

MAKING TYPICAL IOWA FARM HOMES MORE DISTINCTIVE
FROM THE STANDPOINT OF DESIGN

BY

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Signatures have been redacted for privacy

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I INTRODUCTION

In every Iowa farm community there are houses that are very attractive in design but more that lack intelligent and artistic planning. Especially is this lack of good design noticeable in the three typical Iowa farmhouses used for this study -- the square house, the L shaped house, and the small farmhouse or tenant cottage.

Within recent years more attention has been focused on the construction of the other farm buildings and the farmhouse has been allowed to suffer from neglect. More study has been given to the out-buildings than to the farmhouse proper because the farmer's income has been dependent to a certain degree upon the upkeep of these other buildings. Books, magazines, newspapers, radio talks, and extension workers have all brought the results of this study to the farmer. Now he considers only specially designed structures for his out-buildings if he understands their value and has the means of procuring them.

It is evident that there is much need for information that deals specifically with the farmhouse. Few plans and little material have been published on this matter. Thus the farmer has had either to solve his own problems, which in many cases he is untrained to do, or use the suburban type of house which does not fulfill his requirements. Such a situation is decidedly

unfortunate, for the farmer has a special problem that needs careful and competent attention.

It is the purpose of this thesis to outline important standards of exterior and interior farmhouse design and show how these standards may be applied in making typical Iowa farmhouses more distinctive from the standpoint of design and convenience.

II REVIEW OF LITERATURE

A. Suburban House Plans versus Farmhouse Plans

It is generally conceded that the suburban type of house does not fulfill the farmers' requirements. "Too much of the material available to the farmer," says H. E. Wichers (9), "has been designed for an entirely different purpose and is being forced to serve whether it is suitable or not. Due to lack of suggestive farmhouse plans, the farmer who wished to build has usually turned to the great variety of available city house plans for suggestions and has often ended by building a city type of house on the farm."

K. J. T. Ekblew (3) believes that the farmhouse deserves the attention of a competent designer. He says that "The planning of any house is a serious undertaking, and the special conditions surrounding the problem of farmhouse design and the peculiar requirements to which a farmhouse is subjected make the planning of the farmhouse a task worthy of long and careful study."

B. Value of Making Small Changes in Farmhouses

While many contemporary writers feel that the farmhouse has suffered neglect, most of them are sure that small, inexpensive changes would help a great deal in making the farmhouse more distinctive in design and more valuable. Maurice I.

Flagg (5) voices this opinion when he says, "Even when a major operation is not performed there are many little things that can be done to make an old house more attractive and more livable."

★ William Mc Ilroy (4) says, "Beauty is not a question of spending a lot of money. It's a matter of good taste. Very slight changes will often materially improve the appearance of a house and add to its value. Often the greatest improvement is made by taking something off instead of putting something on."

The farmhouse will become a real asset after it has been remodeled. This idea is expressed by Tyler S. Rogers (15) who says, "The cost is often far less than the value added to the home through modernization." X

C. Important Standards of Design for the Exterior of the Iowa Farmhouse.

1. Exterior plan should indicate to some degree the interior arrangement.

One of the most important standards for the exterior design of the farmhouse is that it should express honesty. Other writers speak of this same characteristic as being found in exteriors that do not deceive the eye of the beholder. That this trait has been considered for a long time to be a desirable one is the belief of Fiske Kimball. (10) He is thinking P

of the architecture previous to that of the mid-nineteenth century when he says, "Frank outward expression of the nature of buildings, of their internal arrangements, and of their construction had, indeed, been characteristic of many earlier styles."

A. Rosengarten (16) says, "If we wish for an architectural style in accordance with an age, both the purpose and internal truth must be predominant, and at the same time everything that savours of pretense and unreality must be avoided."

The prime object of walls and roofs, according to Llewellyn Price (12), is to afford protection for those who dwell within the house they form. He says, "If, in the design of either, the spirit of snug shelter and peaceful retreat, instead of artificial ornateness or meaningless picturesqueness is fostered, then the artistic appearance will always be honest and, more often than not, beautiful."

2. Simplicity rather than ornateness should be emphasized.

In many references on desirable standards for the exterior treatments of homes, simplicity is listed as one of the important requirements. R. W. Sexton (17) believes that unessential detail should be eliminated and more emphasis placed upon beauty of form and structure. He says, "Ornament must never conceal structure or be introduced illogically merely for the sake of lending additional interest to the design."

3. Strength of structure should be expressed.

Strength is necessary to the appearance of any building. To the Iowa farmhouse, often isolated on a wind-swept prairie, it is absolutely essential. "It is weakness which occurs so frequently in the external design of buildings," says Howard Robertson (13). He continues, "We find facades so composed that the various elements appear to the eye to invite separation one from the other, to the destruction of the general unity. This suggestion of separation results in a general weakening of the architectural composition, and is one of the most frequent causes of the dissatisfaction arising in faulty designs."

4. Openings should be placed to meet with utilitarian requirements and to relate to mass.

There is need for emphasizing the importance of convenience in relation to every part of the farmhouse. If the exterior of the farmhouse is not planned with this in mind, one of the most essential requirements will have been overlooked. Many writers realize this fact but the report published by the Farm and Village Housing Committee of the President's Conference (11) seems to sum up all that is contained in the other references. It states that "Openings should be of size, shape and placing to meet with utilitarian requirements and these openings should have a pleasing relation to mass."

5. Design principles should be used.

The principles of design -- unity, proportion, balance, emphasis, rhythm, and harmony -- influence every work of artistic worth no matter whether it be related to the fine arts or to the applied arts. David Vaxon (20) believes that scale ^P plays an important part in obtaining good architectural results and that "Architectural harmony is the result of cooperation of the different factors of a structure toward one purpose and effect."

Howard Robertson (13), in speaking of the harmonious result to be obtained by conforming to the design principles, says, "It is clear that if the elements of the building are to be so composed that they do not conflict one with the other, it will be necessary in some way to modify their general proportions, and endow them with such shape and form that they are in harmonious relation."

D. Important Standards of Design that relate to Convenience for the Interior of the Iowa Farmhouse.

1. Kitchen should have cross ventilation and be located at rear of house with view toward farm buildings.

No room in a farmhouse deserves more attention than does the kitchen for it is here that the housewife spends the greater portion of her time. William A. Sturton (8) has sensed the importance of this room when he says, "As the farmhouse dining

room and kitchen are often taxed to their greatest capacity, convenience is one of the most important requirements. The possibilities for further attainment have yet to be commonly understood and realized."

A greater degree of comfort in the farmhouse kitchen may be acquired if this room is not too small and if it is given adequate ventilation.

2. Rear entrance hall should give easy access to service area.

In the farmhouse, the matter of halls should be carefully considered. In city homes, often more space may be devoted to hallways than in country homes. In the farmhouse the actual living portions of the houses require as much room as possible. This means that sometimes it is better to reduce the size of a hall and increase the size of one of the more important rooms.

When hired workmen are employed on the farm at any time during the year, a rear entrance hall is an essential feature. In order to avoid the passage of men through the kitchen while cooking operations are being carried on L. Eugene Robinson (14) says that "it is necessary to have a hall from the wash-up room to the table."

3. Wash room should be accessible from rear entrance hall.

This rear hall may easily and should answer for several purposes in a farmhouse. As mentioned above, the wash room, according to many writers, may open into this hall. In

speaking of the need for a washroom as well as the desirability of using it as a family bathroom, William D. Brinkloe (1) says, "In sickness it is very necessary and saves lots of work. Also we must remember that many farmhouses have rather poor water systems; there may not be enough pressure to carry water to the second floor." This tendency to create more than one function for a room is typical of the way in which modern architects plan conservation of building space.

W. A. Foster and Deane G. Carter (6) say, "The washroom is a desirable convenience, especially if there is farm help to care for."

4. Ventilated closet for work clothes should open into rear entrance hall.

Besides the wash room, kitchen, basement stairs, and dining room opening into the rear hall, there should be another room, small but vital; this is the men's coat closet. The Farm and Village Housing Committee of the President's Conference (11) says that there should be a rear closet for rough wraps and work clothes, or hooks in the rear entrance hall. It is needless to say that the closet is preferable; if possible, it should be located on an outside wall so that it can be ventilated by means of a small window.

5. Downstairs bedroom and office should open from rear entrance hall.

Another room that may be easily arranged to perform more than one function is the downstairs bedroom. "At least one first-floor bedroom is wanted in almost every farmhouse," says William D. Brinkloe, (1) He adds, "The modern farmer will use this as his office; it is also wanted as an emergency sickroom." The main reason for having a bedroom on the first floor, as expressed by most writers, is to avoid direct connection between the help's room and the family bedrooms.

W. A. Foster and Deane G. Carter (6) say, "It is desirable that the office be located to afford a view of the barns and fields from the windows. This room should be accessible from the rear hall, away from the routine work of the house."

6. Coat closet should open into front hall.

The front hall in a farmhouse is as necessary to the well-planned first floor arrangement as the rear hall. From this hall should open a coat closet. Charles E. White, Jr. (21) says, "A coat room should be provided on the first story, near the front entrance." The Farm and Village Housing Committee of the President's Conference (11) states that there should be a "front or side entrance wrap closet."

7. Stairway should be located near service area.

The desirability of having the stairway in the farmhouse lead up from the front hall has been questioned. William D. Brinkloe (1) is specific when he says, "The stairway and stair

hall of a farmhouse should be at the rear, not at the front."

Charles E. White, Jr. (21) says, "Stairs should be conveniently near the front entrance in order that one may pass to the second floor without taking too many steps. Even more important is the distance from the kitchen to the main staircase. This should be as short as possible." Undoubtedly, this is an extremely important feature of both farmhouse construction and remodeling since convenience must always be considered if the result is to be both practical and beautiful.

Not only must the stairs be conveniently located but the treads must be wide enough to insure safety. Many old stairways were planned with winders, the triangular-shaped treads which have been the cause of a large percentage of falls. There is surely every reason why the stairway in a farmhouse should be changed to bring about greater security. Milton Tucker (19) has been thinking along this line when he says, "There is always some way to change the lay-out or plan so as to provide a broad landing at each turn of the stairs, and thus eliminate the winders."

8. Side or rear porches are preferable to front ones and should be placed so that they will not darken the interior.

The location of porches on farmhouses necessitates careful planning. A porch on the front of a building is apt to spoil the appearance of the main part of the house, darken the

rooms behind it, and lack all semblance of privacy, a factor often to be desired. L. Eugene Robinson (14) says, "It is often well to have a dining porch of considerable size in a farmhouse. This screened porch may be simply a large kitchen porch used for general purposes, rather than a special dining porch."

This same idea is confirmed by Charles E. White, Jr. (21) when he says, "Verandas and porches are very important, and the house owner should consider them carefully. The most useful veranda is situated, not on the front of the house where privacy is difficult to secure, but on one side or at the rear."

9. Living room should be located to secure sunshine, air and the best view.

There is no doubt but that the living room in the farmhouse should be given unusual consideration. It is here that the leisure hours are spent and this time, to be most worthwhile, should be spent among happy surroundings. As in all homes, the farmhouse living room "ought to be the largest and lightest room in the house," according to Helen Dodds. (2)

Old houses and even some that have been built rather recently but from old plans often have decidedly cut-up interiors. A typical Victorian interior placed the parlor in one corner, a sitting room in another, a dining room in a third, and the kitchen in the fourth with a central hall dividing

each pair of rooms. This type of plan is criticized by C. Stevenson (18) when he says, "The typical house of years ago had many rooms, but seldom one large enough to serve as a true center of home life. The modern living room has provided that necessary and logical home center." Of course, the way to achieve this modern type of living room in such a house means that often the partition must be removed between two or more rooms, thus creating one large one.

10. Bedrooms should have cross ventilation; double bedrooms should have two closets.

When one plans changes for the interior of the home, the second floor deserves as much attention as the first in order to have a harmonious arrangement. Not only should beauty of design be considered in relation to proportion of room space but also convenience in relation to proper storage facilities and the location of one room to another. Ventilation is not to be overlooked. "Bedrooms should have cross ventilation," says Arthur C. Holden (7).

The matter of having one bedroom larger than the others and designating it as the "owner's room" has been customary a long time in planning city dwellings; it has not been until recently that an "owner's room" has been given serious consideration in the farmhouse. Contemporary writers are, however, beginning to

realize that farmhouses should have this feature as well as city homes. Charles E. White, Jr. (21) says, in speaking of this room in a farmhouse, that "All the other bedrooms might be made a bit smaller to contribute to the size of the owner's room, which is customarily used as an upstairs sitting room."

It is thought that at least one closet for every bedroom and two for the rooms occupied by two people are necessary from the standpoints of convenience and comfort. L. Eugene Robinson (14) says, "A bedroom should have a closet; where two sleep in one room, two closets are better than one."

11. Linen closet should be accessible from second floor hall.

There is no doubt but that an essential feature of every modern home is the closet where bedroom linen and bath towels may be kept within reach of all the bedrooms. "The linen closet should be designed to hold conveniently the linen articles without a great heaping up of the materials," says L. Eugene Robinson (14). He continues, "The shelves should not be very far apart, -- perhaps ten inches, -- and some of the shelves should be made quite wide to accommodate bed clothing and blankets."

III THE INVESTIGATION

A. Purpose of Study

1. To outline the important standards of design for the exterior of the Iowa farmhouse.
2. To outline the important standards of design that relate to convenience for the interior of the Iowa farmhouse.
3. To use the above standards in creating plans for the improvement of typical Iowa farmhouse exteriors from the standpoint of design.
4. To use the above standards in creating plans for the improvement of typical Iowa farmhouse interiors from the standpoint of design that is related to convenience.

B. Method of Procedure

1. Collection of data.

The data needed in order to determine the important standards of design for the exterior of the Iowa farmhouse were collected.

a. Books, pamphlets, and magazine articles on farm homes in the Middle West were read and evaluated to obtain the desirable standards that affect especially the farmhouse exterior.

b. Books and magazine articles on re-conditioning the exteriors of small houses in the Middle West were read and evaluated to obtain desirable standards that concern the exterior

of every well-planned home.

c. Exterior elevations of modern Middle West farmhouses were studied.

The data needed in order to determine the important standards of design that relate to convenience for the interior of the Iowa farmhouse were collected.

a. Books, pamphlets, and magazine articles on farm homes in the Middle West were read and evaluated to obtain the desirable standards that affect the farmhouse interior.

b. Books and magazine articles on re-conditioning the interiors of small houses in the Middle West were read and evaluated to obtain desirable standards that concern the interior of every well planned house.

c. Floor plans of modern Middle West farm houses were studied.

