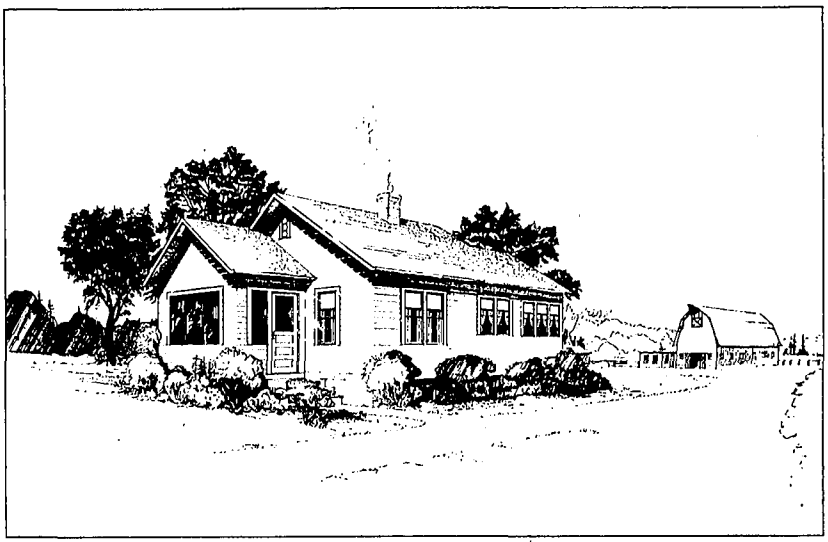
The rooms should be planned first and then the roof planned to shelter them. The shape of the building and the shape of the roof, influenced by the color, are the most important factors in appearance. A farmhouse, because it is one of a group of buildings, needs no ornamentation to be in good taste.

FRAME CONSTRUCTION POPULAR

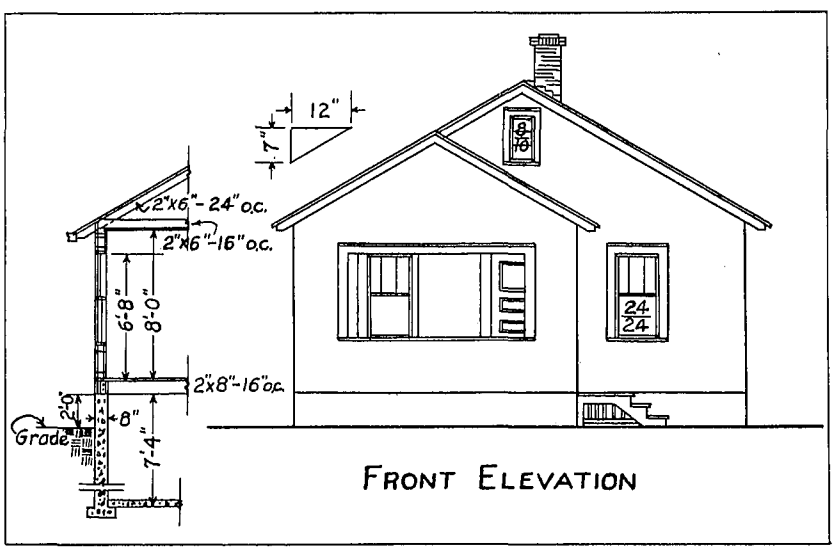
The frame house is the most common at present. It is usually built on a foundation of stone, concrete, or tile blocks. The foundation extends about 5 feet into the ground and rests on a footing about 18 inches wide, depending on the height and size of the house and the condition of the soil. It is generally desirable to use materials that are familiar to the workmen. Local conditions may influence the construction.

PERMANENCE IS DESIRABLE

Because of the cost, it is desirable so to construct houses that they will not need to be rebuilt or repaired for many years. The floors and walls will need to be refinished frequently, but if good material and good workmanship go into the structural parts, a house should last many years with few repairs. Good hardware and fixtures are desirable, as they are often difficult to match or replace when worn out.