2. Record of data.

a. Literature on farmhouses and small houses. The most significant factors from each reference were recorded in outline form on English cards. On each title card was included complete bibliographical information.

b. Illustrative Material. A record was kept of all the best sources of illustrative material concerning well designed exteriors and well planned interiors of Middle West farmhouses and small houses.

3. Summary of data.

a. An analysis was made of the standards of design for the exterior and the interior of the Middle West farmhouses and small houses. These standards were listed on separate English cards with every reference made to them in the literature read.

This information, together with an evaluation of the other material appearing on the card, was used to determine the two outlines of important design standards for the exteriors and interiors of Iowa farmhouses.

b. An outline was made of the important standards of design for the exterior of the Iowa farmhouse.

c. An outline was made of the important standards of design that relate to convenience for the interior of the Iowa farmhouse.

4. Collection of illustrative material.

In this study the three typical Iowa farmhouses to be improved are the square house, the L shaped house, and the small farmhouse or tenant cottage. One picture of each of these unimproved types was selected and photostats made.

5. Original plans for making typical Iowa farmhouses more distinctive from the standpoint of design.

a. Eight exterior elevations for the improvement of typical Iowa farmhouses were made by the author. Photostats were made of these elevations.

b. Thirteen interior arrangements for the improvement of

typical Iowa farmhouses were made by the author. Photostats were made of these plans.

C. Results

1. Summary of data investigated.

The important standards of design for the exterior of the Iowa farmhouse, as determined by the author are:

- a. Exterior plan should indicate to some degree the interior arrangement.
- b. Simplicity rather than ornateness should be emphasized.
- c. Strength of structure should be expressed.
- d. Openings should be placed to meet with utilitarian requirements and to relate to mass.
- e. Design principles should be used.

The important standards of design that relate to convenience for the interior of the Iowa farmhouse, as determined by the author, are:

- a. Kitchen should have cross ventilation and be located at rear of house with view toward farm buildings.
- b. Rear entrance hall should give easy access to the service area.
- c. Washroom should be accessible from rear entrance hall.
- d. Ventilated closet for work clothes should open into rear hall.
- e. Downstairs bedroom and office should open from rear

entrance hall.

- f. Coat closet should open into front hall.
- g. Stairway should be located near service area.
- h. Side or rear porches are preferable to front ones and should be placed so that they will not darken the interior.
- i. Living room should be located to secure sunshine, air, and the best view.
- j. Bedrooms should have cross ventilation; double bedrooms should have two closets.
- k. Linen closet should be accessible from second floor hall.

2. Plates

The typical square Iowa farmhouse, the typical small Iowa farmhouse or tenant cottage, and the typical L shaped Iowa farmhouse before improvement are shown respectively in Plate I, Plate XII, and Plate XVIII. In the plans on the other twenty-one plates, the writer's aim has been to incorporate the above standards in improving the exteriors and interiors of these three typical Iowa farmhouses. Plates XXV, XXVI, and XXVII that follow the original plans show houses selected from the illustrative material that offer suggestions for improving the three types of Iowa farmhouses used in this study.

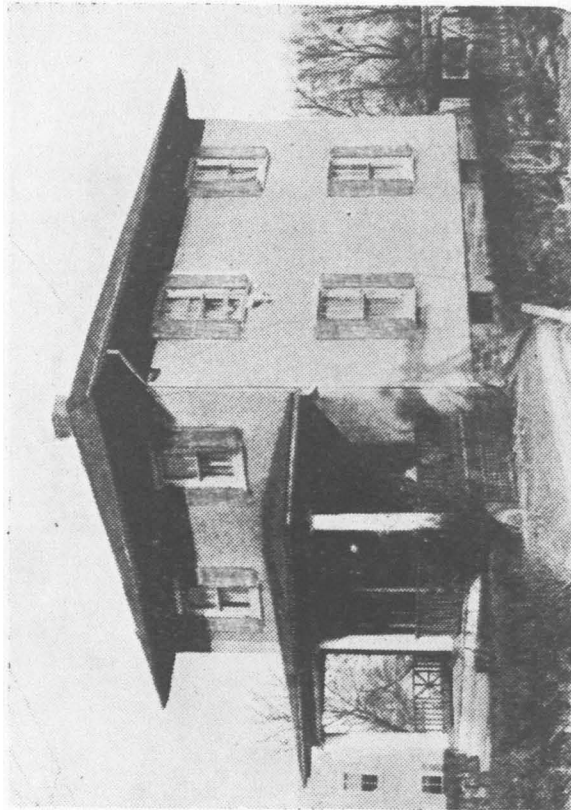


Plate I

IV DISCUSSION

A. Discussion of Plates

Plate I. Typical Square Iowa Farmhouse before Improvement.

The large square house typical of a large part of rural Iowa is perhaps the most uninteresting of all architectural forms. That it lacks distinction is inevitably true. The fact that the sides are equal makes any square object too monotonous to be interesting. For this reason, the proportion of the square farmhouse does not compare favorably with that of the other farm buildings which often have greater length than breadth.

The square house which has been chosen for this study is especially large because it presents a greater problem for reconditioning than do the smaller, less conspicuous houses which are also characteristic of rural Iowa. Regardless of the size of the square house, the changes would have to conform in scale to the size of the house.

A disfiguring feature of most square types is the front porch which darkens the interior rooms and lacks every semblance of privacy. Because of this porch, the front door which should be the center of interest, is practically hidden from view.

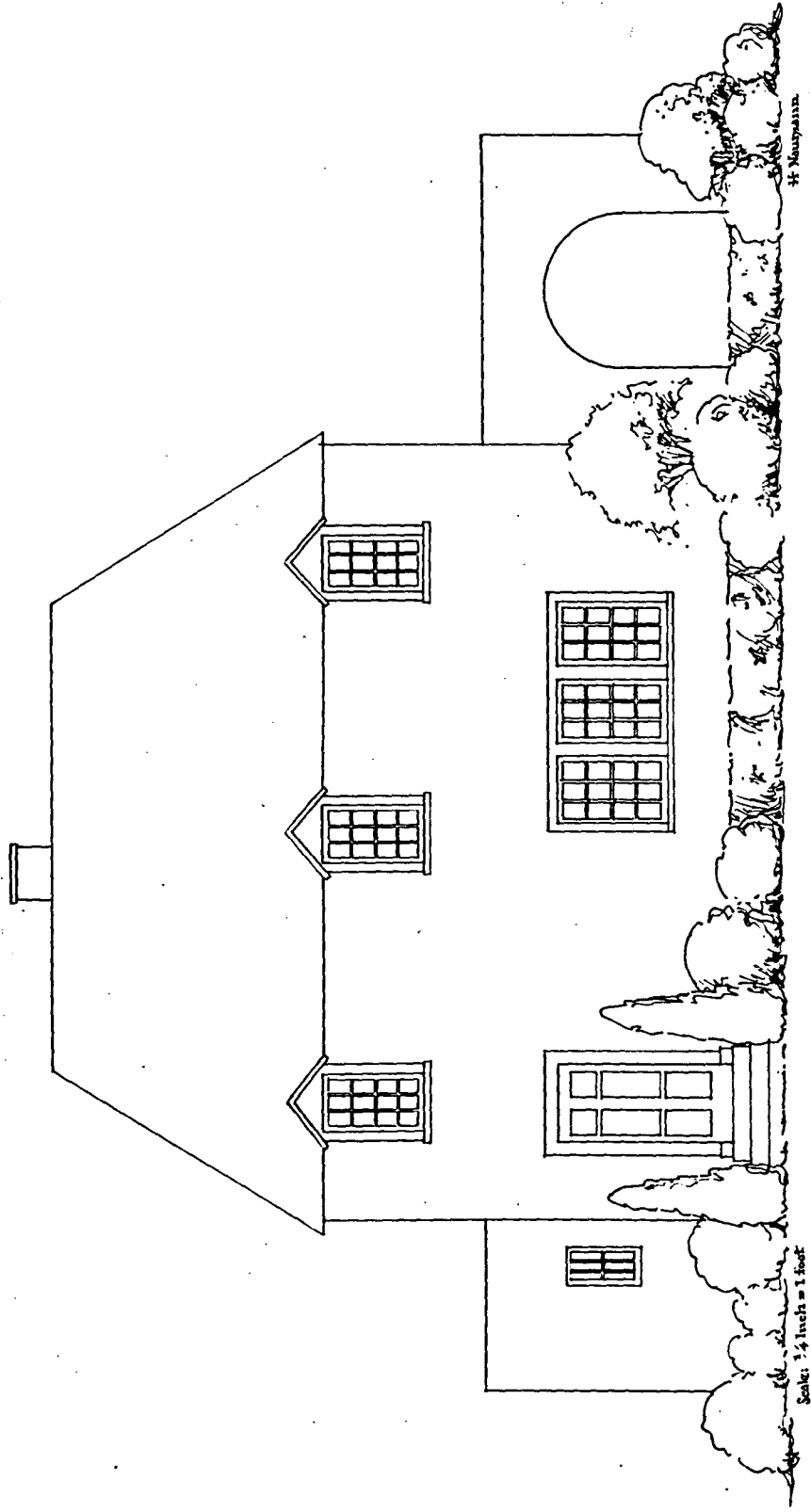


Plate II Plan I

Plate II Plan I Front Elevation of an Improved Square Farm-house.

Plate II and Plate VI show the front elevation of two houses that are each thirty feet square. The problem was to treat the elevation in Plate II in an occult manner and that of Plate VI in a symmetrical way. Both plans show what may be done by making additions to the main part of the house and changing some of the details.

In some respects the informal arrangement in this plate (II) adds greater length to the house than does the formal plan in Plate VI, since unequal space divisions carry the eye in a horizontal direction more easily than equal space divisions are able to do. The grouping of three windows in the living room makes a long rectangle which leads the eye to the porch that adds length to the house. This porch may be the front porch which has been moved to the side of the house.

The dormers that break the roof line would necessitate the lowering of the facade until the outer sides of the upstairs bedrooms are not less than six and one half feet high. In addition to this, the ridge pole of the roof would have to be lengthened and raised to make it a high hip roof.

Much can be done toward adding apparent length to a square house by planting shrubbery in such a way that it will give a very definite horizontal line and, at the same time, will tie the house to the ground.

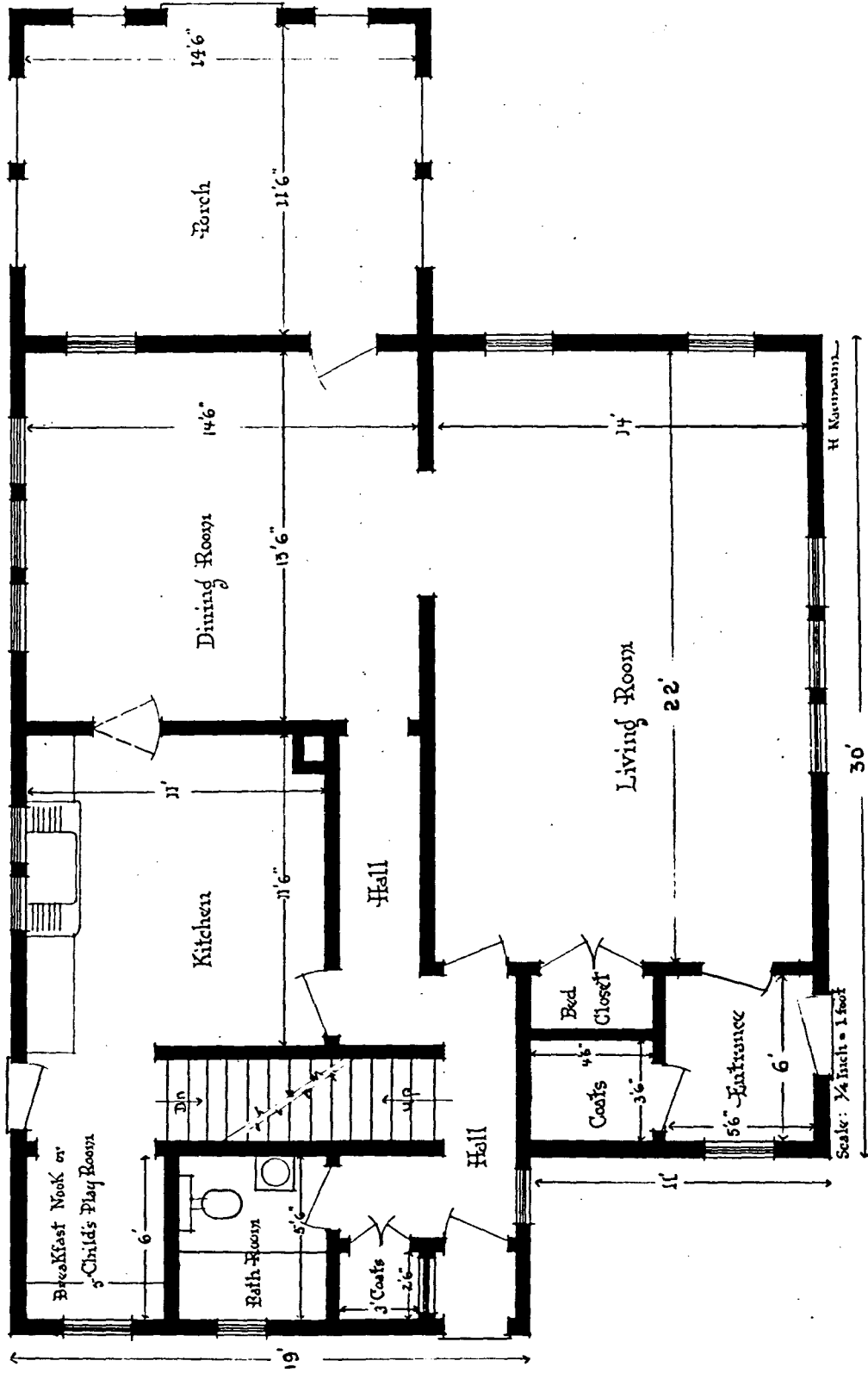


Plate III Plan I

Plate III Plan I First Floor Plan of an Improved Square Farmhouse.

The entrance in this plan is well lighted and roomy. Opening into it is the coat closet which might include the space given to the bed closet. However, in this case, there would be much more space for coats than is necessary for most farm families. A built-in bed to be used for extra company is a desirable feature in a farmhouse where, often, the second floor bedrooms are taxed to their full capacity.

Because the living room is used on occasions as a bedroom, there must be a door between it and the entrance. Both the dining room and the living room are large and conveniently planned in relation to each other. The arch between the two rooms conveys a feeling of space. There is enough wall space in both rooms to serve as the background for essential pieces of furniture. Cross ventilation is a desirable feature.