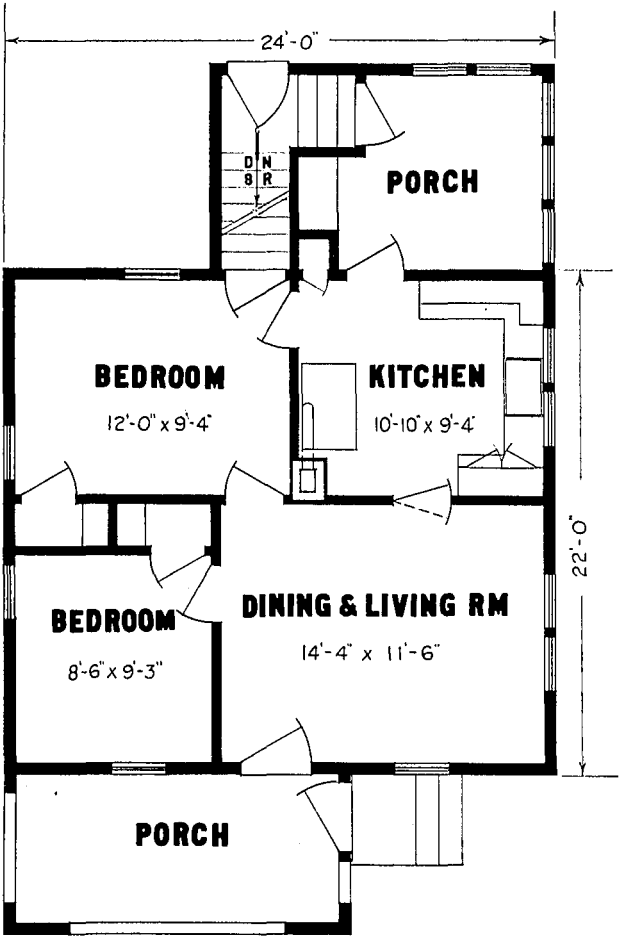


One-story farmhouse



Plan 324. Elevation of one-story farmhouse

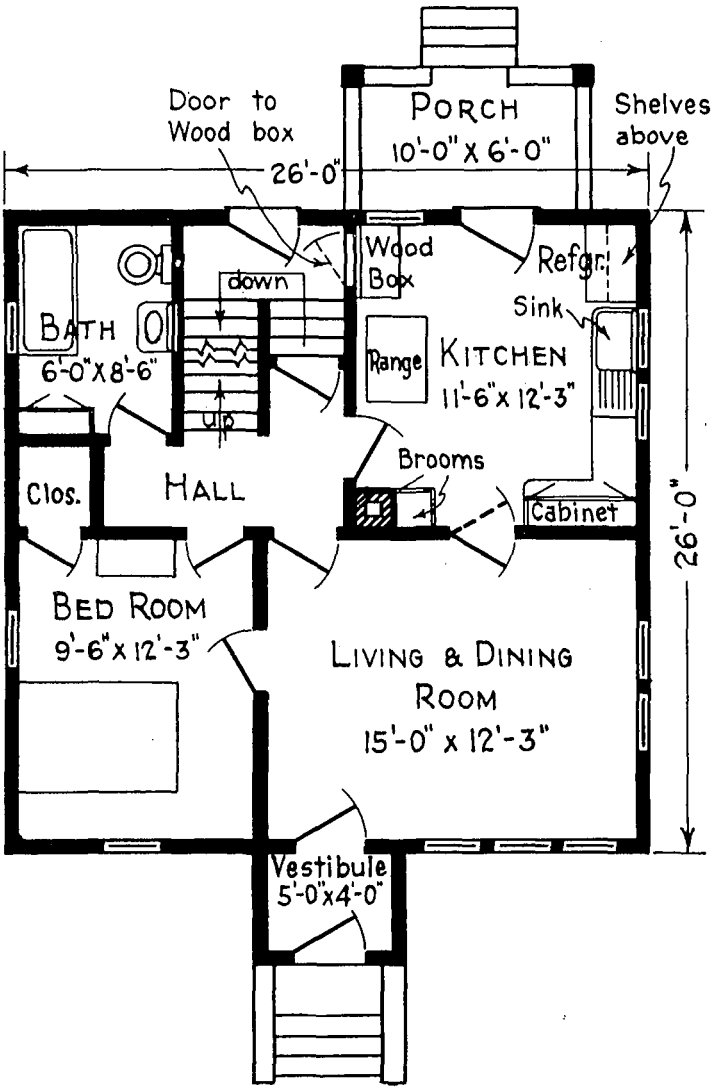
Plan 324 may face south, east, or west. It has a kitchen, combined dining and living room, and two bedrooms. There are closets for each bedroom and a stairway to the attic so it may be used for storage. The grade door allows easy access to the basement. This door serves as the entrance to the rear porch. It is very satisfactory to have the rear steps inside, where they are not slippery in winter. The construction is simple, as the roof has no dormers or extra gables.



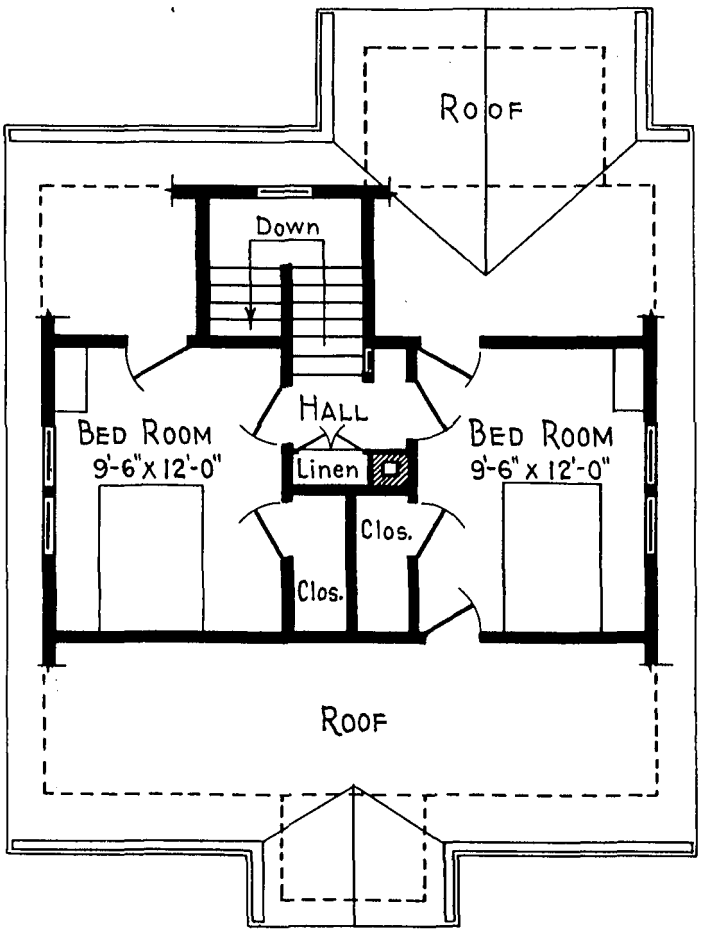
Plan 324. Floor plan of four-room farmhouse

This one-story house has a 7-foot basement with concrete walls eight inches thick. The ceilings of the rooms are 8 feet high. The tops of the windows should be the same height as the doors so the casings will be uniform. The joists are 2 x 8.

This house may face south, east, or west and by reversing will face north. It is easy to enlarge by adding a bedroom next to the bathroom and replacing the front bedroom with a living room extending the same distance as the new bedroom. As the upstairs bedrooms have no cross-ventilation it is desirable to use insulating plaster board and plaster for these rooms or they will be warm in summer. The first-floor plan



Plan 287. First-floor plan, one-and-one-half-story, five-room farmhouse

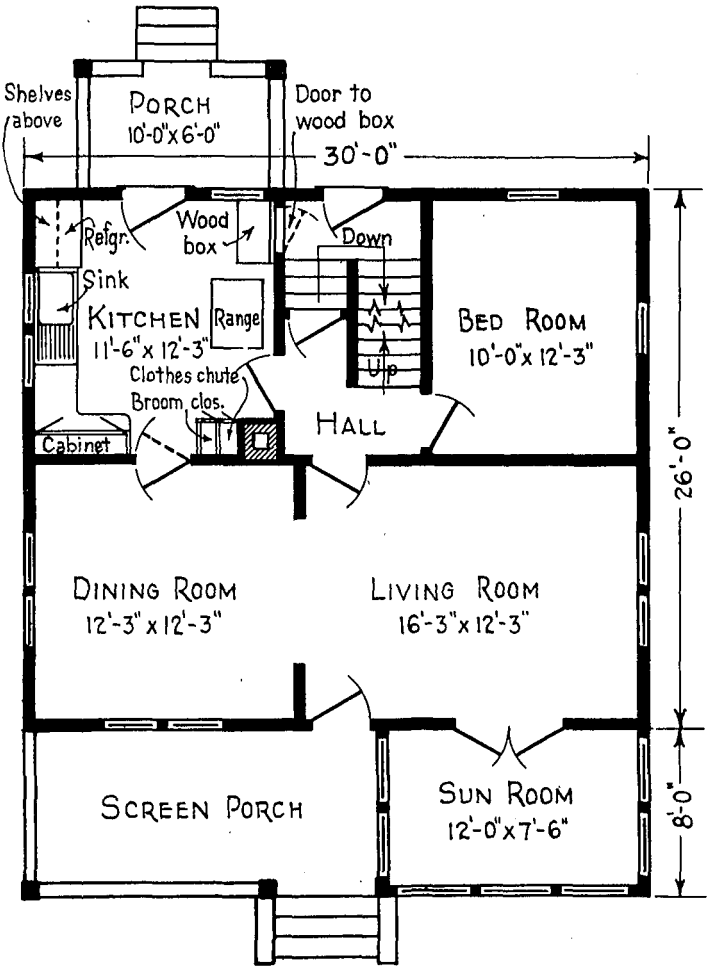


Plan 288. Second floor of Farmhouse Plan 287

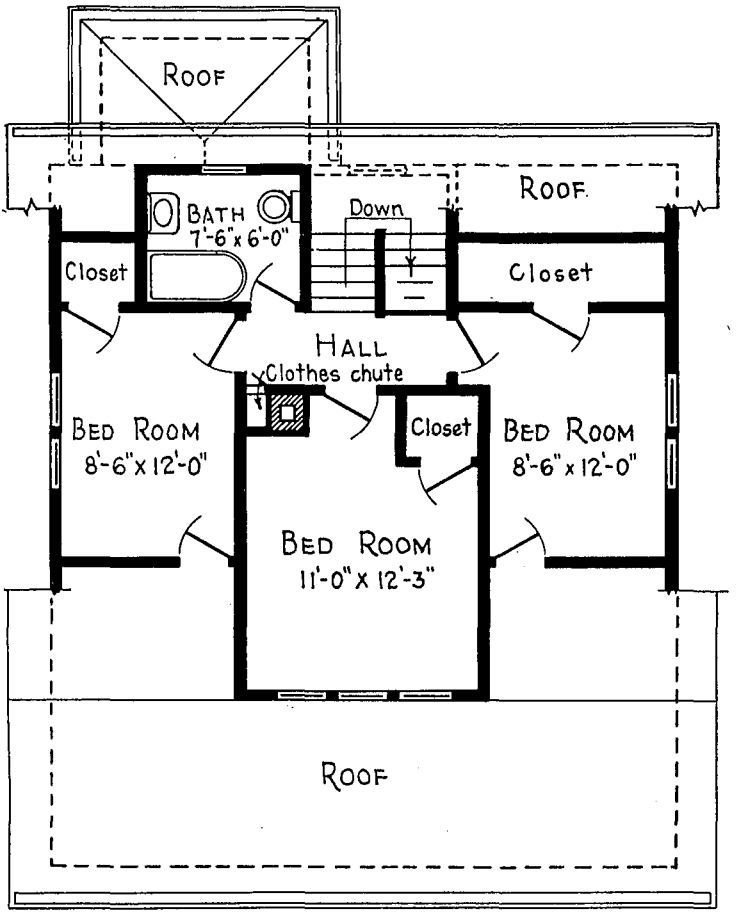
shows a very convenient arrangement. The grade door is used when filling the wood-box, which is easily opened by a lid on the kitchen side of the partition. Filling the wood-box from the grade landing keeps dirt from being tracked into the kitchen. An ironing board in the wall may replace the broom closet in the kitchen if a pivoted ironing board is installed, which may be swung away from the chimney.

The second-floor plan shows two bedrooms with closets and also storage space where the roof is too low for bedroom ceilings.

This house faces north or west with the driveway east or north of it. There is a sunroom and screened porch in front and a rear porch. The kitchen shows built-in cabinets and sink as well as a wood-box, broom closet, and clothes chute. The stair arrangement is one of the most desirable that has been developed for farmhouses. The grade door allows access to the kitchen by 4 steps up or to the basement by about 9 steps down. The improved masonry for foundations has made the basement a more useful part of the farmhouse. In order that it can be easily reached from both the kitchen and outdoors the grade entrance and grade stairs were developed. This plan shows well-arranged stairs and hall.