There is size and convenience in the appearance of the porch opening from the dining room. It not only adds to the length of the house, but also becomes a place for outdoor eating and recreation.

Most of the important things to be considered have been worked into the service area of this plan. The kitchen gets cross ventilation by means of the window in the small room which may be used as a breakfast nook or a child's play room.

This cross ventilation should be sufficient since there is only an arch separating the two rooms. The short distance between the rear entrance and the basement stairs lessens the number of steps in carrying garden vegetables and other things up and down.

Sufficient light for the rear hall may be acquired through the small window at one end and through the glassed door that opens from the porch into the dining room.

The stairway is conveniently placed in regard to the living room as well as the kitchen. Men coming into the recessed side entrance may leave their rough work clothes in the ventilated closet, clean up in the washroom, and go into the dining room without passing through the kitchen. Hooks to be used for extra work clothes may be placed on the walls of the hall between the stairs and the dining room.

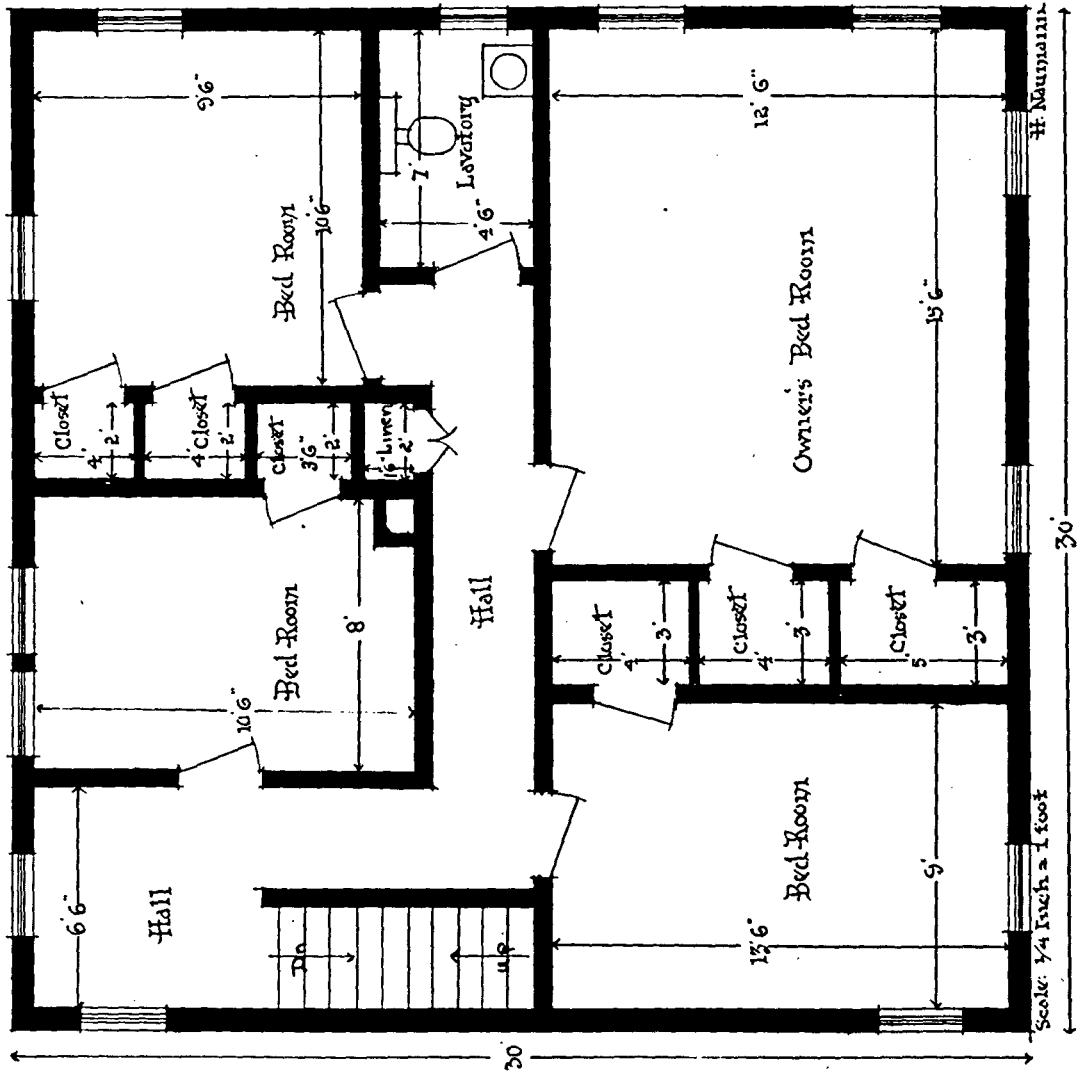


Plate IV Plan I

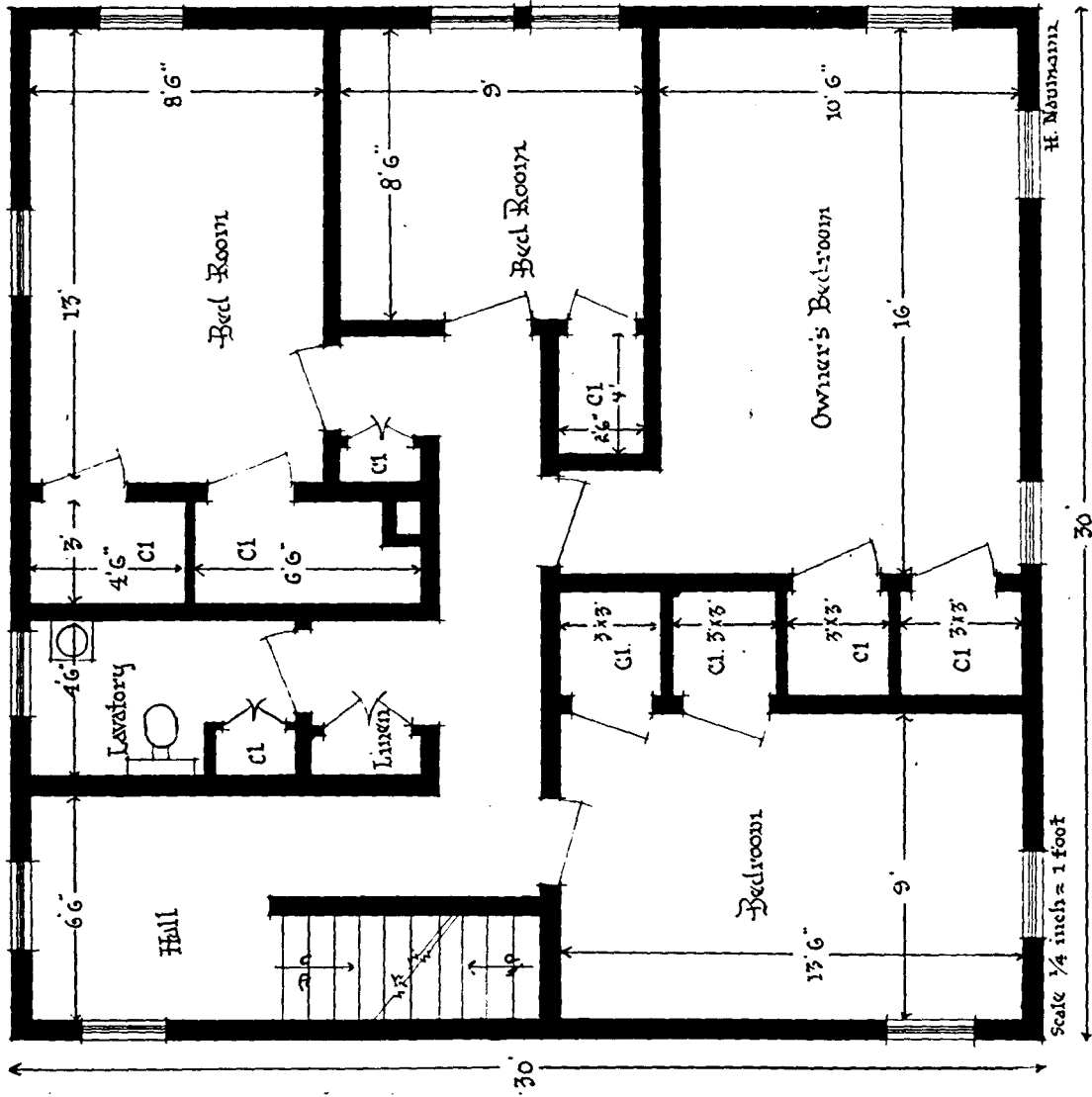


Plate V Plan I

Plate IV Plan I Second Floor Plan of an Improved Square Farmhouse.

Plate V Plan I Second Floor Plan of an Improved Square Farmhouse.

The main reason for showing two second floor arrangements for this plan is that each has an advantage over the other. In Plate IV the room arrangement is better than in Plate V because there is less waste space when the lavatory is placed between the bedrooms. However, the disadvantage of this scheme is that the second floor plumbing is too far away from the plumbing on the first floor to be economical. Since the plan on Plate V is more inexpensive it might be well to use this arrangement if the budget is limited.

In both plans, the space at the top of the stairs might be used as a sewing room. Likewise, in both plans, there is a linen closet accessible from the hall and enough wall space in all the bedrooms for a bed with at least one and one-half feet of room on either side. The bedroom at the top of the stairs on Plate IV could be arranged easily for the hired man thereby making privacy for the members of the family.

In the plan on Plate V two closets for each of the three bedrooms are shown. Besides, there is a second linen closet in the lavatory and a closet for brooms or dust mops in the hall.

The small bedroom at the end of the hall might be used by children and connected by means of a door with the owner's bedroom.

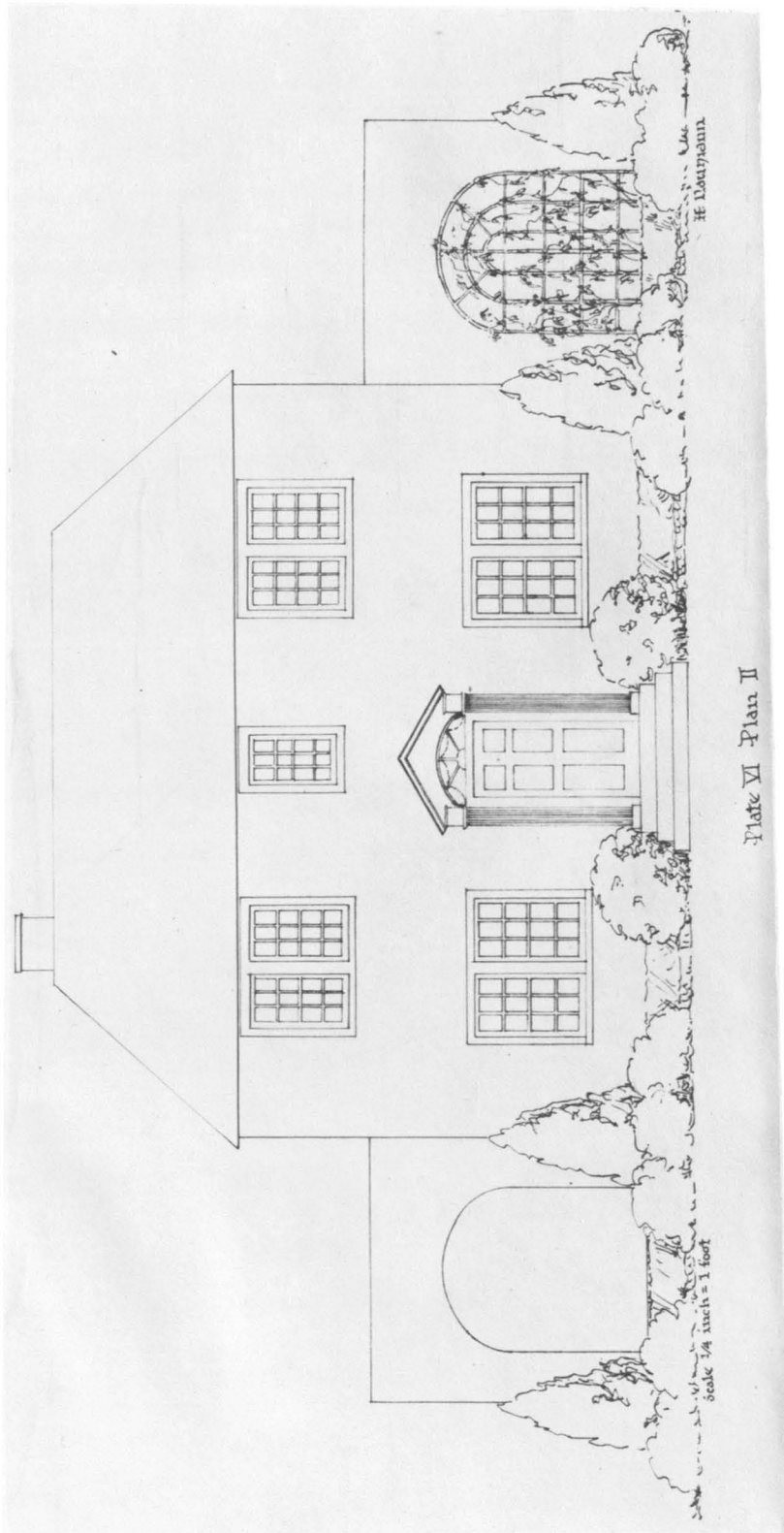


Plate VI Plan II

Plate VI Plan II Front Elevation of an Improved Square Farmhouse.