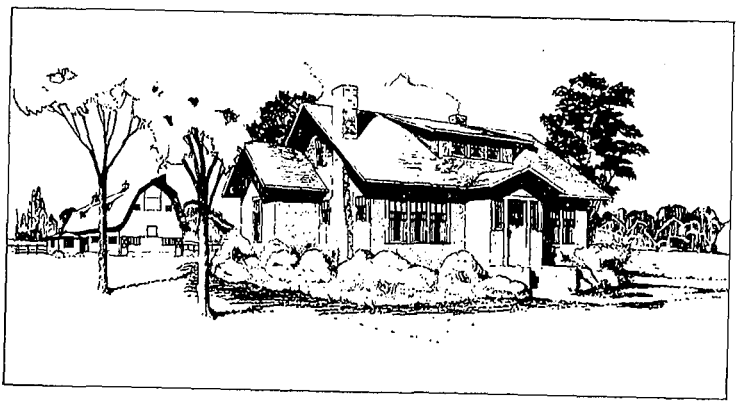


Plan 263. First-floor plan, one-and-one-half-story, seven-room farmhouse

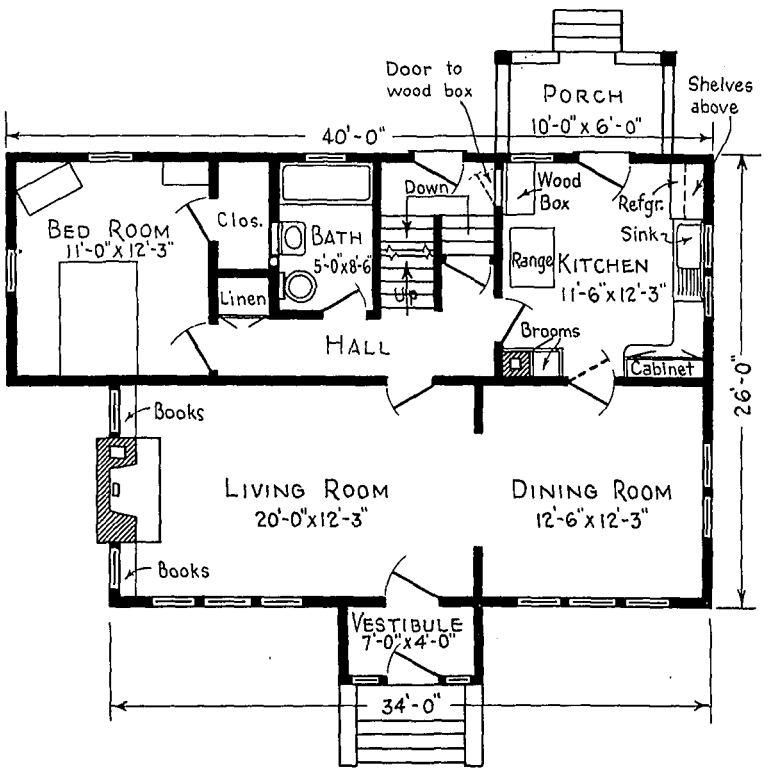


Plan 263. Second-floor plan

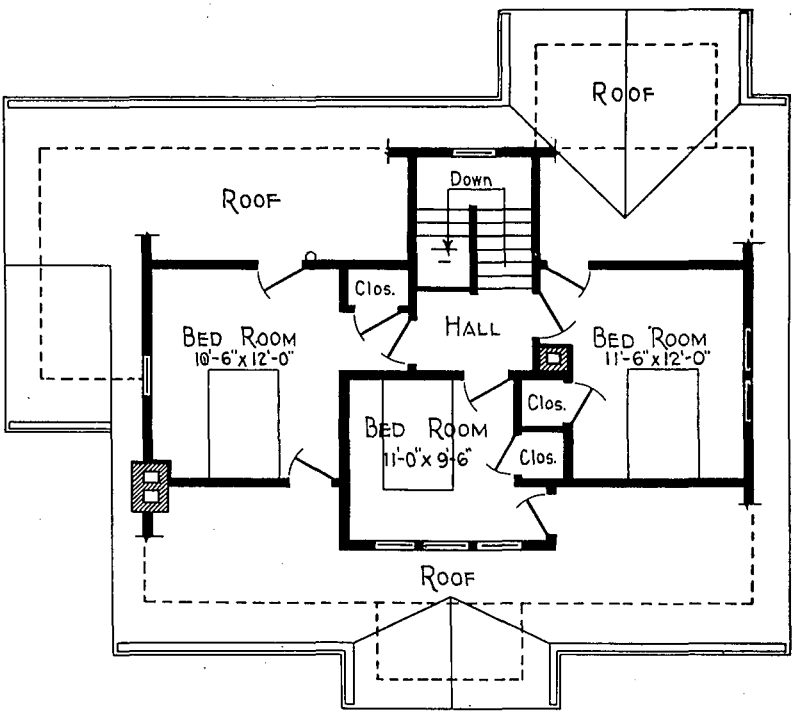
The second story shows three bedrooms, each with a closet, as well as storage space under the roof. There is a dormer over the front bedroom and also over the bathroom. These are of the type known as lift dormers. They have a roof sloping in one direction only. This slope is in the same direction as the roof in which it is located but is not so steep. This type of roof may allow the upstairs room to become very warm in hot weather and cold in winter if not well insulated. The appearance of such a roof is well liked by many home owners and the first cost and upkeep are very reasonable.



One-and-one-half-story farmhouse



Plan 247. First-floor plan, one-and-one-half-story, seven-room farmhouse



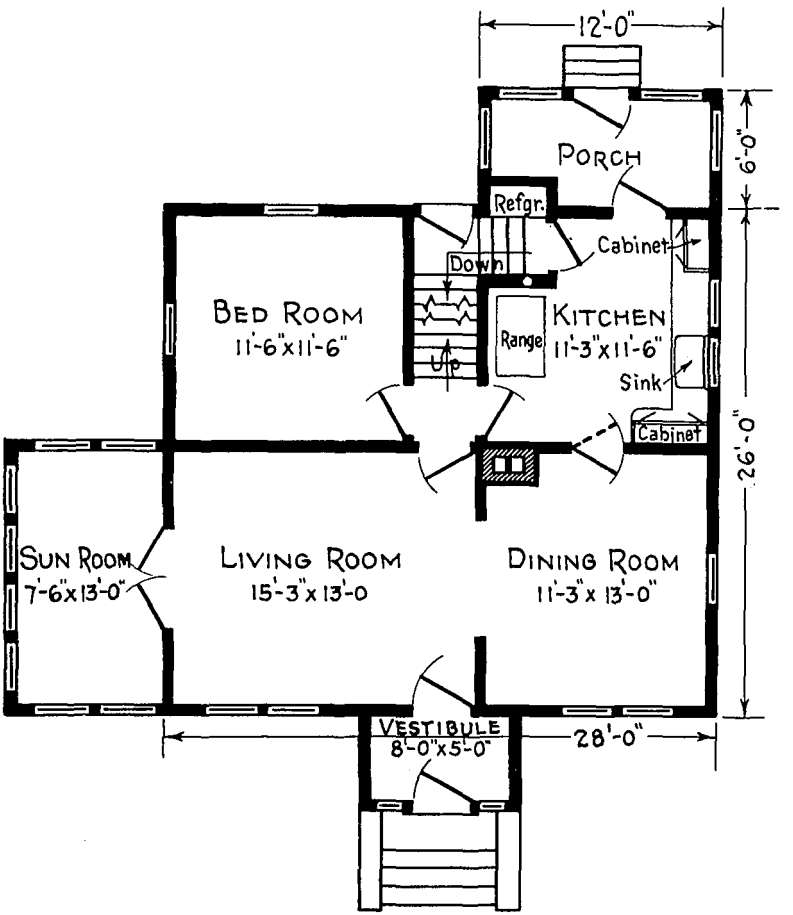
Plan 248. Second floor of Farmhouse Plan 247

This house faces south or east. It may be modified in many ways, or only a part built and later enlarged. The fireplace is usually omitted. The bathroom may be omitted downstairs and added upstairs. It may be built as a smaller house, including kitchen, combined dining and living room, and stairs. When more rooms are needed, the living room and the downstairs bedroom may be added. If a toilet room with lavatory and water closet only are built instead of the bathroom, the end of the bedroom and living room may be even and the length of the house made 36 feet.