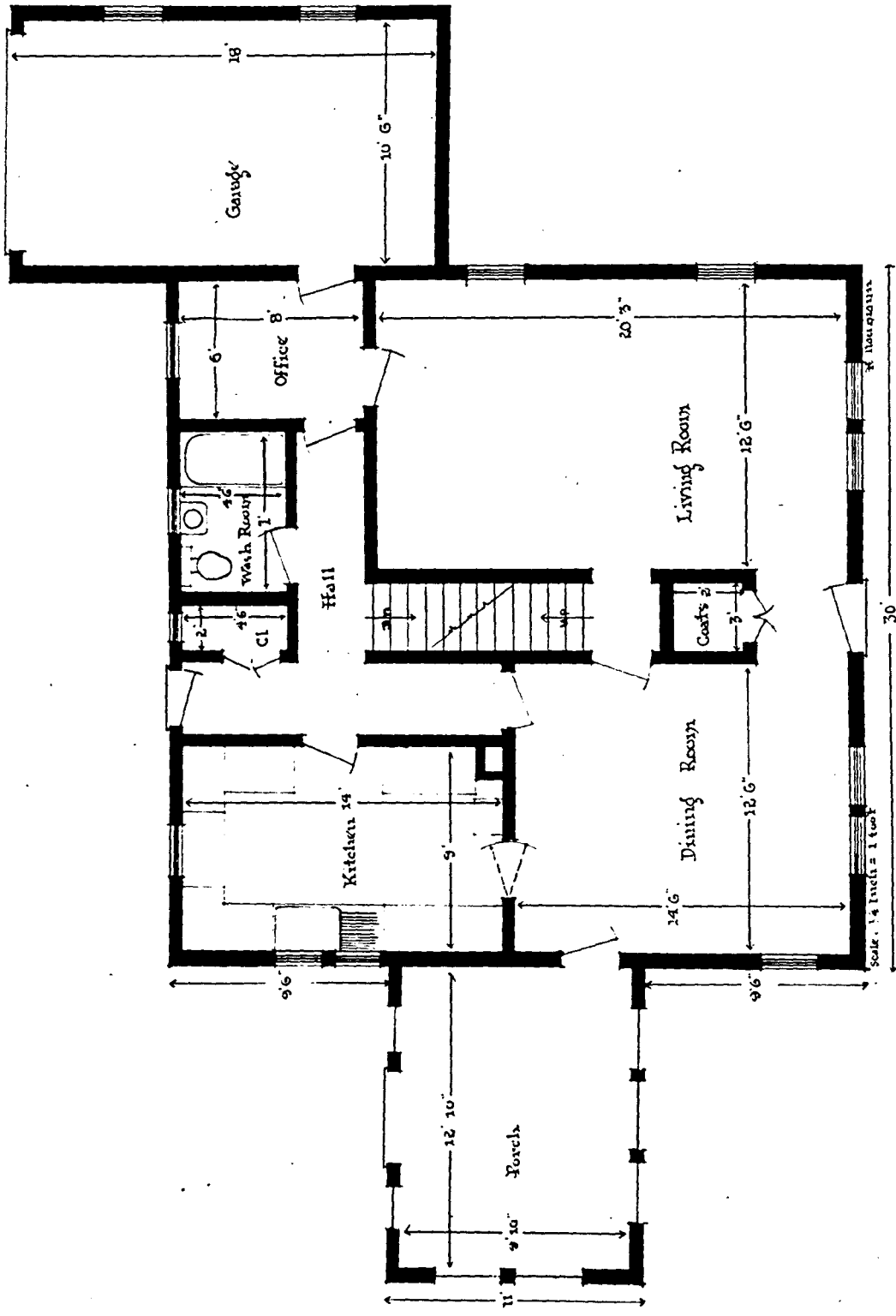
The low hip roof, colonial doorway, and formal treatment give quite a Colonial feeling to this elevation. Its dignity and reserve make it especially suitable to a rather formal farm site. Certainly it would not be at home in a rolling section. Shutters might be added to the windows but, in such case, the windows should be separated and shutters given to each one so that they may be used and not serve as decorative features only. The author has not made use of shutters because they not only increase the expense of re-conditioning the house but they often disintegrate in the course of a few years and are seldom actually used.

Small panes of glass in windows are preferable to the unbroken sash, the rectangular pane being much more pleasing than the square one. This change is necessary in remodeling any old house.

Another improvement worthy of attention is the doorway. It is unfortunate that most farmhouses have unattractive entrances for the doorway in any home should be the main center of interest. A good colonial entrance as has been used in this plate will give much more character to the house and increase its value. Again, proportion of spaces must be taken into

consideration in planning such an entrance. In this particular door, the fan shaped detail above it is glass and therefore serves two functions -- it is a decorative feature from the exterior and helps to make the inside vestibule lighter.

The addition on the left of the plate is a porch and the one on the right a garage which is set back about eighteen feet from the front of the house to give the living room cross ventilation and sufficient light. Since the garage doors are located at the rear, a vine covered trellis has been used in the front to balance the arch of the porch on the opposite side.



Plat VI Plan II

Plate VII Plan II First Floor Plan of an Improved Square Farmhouse.

In this plan, the front door opens into a small hall which separates the living room from the dining room. This arrangement is much better than it would have been had the door opened directly into either of the two rooms since, in the plan used, more privacy is afforded. An arch separates each room from the entrance.

Often, farmhouses are not large enough to employ the use of a hallway that goes directly through the house. Furthermore, this hall is unnecessary if a rear one is supplied. The stairway has been located as near as possible to the rear of the house to lessen the number of steps required to reach it from the service area. At the same time, it is convenient to both the living room and the dining room.

Some people feel that the rear hall is unnecessary in any farm home and employs space that otherwise might be used to better advantage. This plan shows that a hall in the service area is necessary to connect the kitchen, dining room, closet for work clothes, wash room, office, and stairway leading to the basement. There would be utter confusion if one had to go through any one of these rooms in order to reach another room. The office which may be used as an emergency bed room or play room for the children, opens into the garage. For this reason

it is conveniently located for the farmer who wishes to bring friends into his office. The door into the kitchen is in direct line with the door into the garage; this makes convenient passage from one to the other.

A dining porch is an attractive feature of any farmhouse. The one drawn on this plan is located in such a way that food could be easily carried from the kitchen to the porch. On the other hand, this porch may be used as a recreational center and a spot from which the housewife may have a view of the drive and the main road.

Plate VIII Plan II Second Floor Plan of an Improved Square Farmhouse.

Every housewife enjoys a good place for airing bedding; especially does she appreciate this place if it is convenient to the second floor. This plan includes a deck porch which opens from the owner's bedroom.

All the bedrooms have cross ventilation and adequate wall space for furniture. While the two front rooms are the only ones with two closets for each, the closet for the rear bedroom at the right is large enough for the wardrobes of two people. It could be divided by a three inch partition and made into two narrow closets with a small door for each one. This might be advisable, especially if the occupants of this room would be more congenial with separate closets; discussions have been known to arise over the lack of this very thing!

The lavatory is well located in relation to the downstairs plumbing. That the linen closet opens directly into the hall at the head of the stairs makes the plan more logical than it would have been with the lavatory door there instead. The walls of the linen closet that project into the lavatory may be three inches in thickness instead of six making possible the saving of space.

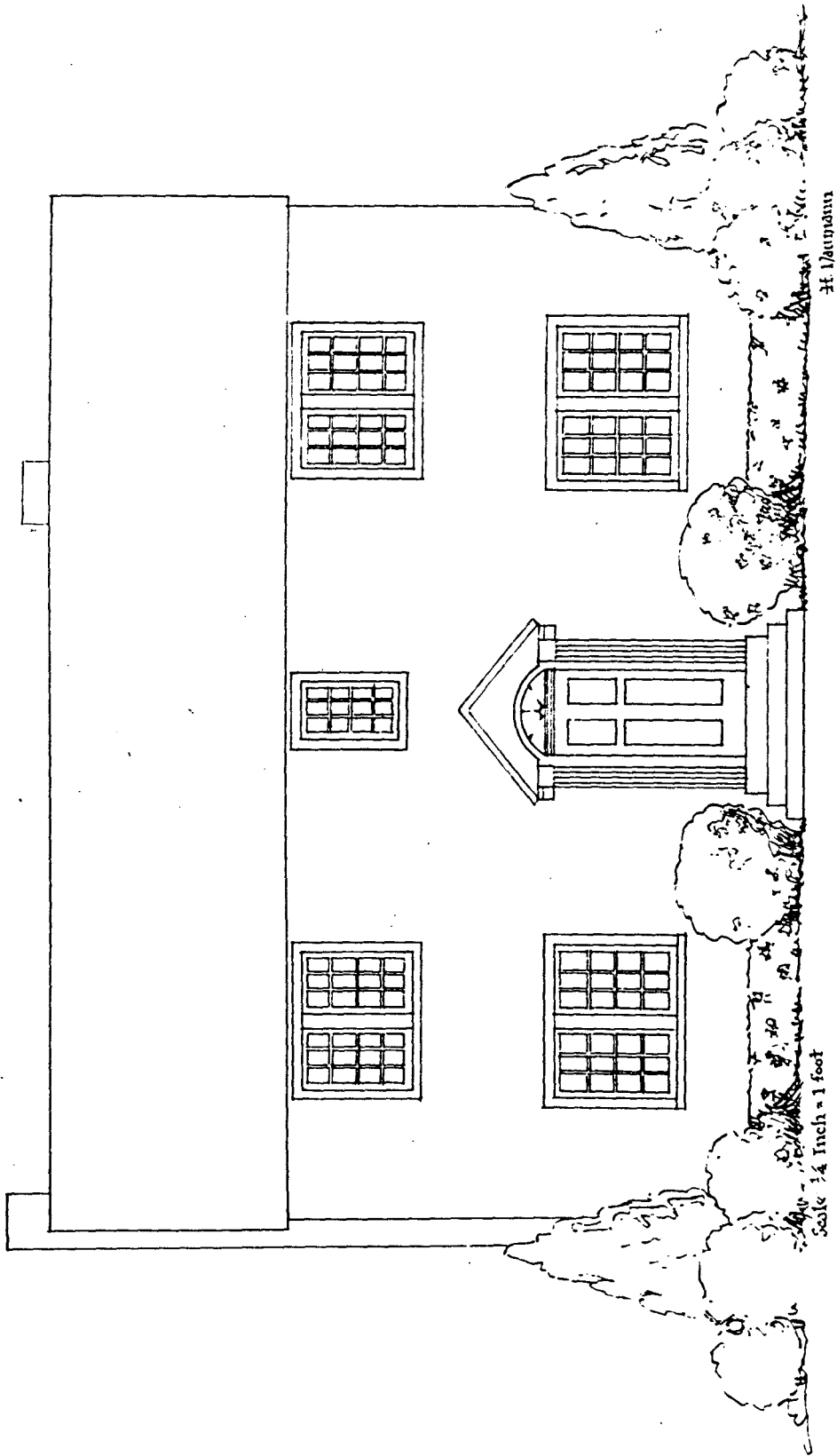


Plate IX. Plan III

Plate IX Plan III Front Elevation of an Improved Square Farmhouse.

This plate presents a Colonial style of facade which is highly desirable for the Iowa farmhouse. Its simplicity and restraint give it a strength and solidity agreeable to the Iowa prairie.

Roof lines may either make or mar a remodeled house. In this case the gable roof of a square house has been lengthened and the facade lowered to retain at least six and one half feet of standing room at the sides of the upstairs bedrooms. This will give the house the desired length in proportion to its breadth and no additions will need to be made to increase its apparent length as was done in the previous exteriors. This change is more radical than that suggested in Plate II or in Plate VI and, therefore, will be more expensive.

Again, the window panes have been broken up into small, rectangular divisions and the entrance has been made the center of interest. The small window above the entrance serves to break the wall space between the pairs of windows in the second floor and gives light and air to the owner's bedroom.

A substantial chimney such as the one on this elevation serves as fine decoration and is expressive of interior comfort and hospitality.

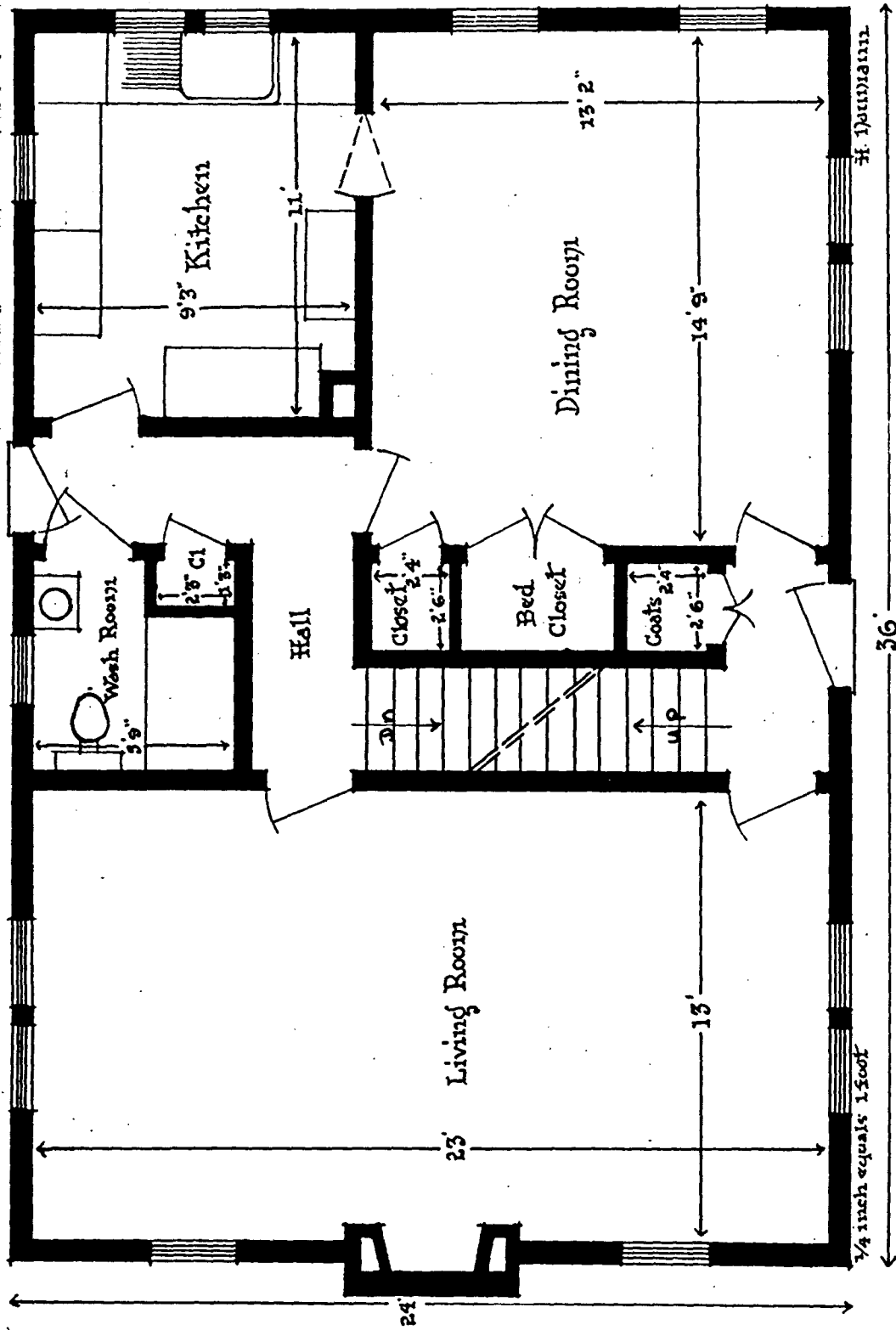


Plate X Plan III

Plate X Plan III First Floor Plan of the Improved Square Farm-house.

The doors separating the living room and dining room from the entrance make these two rooms more private than they would be with arched doorways. This is especially necessary for the dining room since it is sometimes used as a bedroom. Both rooms are well proportioned and large enough for any average farm family. The fire place gives to the living room an atmosphere of comfort and the fine unbroken wall spaces in this room would make furniture arrangement a pleasant task. Easy access from the living room to the service area is made possible by a door opening from the living room into the rear hall.

In the dining room the built-in bed and small closet which may be used for a wardrobe or for extra linen and towels present an easy solution for the care of an occasional guest.

Although direct ventilation is not secured for the small closet for work clothes, this closet may be aired by leaving the rear door open. This method would be quite all right since the room is near the rear entrance.

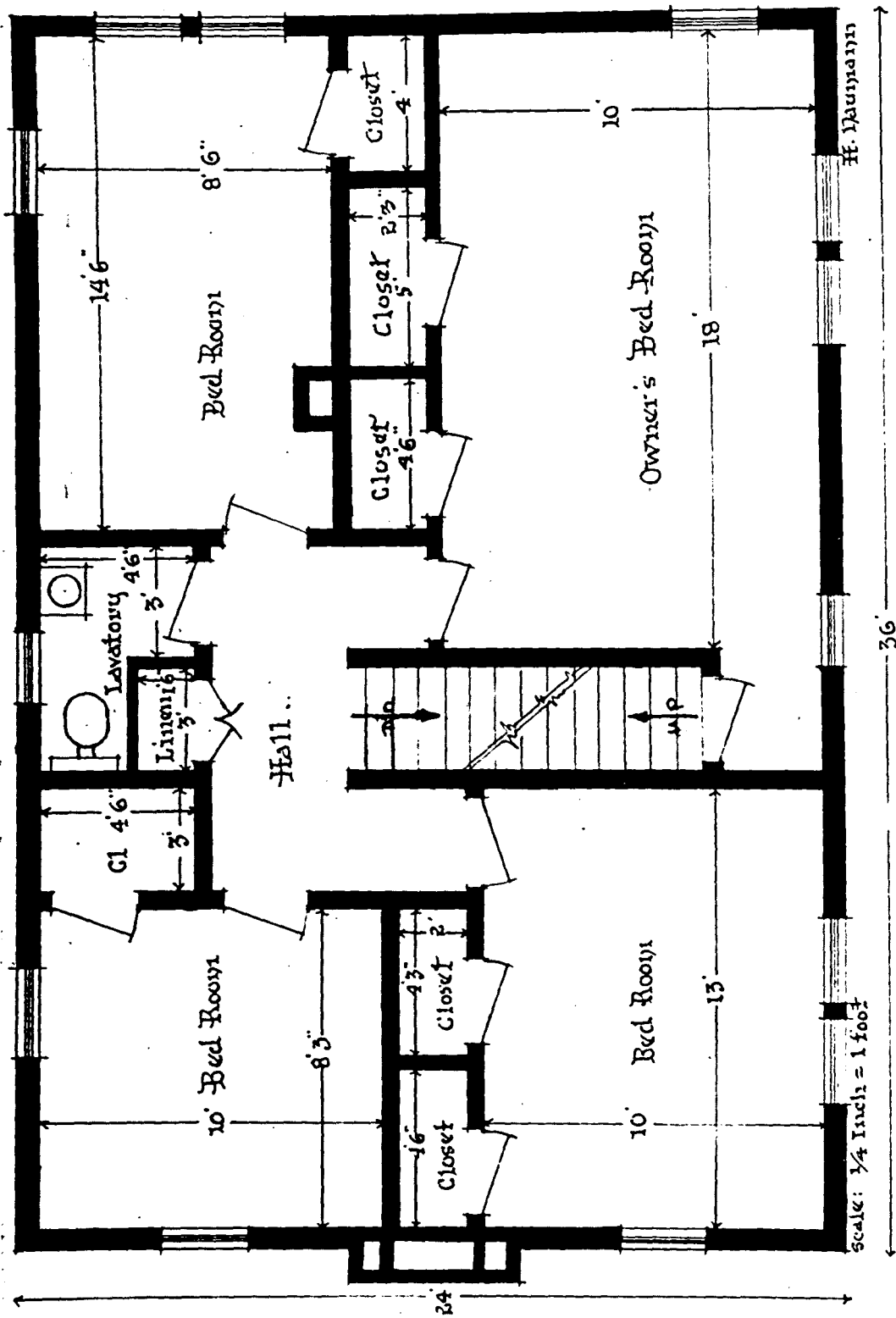
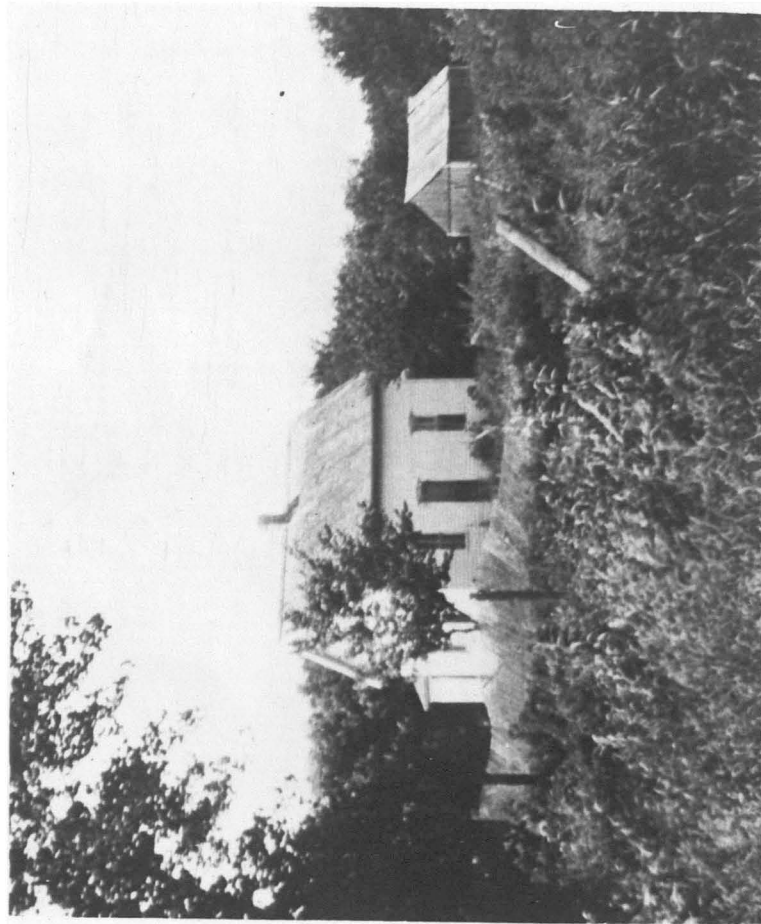


Plate XI Plan III

Plate XI Plan III Second Floor Plan of an Improved Square Farmhouse.

All the bedrooms on this floor have cross ventilation and are planned with convenience in mind. The owner's bedroom is especially large and has two fine closets. Since it is often desirable to use the attic for storage, the stairway to this part of the house leads up from the owner's room. A colorful picture or hanging might be used at the foot of the stairs leading to the attic if it is decided that this corner detracts from the appearance of the rest of the room. This nook could not be entirely cut off because of the need for the small window on the exterior of the house.

There is ample space on the second floor between the top step and the linen closet to permit furniture or other large articles to be carried conveniently upstairs or down. The lavatory opening from this hall is convenient in size and well placed in relation to all the bedrooms as well as to the plumbing equipment on the first floor.



Platix XII

Plate XII Typical Small Iowa Farmhouse or Tenant Cottage before Improvement.

The small farmhouse or tenant cottage is typical of the small, unimproved house that is found on many farms in Iowa. It is often a three room cottage but it is sometimes larger; in either case it often lacks distinction from the standpoint of design.

Since overcrowding is detrimental to family life, it would be highly desirable to remodel this type of small farmhouse, keeping in mind minimum expenditures. The following plans offer suggestions for reconditioning this type of small Iowa farmhouse or tenant cottage.

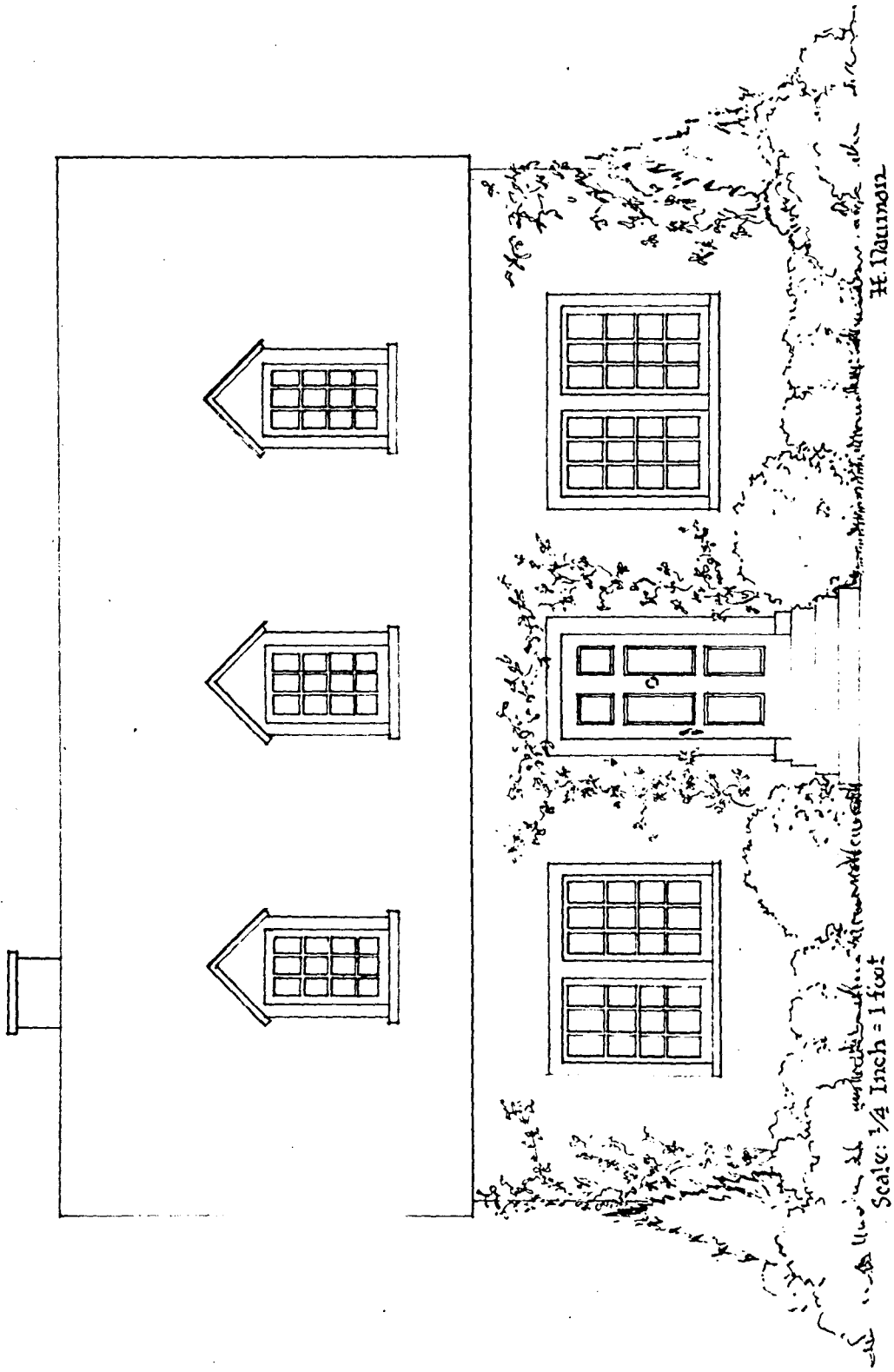


Plate XIII Plan IV

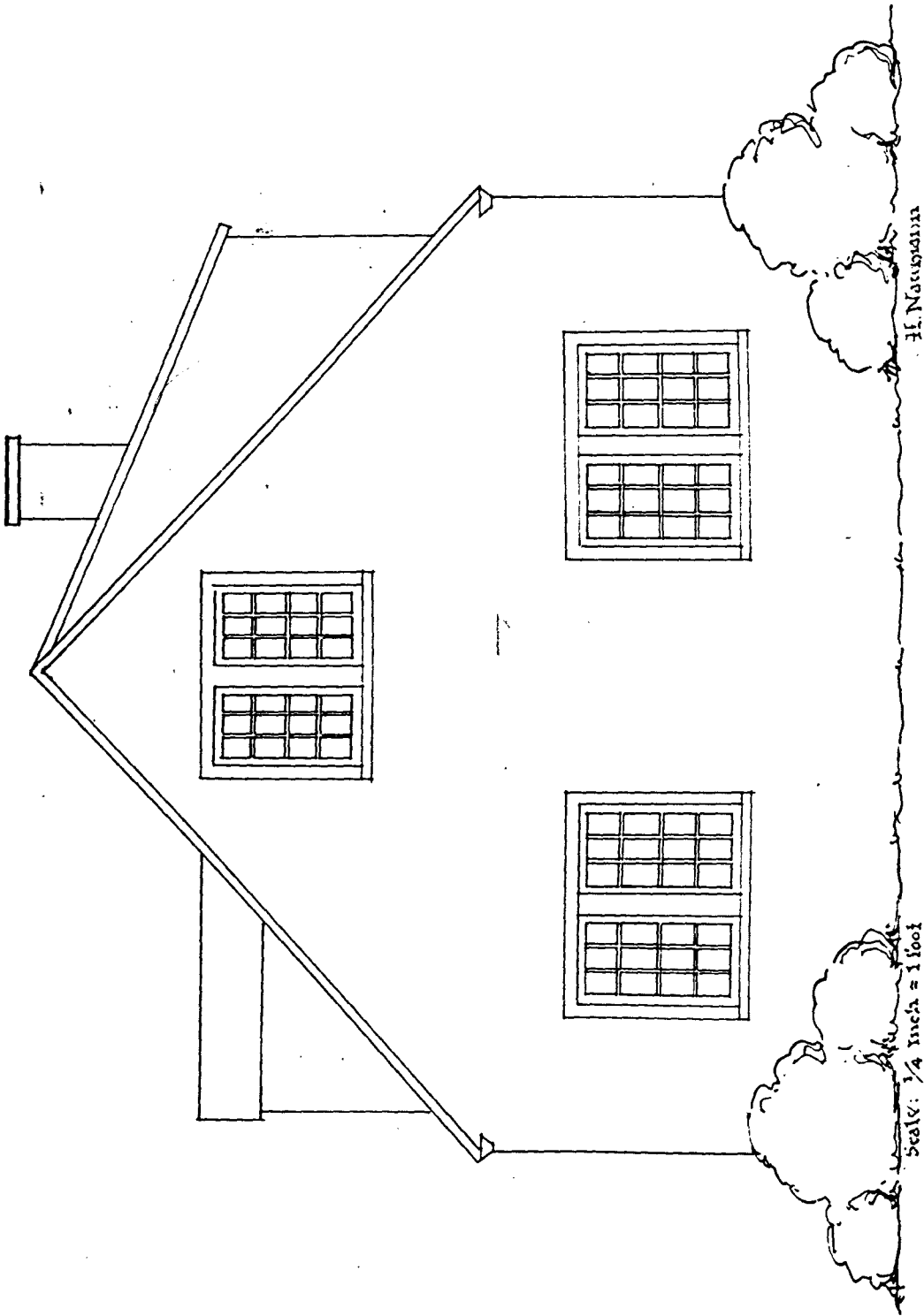


Plate XIV Plan IV

Scale: 1/4 inch = 1 foot

Plate XIII Plan IV Front Elevation of an Improved Small Farmhouse or Tenant Cottage.