This house looks well in the country and fits into the farmstead nicely. The horizontal lines avoid the box-like appearance seen in many two-story farmhouses. It lacks the attic of the two-story hip-roof house, and the ventilation of the upstairs bedrooms may not be as good.

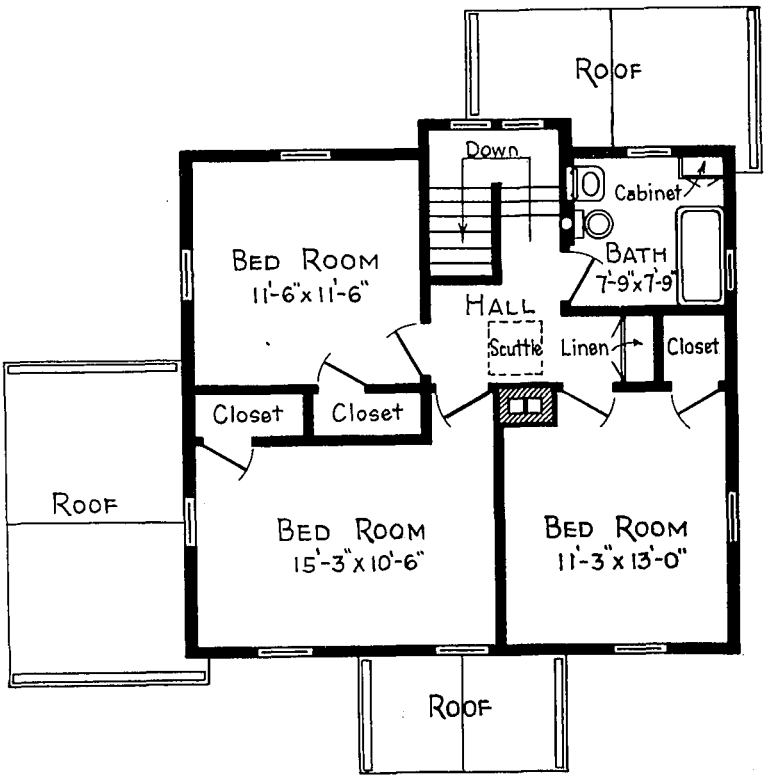
The second-floor plan shows three bedrooms, each with a closet, and storage rooms where the roof is low.

This house was planned to face east. It is simple to build, as there are no valleys and the roofs are all gable roofs, with the ridge of the main roof extending lengthwise of the house. The stairs are a little crowded, but otherwise it is convenient. The stairs project over the grade door and refrigerator space. The door to the grade landing and basement is in the kitchen instead of a back hall as in many of the other plans. This makes access to the basement very easy. The sunroom



Plan 329. First-floor plan, two-story, seven-room farmhouse

is useful. The upstairs has three splendid bedrooms with plenty of closet space, and it would be possible to arrange stairs to the attic directly above the other stairs. This would give much more use of the attic, which is well lighted by the gable windows.



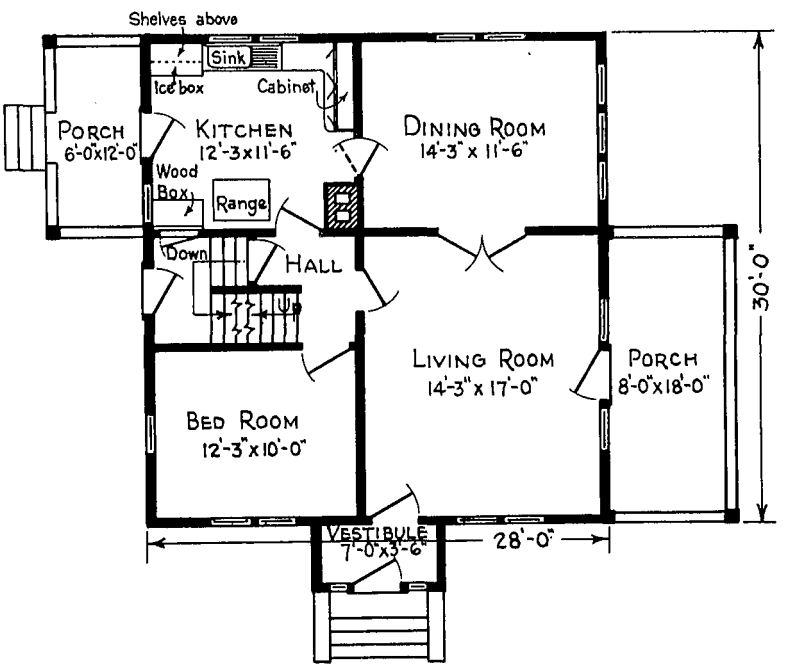
Plan 239. Second-floor plan

This house is one that is easily made attractive. The vestibule, porch, and sunroom make it appear low. With 16-foot studs, there will be a sloping ceiling along one side of each room. This adds interest and works out nicely if a picture mold is placed at the top of the door and window casings. The downstairs bedroom is frequently used either for a sewing room or office or both.