Plate XIV Plan IV Side Elevation of an Improved Small Farmhouse or Tenant Cottage.

There is much that can be done toward making even small houses more distinctive in design. This plan shows that a few changes in exterior detail will greatly improve the appearance of the small farmhouse or tenant cottage. The door has been placed in the center of the elevation, the roof has been lowered, three dormers have been added to give cross ventilation and sufficient light to the second story bedrooms. Having made these simple changes, the facade acquires a feeling of stability which that of the house in Plate XII does not have.

Because this little house is so simple in every respect, the vine treatment around the door and at the corners is especially suitable. There is a feeling of informality and coziness about this elevation.

The side elevation simply shows the arrangement of windows in the living room and the proportion of the front dormer and rear shed dormer to the rest of the house.

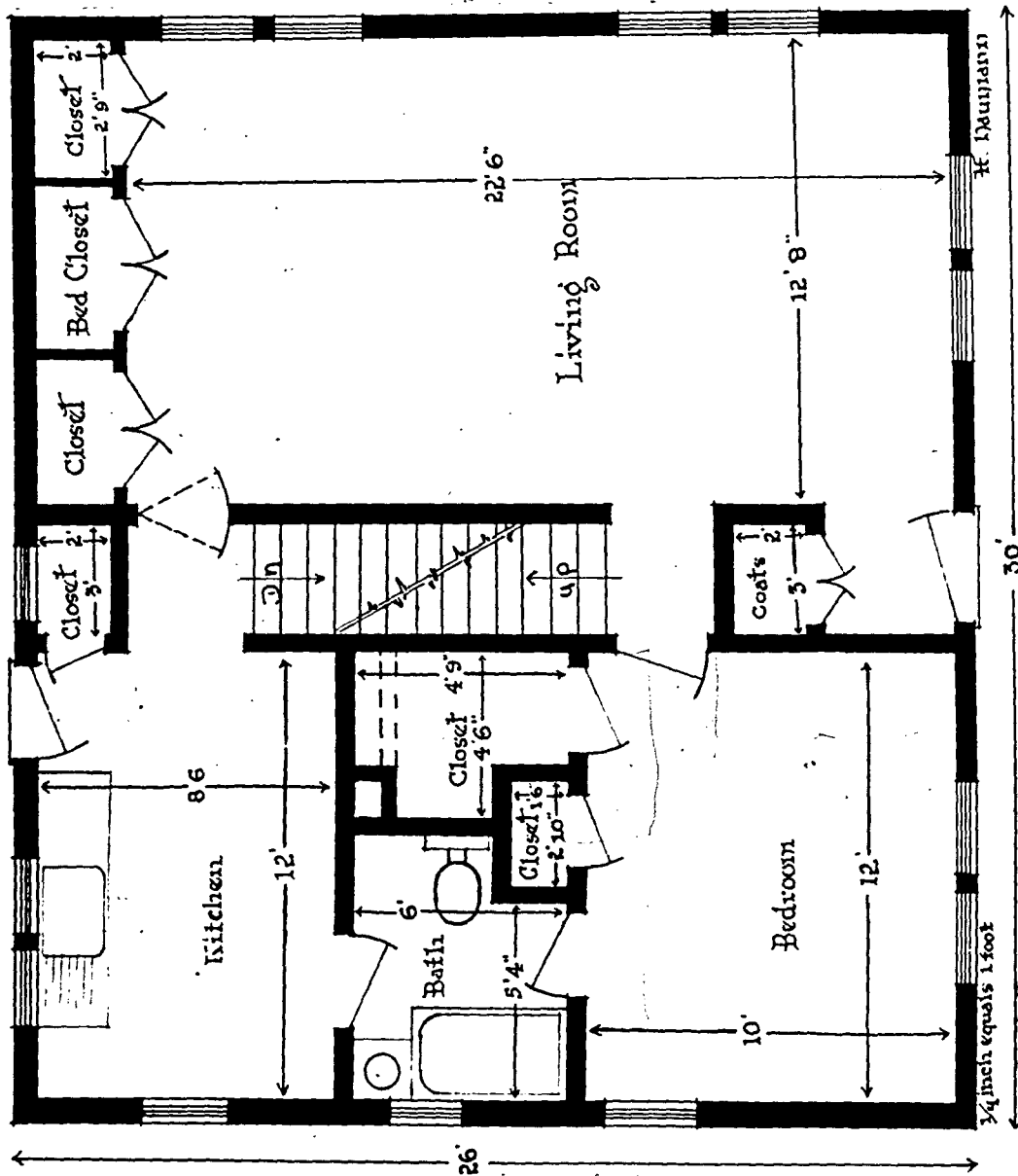


Plate IV Plan IV

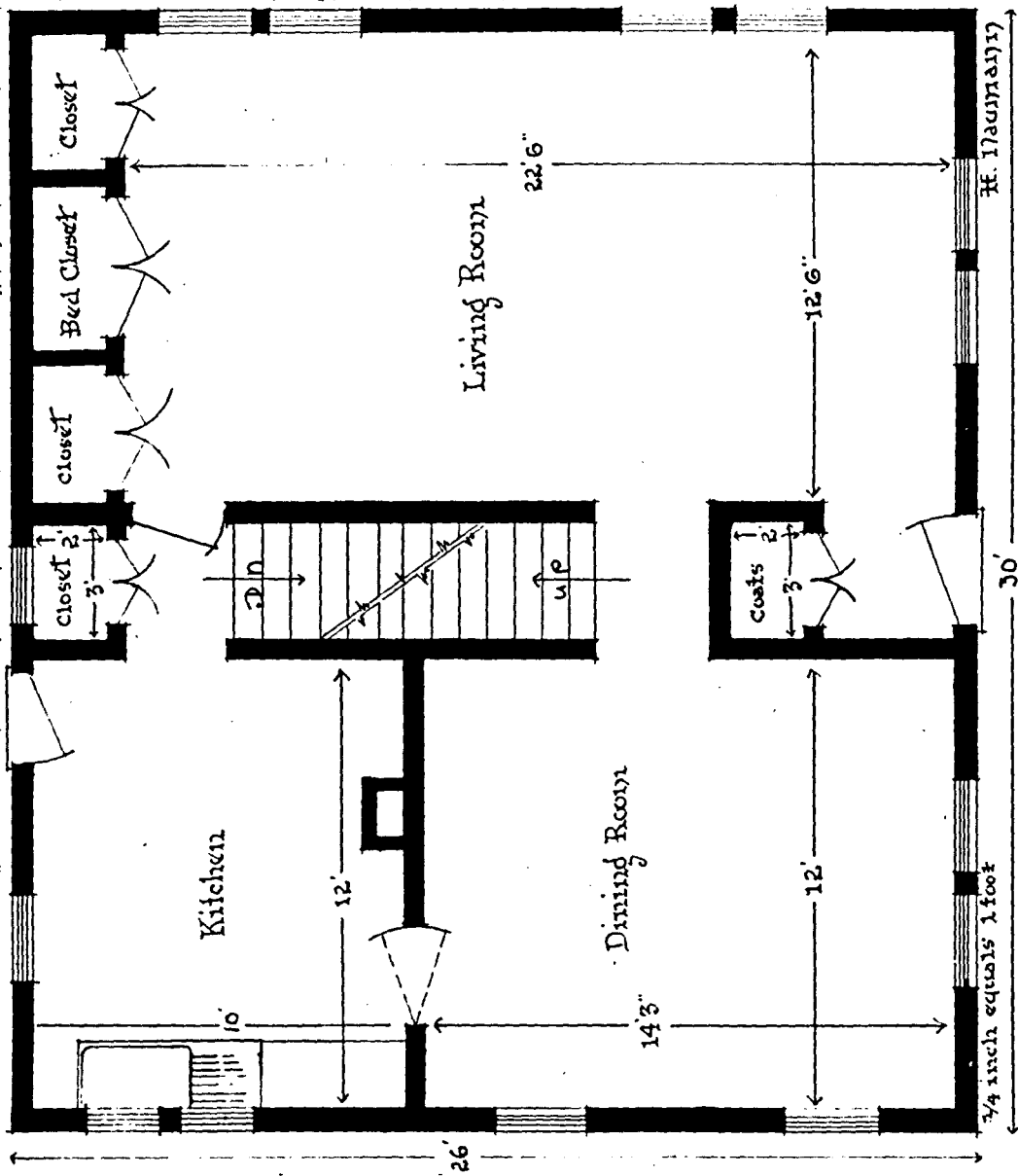


Plate XV Plan IV

Plate XV Plan IV First Floor Plan of an Improved Small Farmhouse or Tenant Cottage.

Plate XVI Plan IV First Floor Plan of an Improved Small Farmhouse or Tenant Cottage.

This house has been reconditioned with the idea in mind that, later on, the upstairs will be finished. When this is done, the first floor can be changed according to the scheme worked out in Plate XV. For this reason, Plate XIV and Plate XV are being discussed together.

A stairway which is conveniently located in relation to the dining room and living room has been placed in the plan in Plate XV although the second floor remains unfinished. This was done because it is more likely that the owner will complete the second floor plans earlier than if the stairway was not built at the time the first floor was remodeled. Then, too, this stairway permits easy access to the second floor if this space is used for storage purposes.

The living room is large enough to allow one end of it to be used as a dining room. Since a built-in bed and closets are features of this room, it may also be used occasionally as a guest bedroom.

There is sufficient closet space in the bedroom for two people. If less closet space and more kitchen space is desired, the partition may be placed as shown by the dotted

line.

In Plate XVI the changes are comparatively simple. The bath room and closets have been removed and the wall between the dining room and the kitchen has been placed so that the flue is in the kitchen instead of in the dining room. No change has been made in the living room although, if desired, the closet on either side of the bed closet may be replaced by a window seat. The door between the bedroom and the living room has been removed. It may be placed at the rear of the living room to replace the swinging door which may be put between the dining room and kitchen.

In the kitchen, the sink arrangement has been changed to make the stacking counter as near as possible to the dining room. The doors into the small coat closet at the rear of the house may be moved as shown in this plan to avoid a conflict between them and the outside door.

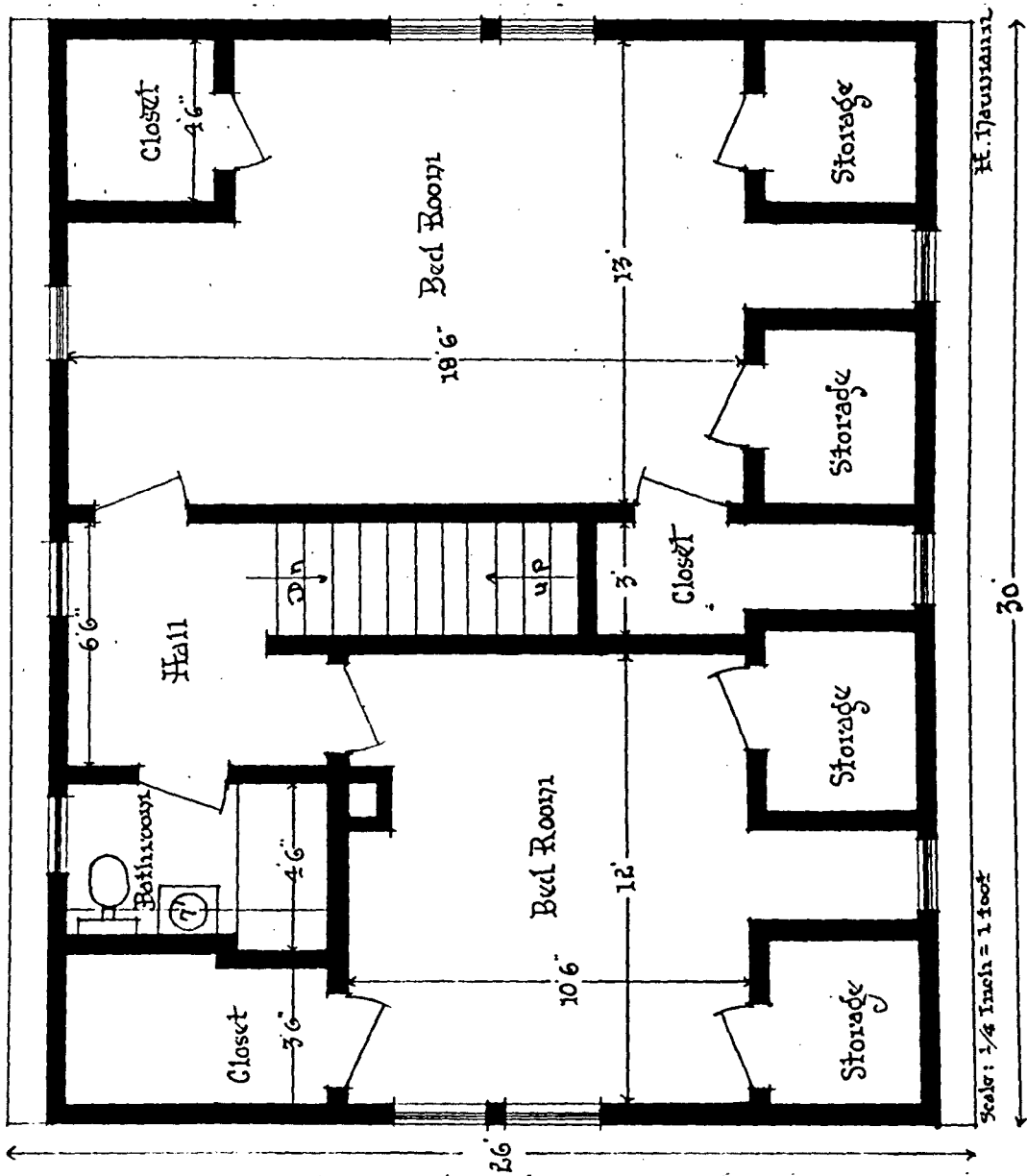


Plate XVII Plan IV

Plate XVII Plan IV Second Floor Plan of an Improved Small Farm-house or Tenant Cottage.

After the second floor has been finished, the owner may enjoy two good sized bedrooms. The bed in the living room may still be retained to accommodate extra guests. At the place where the window in the shed dormer ventilates the larger of the two upstairs bedrooms, a sewing machine may be placed and thus transform this space into a sewing nook. This bedroom has adequate closet facilities, having one that is ventilated by the front dormer window, another under the eaves at the rear of the house, and two front storage spaces.

The other bedroom is of necessity smaller but it is well ventilated and the long closet and two storage spaces make it desirable. Shelves for books and pieces of pottery might be built in line with the flue.

The wall separating the bathroom and the closet had to be moved six inches to allow enough space for the tub. A linen closet might be built in the hallway at the top of the stairs and just outside the bathroom door. This would take away the feeling of space in the hall but would add a convenient feature to the second floor plan.



PLATE XVIII

Plate XVIII Typical L Shaped Iowa Farmhouse before Improvement.

The L shaped house frequently has more possibilities for improvement than does the square house because its proportion is not so lacking in variety and it often requires fewer changes.

In this plate the house may be greatly improved by removing the scalloped ornament which is attached to the gable and which detracts from the simplicity of line. The porch is not only too narrow to be of value, but spoils the appearance of the front of the house and darkens the interior rooms. It should be removed, dismantled and the lumber used toward building a side porch such as the one shown in Plate XIX. As is the case in many L shaped houses, the ell behind the porch is apparently as long as the width of the front part of the house which contains the large window. This means that one or the other of the two ells must be lengthened.

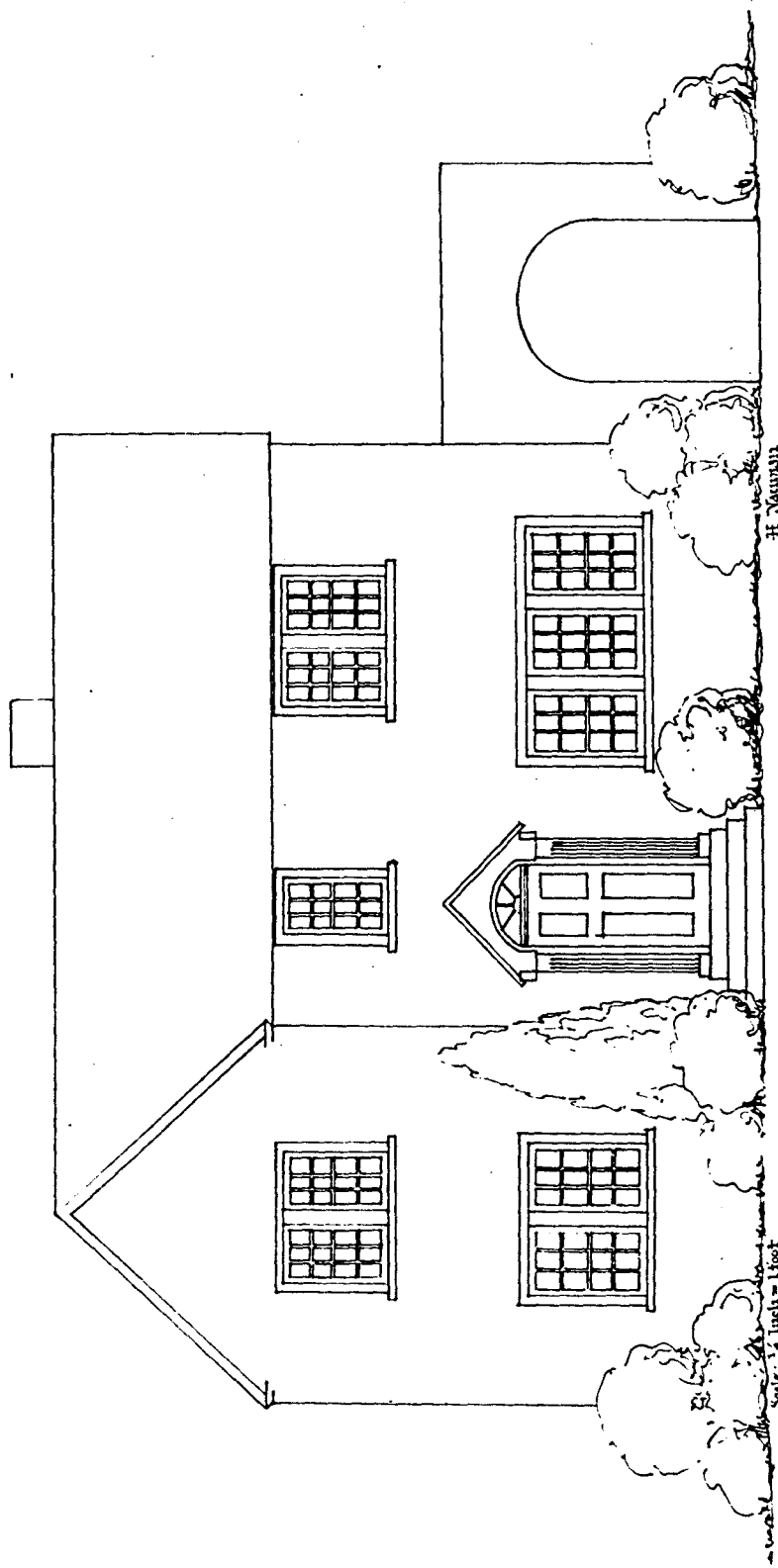


Plate XIX Plan V

Scale: 1/4 inch = 1 foot

Plate XIX Plan V Front Elevation of an Improved L Shaped Farmhouse.

Good proportion has been given to this house by adding the porch and also a number of feet to the ell that contains the doorway. The grouping of the three windows in the dining room helps to carry the eye in a horizontal direction. As a result the ell to the right has been made noticeably longer than the one at the left, an improvement which would add much to the appearance of the house in Plate XVIII.

The door has been made the center of interest by giving it a simple Colonial treatment. There is no elaboration of detail which is an excellent feature since farmhouses are in much better taste when all pretension has been laid aside.

The changes suggested for the improvement of this exterior are the important ones. The roof line remains the same except at the end of the ell behind the porch where it has to be lengthened. Since the front porch is too narrow to be of value, it should be torn down and the lumber used in the construction of a side porch.

The unimproved house has window sash with large panes of glass. The effect of substituting sash divided into small panes is invariably pleasing.

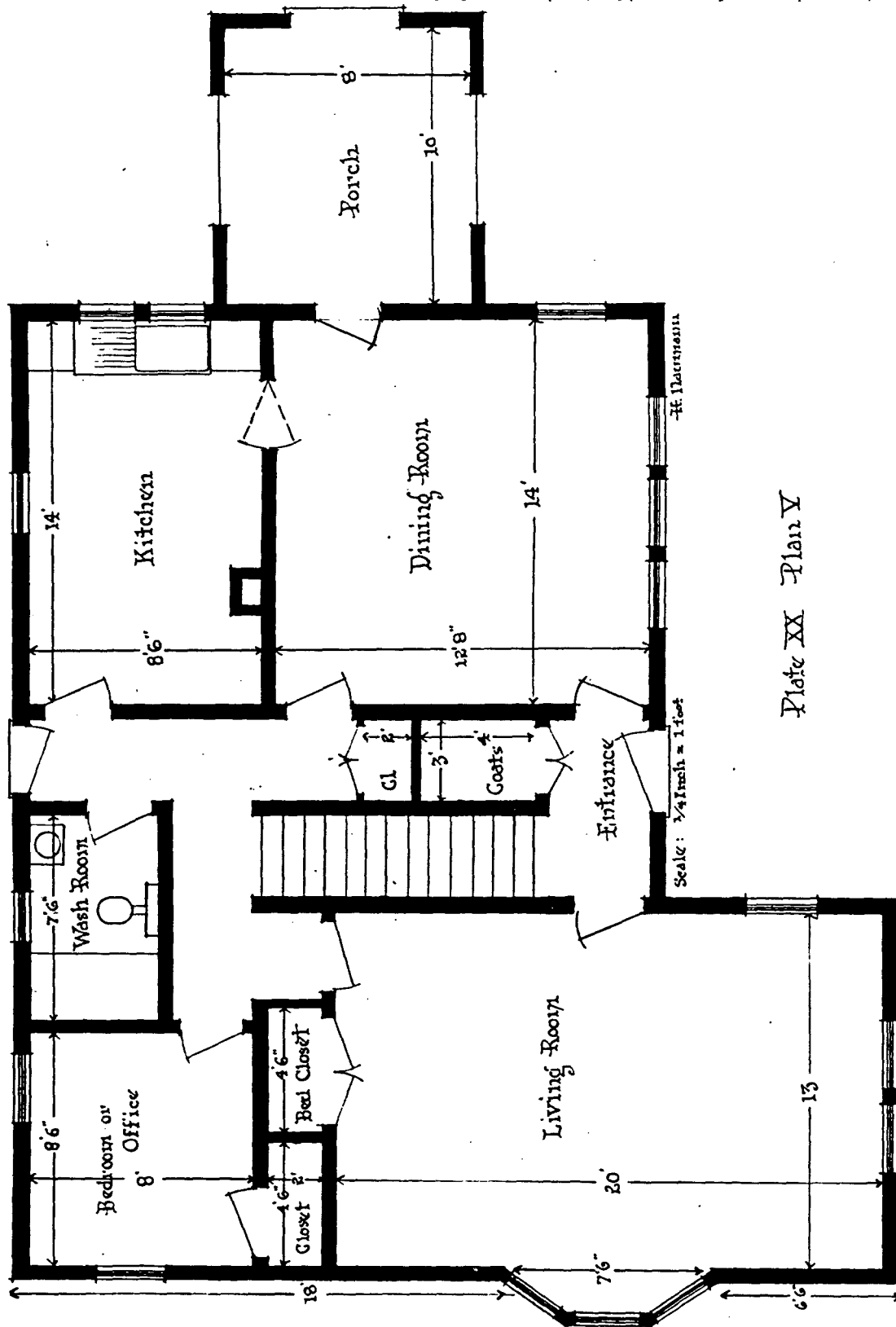


Plate XX Plan V

Plate XX Plan V First Floor Plan of an Improved L Shaped Farmhouse.

If a fireplace in the living room is desired, it could easily be planned to take the place of the bay window. This location is ideal and windows large enough to permit sufficient light for the living room could be built on either side of the fireplace.

The dining porch which adds length to the exterior of this elevation is conveniently located near the kitchen, and may permit a view of the flower garden. The hired man would have to be instructed to use the rear entrance which leads directly to the wash room rather than crossing the porch into the dining room and going from there to the rear of the house.

The bedroom on the first floor would be suitable for the hired man since the members of the family would thus be permitted more privacy. If it is decided that the closet for this bedroom is longer than necessary, a three inch partition may be placed in it and a wardrobe closet made to open into the living room. Easy access to the rear hall from the living room is made possible by the door opening into the living room from the rear hall.

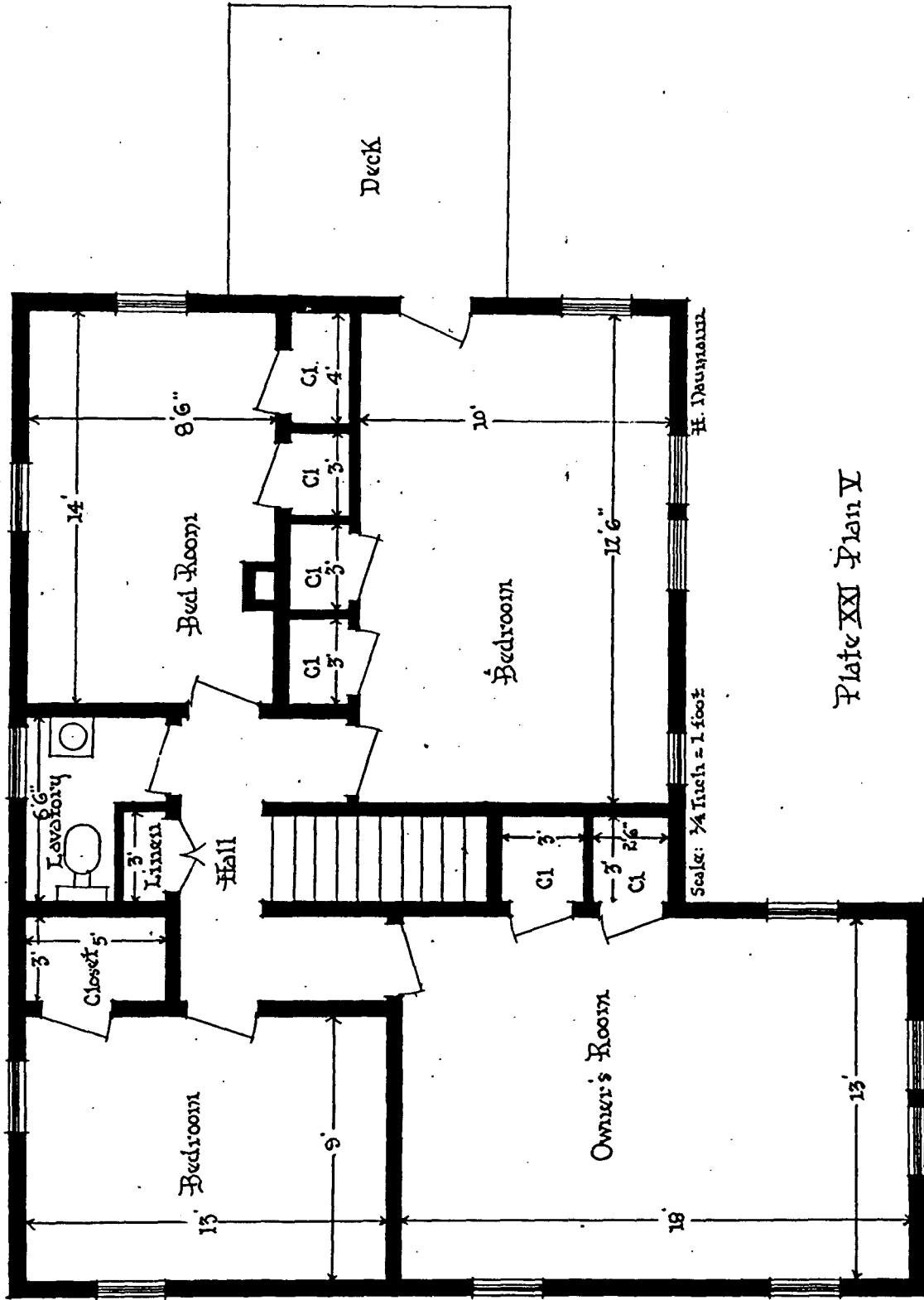


Plate XXI Plan V

Plate XXI Plan V Second Floor Plan of an Improved L Shaped Farmhouse.