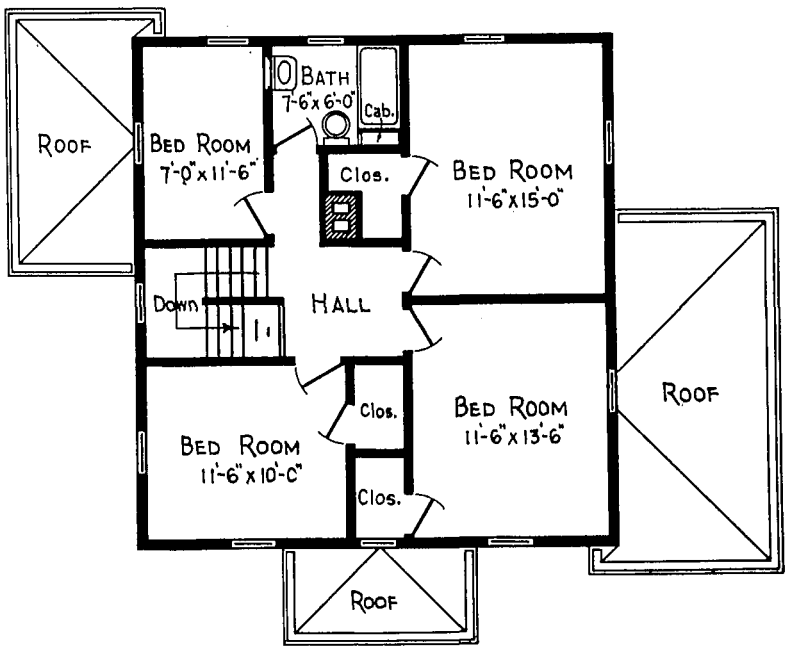
This plan shows a house that faces west, with the driveway north of it. The porch may be built beside the dining room as a sunroom, or it may be built on the front of the house. The rear porch may have the steps at the end if the barn is east of the house. It is often desirable to have sash for winter and screens for summer for this porch.

The grade-door location is a little unusual. It will not be used as much as if it were at the rear of the house instead of the side.

This house has the same width of kitchen and downstairs bedroom as if built 26 feet wide. The additional space has been given to the dining room and the living room. It would be very easy to change the plan so the partition on the first floor running from front to back would be in the middle of the house. This change would greatly improve the stair space and hall. When moving furniture upstairs, this enlargement of the head room would be greatly appreciated. The widths of the dining room and living room would be 13 feet 3 inches, and this would still be a good width for a farmhouse of this size. The kitchen and bedroom would be increased from 12 feet 3 inches to 13 feet 3 inches.



Plan 257. First-floor plan, two-story, eight-room farmhouse



Plan 257. Second-floor plan

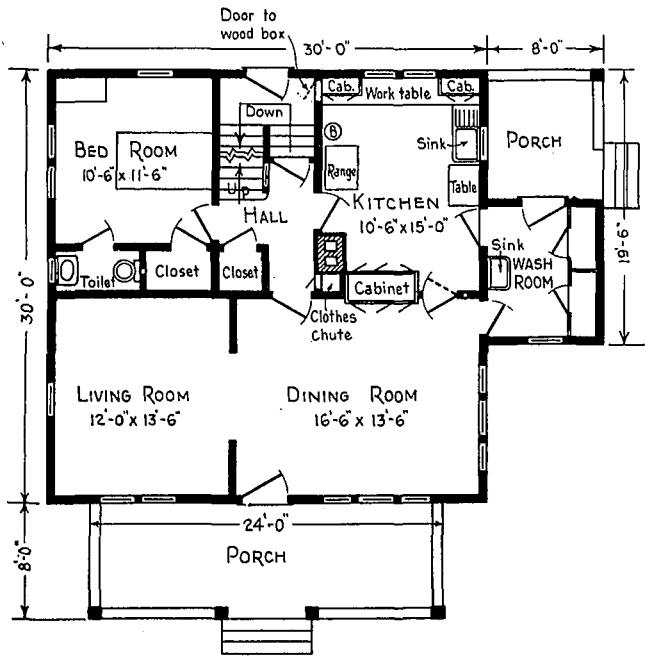
The added space would make the plan less crowded. The cabinets in the kitchen would be more generous in size, and there would be space for a built-in ironing board. The bedroom could have a closet built in one corner, thus making good use of the space. The double doors may be omitted and an arched or cased opening built if desired. A dormer may be used to light the attic, and inexpensive attic stairs can be built directly above the main stairs. There will not be full head room in such stairs when one is coming down, but the advantage of being able to carry articles that are used seasonally up an easy flight of stairs to the attic repays for the expense. Once one is in the low attic he will stoop in starting down and thus avoid a bumped head.

One upstairs bedroom is very small, but it has two windows which allow cross-ventilation in warm weather. If it is desirable to omit the small bedroom, the bathroom may be beside the stairs and the corner of the house, where the bedroom was formerly, may be used for a closet.

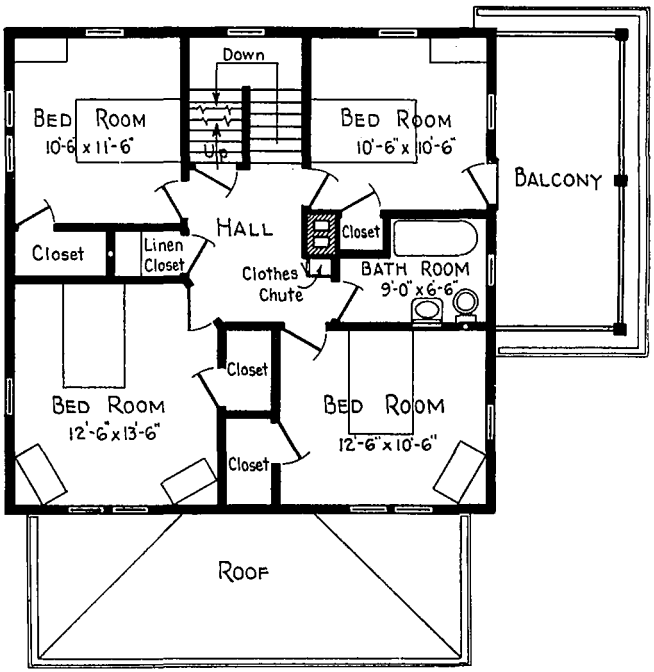
This arrangement makes one very large bedroom, which in some cases is very desirable.

This house faces south or west. When facing west, the driveway is south of the house. It is a hip-roof house with eight rooms and a washroom, which is convenient for men at threshing or silo-filling time. The cabinets in the washroom extend to the ceiling and furnish convenient storage for work clothes. The balcony above the washroom is a convenient place for airing bedding and clothes. The toilet room just off the downstairs bedroom is much appreciated. There is a tendency to omit the front porch and to build in its place a vestibule about 4 x 10 feet in size, which furnishes space for a closet near the front door.

The cabinet between the dining room and the kitchen has doors in both rooms. Frequently doors are installed on the dining room side only, and drawers for knives, forks, and spoons are made to slide out in both the kitchen and the dining room.

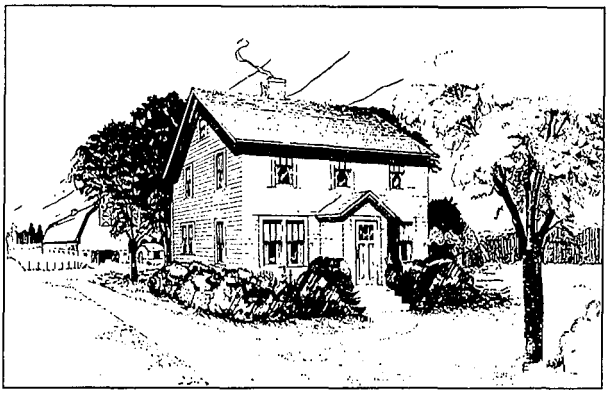


Plan 212. First-floor plan, two-story, eight-room farmhouse

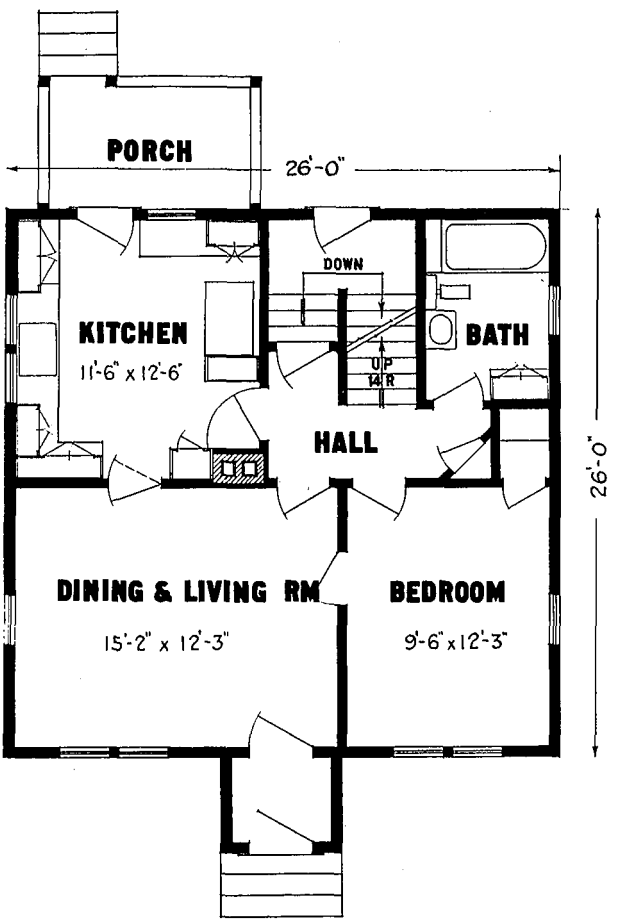


Plan 212. Second-floor plan

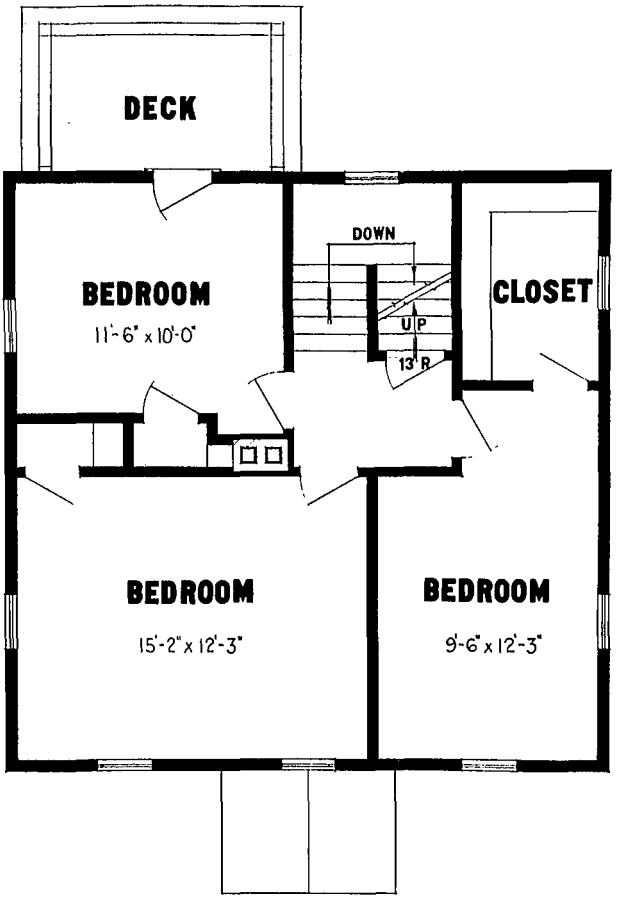
This house is recommended because of the wash room, but it has many other good features. It is large enough to have generous closet space for all the bedrooms. All the rooms are quite large and meet the requirements of a farm family. The complete bathroom in addition to the toilet room is convenient when all the upstairs rooms are occupied. The two closets in the halls and the clothes chute help to make this a handy house in which to do the housework. A house the size shown has much useful attic space and the attic stairs directly above the main stairs make this space convenient for storing household goods that are used seasonally. If artificial light is not installed, it may be desirable to add a dormer on the roof.



Two-story farmhouse



Plan 325. First-floor plan, two-story, six-room farmhouse

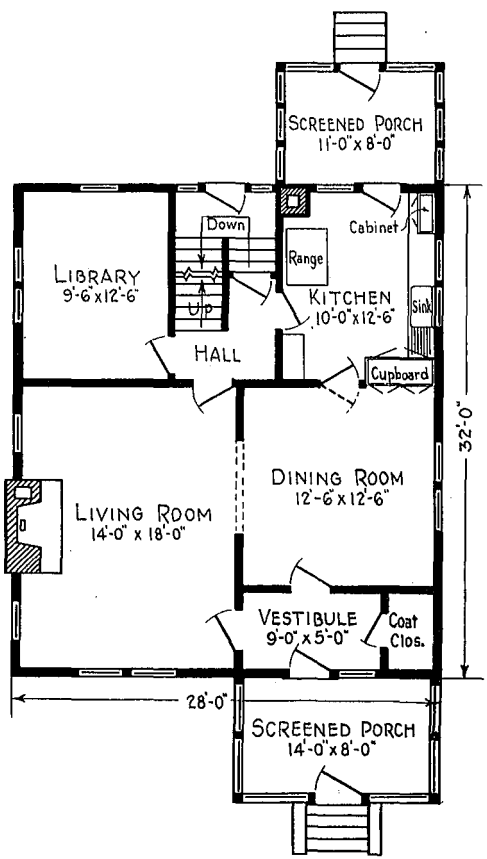


Plan 326. Second floor of Farmhouse Plan 325

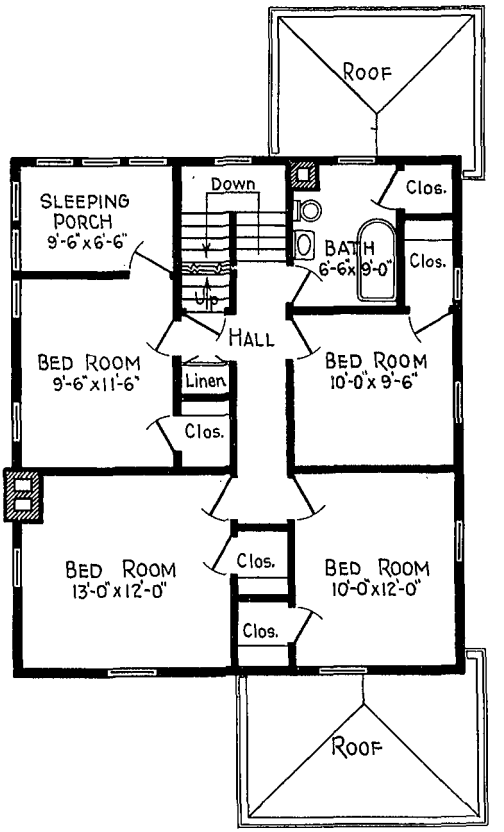
Altho this six-room house is only 26 feet square, it has many features recommended by home economics specialists. Of course, it would look nicer if it were longer. It could then be made to show the colonial type that is common in the eastern states and which has proved interesting through the many years since it was first adopted. Making it longer would perhaps bring the bedroom to the rear of the house and give up its present location for a parlor. It was meant to face north but is sometimes used where it faces east. Only one upstairs bedroom is large, but one of the others has such a large closet that it meets the requirements of a much larger room. Cross ventilation is secured in all rooms. Attic stairs are shown, as with 16-foot studding there is a well-lighted attic altho not very high. Special attention should be given to the foundation plantings or the house will seem too tall.

SIDE ELEVATION

Plan 124. Elevation of hip-roof farmhouse, Plan 122



Plan 122. First-floor plan, two-story, eight-room farmhouse

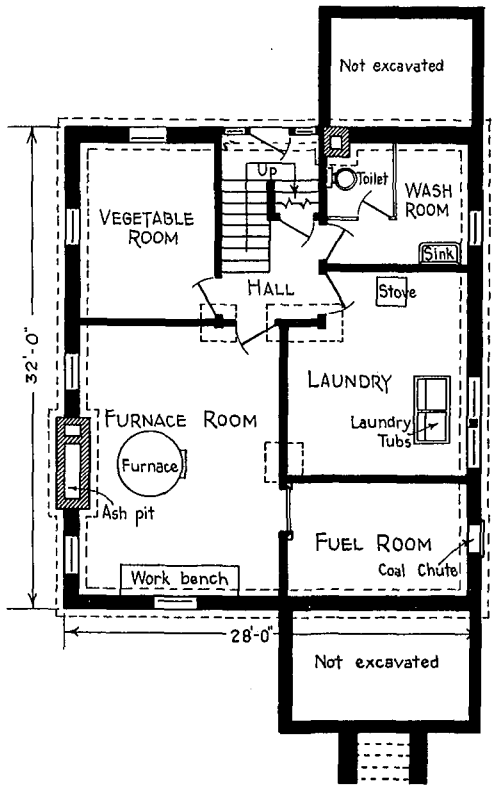


Plan 122. Second-floor plan

The side elevation is of Plan 122. It is shown with a course of soldier brick (brick on end) at the grade and stucco above. It may be finished in brick, siding, or shingles, or a combination of those materials. A white farmhouse seems to fit into its surroundings very well, especially if screens and storm sash are dark green.

House Plan 122 faces east or south. It is a full two-story house with hip roof. A fireplace is shown but it may be omitted and the one chimney built at the inner corner of the kitchen, where it will serve both the furnace and the kitchen range. The stairs give easy access to the basement for removing ashes and caring for the furnace. The vestibule with a coat closet is very desirable in a severe climate, as an outside door opening into a living room makes the floor cold. On the second floor is a closet for each room, one in the hall for linen, and a small one for the bathroom. The kitchen, with its screened porch, is convenient. The porch may be fitted with sash for winter protection.

This plan shows a basement 28 x 32 feet in size. The rooms shown are not always partitioned off. There is a growing tendency to partition off only the fuel room and the fruit and vegetable room. A space for the men to clean up in is arranged in one corner. The laundry room should be equipped with stove and laundry tray. The furnace room may have a work space where jobs may be done in winter that could not be done easily outdoors. It is common to locate the cistern in the basement, altho a water softener may be substituted for the cistern.



Plan 143. Basement of Plan 122

Many plans of farm buildings and equipment have been prepared by the Division of Agricultural Engineering in co-operation with the other divisions of the University Department of Agriculture. No farmer can afford to build or remodel without making use of this service. A list of plans may be obtained from the Bulletin Department, University Farm, St. Paul, Minn.

Published in furtherance of Agricultural Extension, Acts of May 8 and June 30, 1914 F. W. Peck, Director, Agricultural Extension Division, Department of Agriculture, University of Minnesota, co-operating with U. S. Department of Agriculture. 10M-3-3(