The five windows in the owner's room make it exceptionally light and airy. If the attic is to be used, the second closet would have to serve as an entrance to the stairway rather than as a clothes closet. This would probably necessitate the building of extra wardrobe and drawer space in the room since one closet would be insufficient for two people. The other three bedrooms will accommodate two people in each as there is ample closet space for this number. If a closet for mops and brushes is desired, the closet which is next the lavatory may easily be made smaller and a door built in the partition that now separates this closet from the hall.

Some people prefer the small, compact house to the larger full two story type. With this in mind, the author has planned the following elevations which show how the lowering of the roof for the house in Plate XIX might affect the second floor. The first floor plan as shown in Plate XX has been retained.

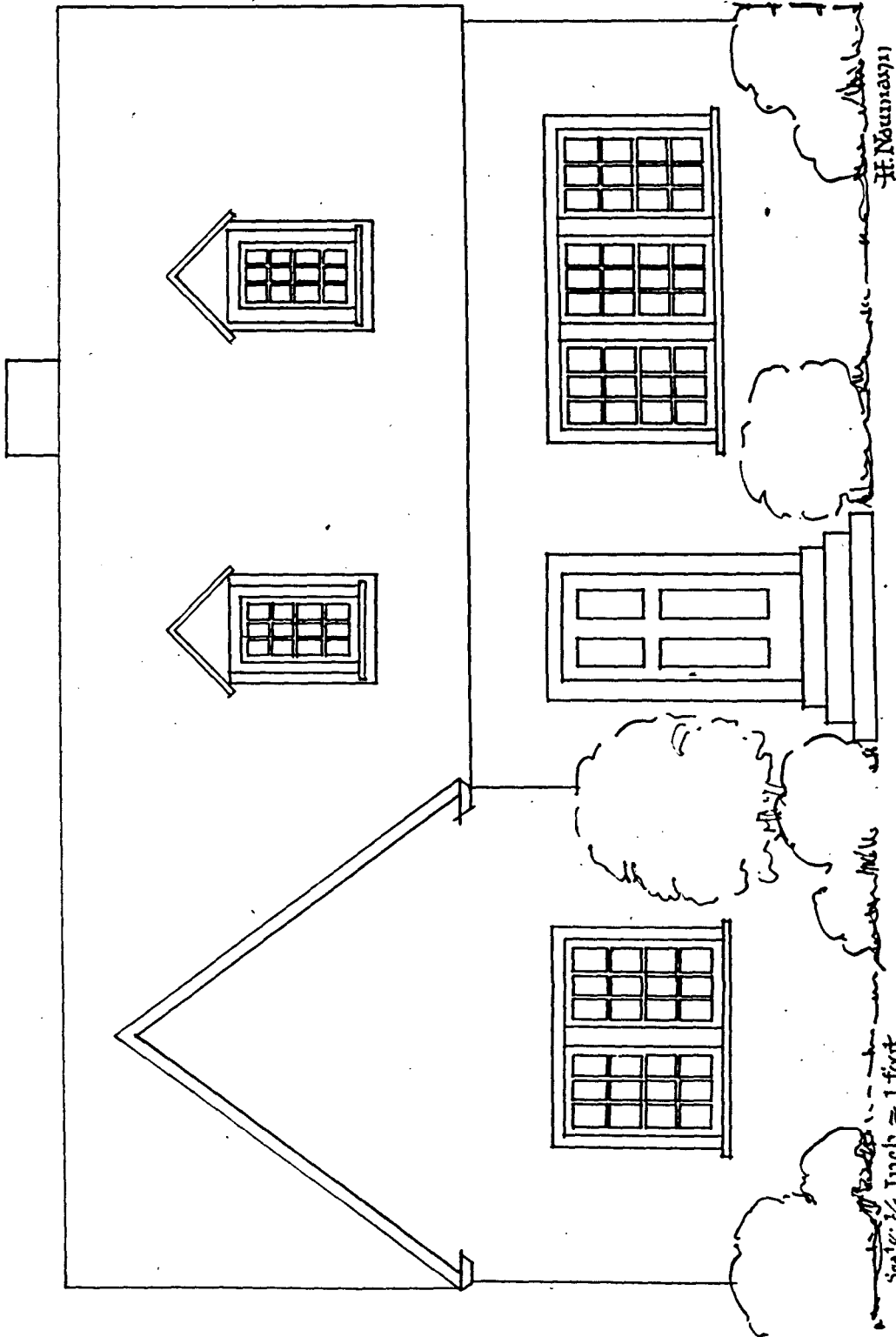


Plate XXII Plan V

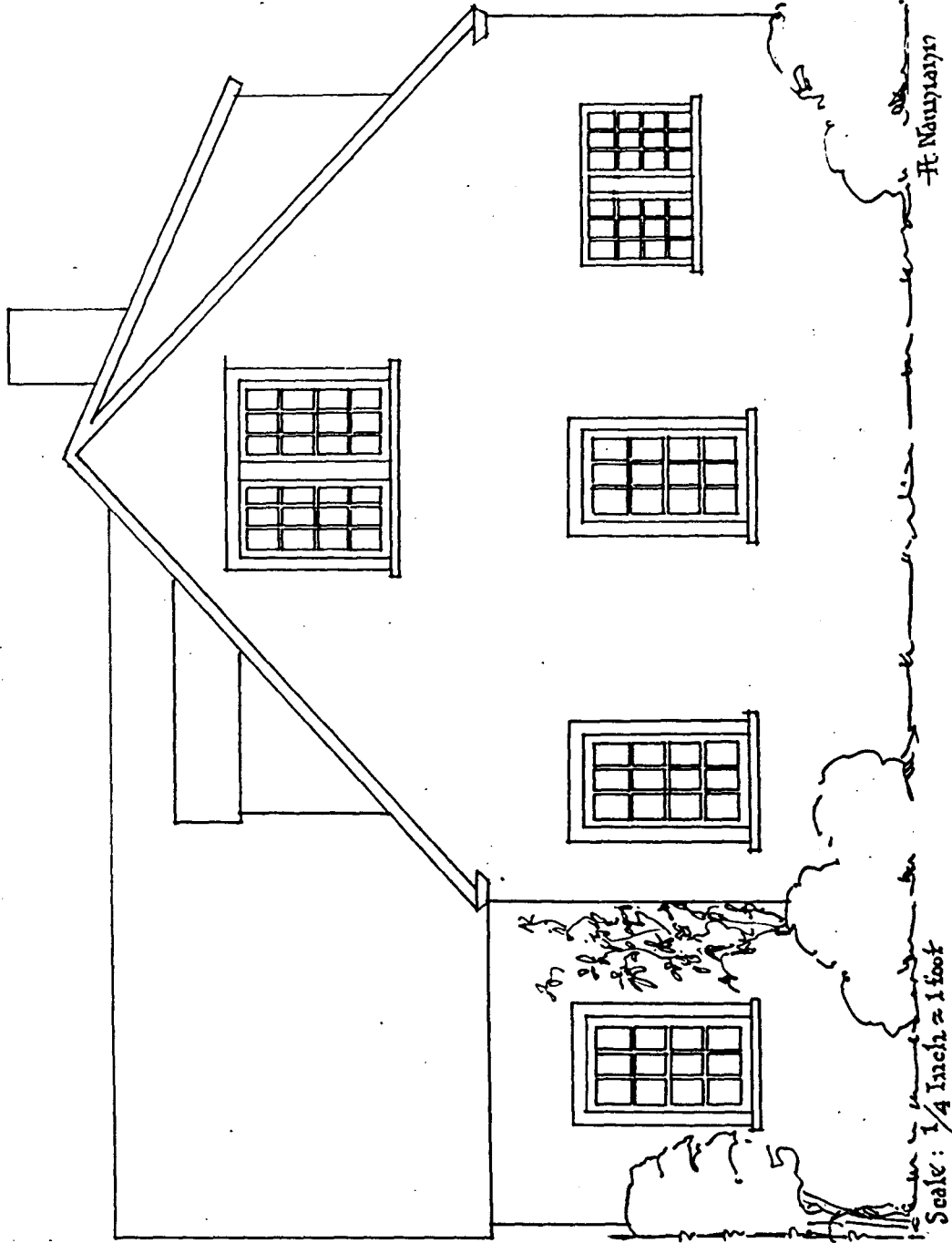


Plate XXIII Plate V

Plate XXII Plan V Front Elevation of an Improved L Shaped Farmhouse.

Plate XXIII Side Elevation of an Improved L Shaped Farmhouse.

By lowering the roof and adding dormers, a snug, cozy little house is made. This type of structure is better suited to a rolling site than are the more dignified and formal types of houses.

The porch was removed so that more attention might be given to the front part of the house proper. This means that neither the group of three windows nor the front entrance will lose its identity.

The dormers have been kept as small as possible. If small dormers do not add sufficient area, it is much better to make the old house, in part at least, two stories high than to burden the roof with an awkward and overpowering dormer that vainly attempts to secure the advantages of two stories while preserving the charm of low roof lines. A dormer should be no larger than is necessary to accommodate the window it serves.

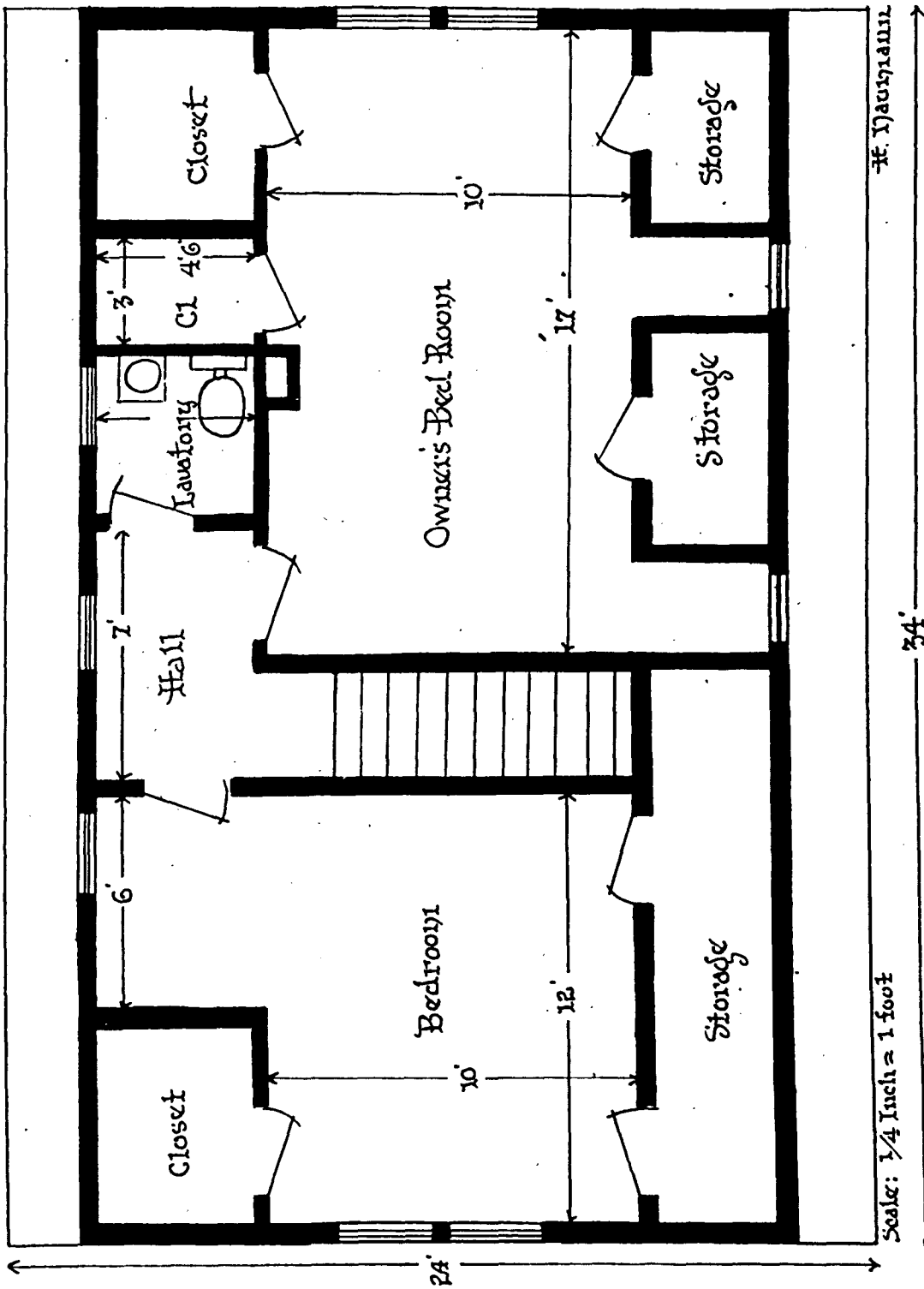


Plate XXIV - Plan V

Plate XXIV Plan V Second Floor Elevation of an Improved L Shaped Farmhouse.

The arrangement of the rooms in this plan is quite similar to the scheme worked out for the second floor of the small farmhouse or tenant cottage in Plate XVII. The owner's bedroom in this plate (XXIV) contains both dormer windows that are on the front of the house. Standing room has been provided for the entire closet that is next the lavatory.

There is adequate space for a sewing room in the entrance nook of the smaller of the two bedrooms. The storage room which is under the front eaves has been given two doors to permit better usage. Both bedrooms have sufficient wall space for the necessary pieces of furniture.

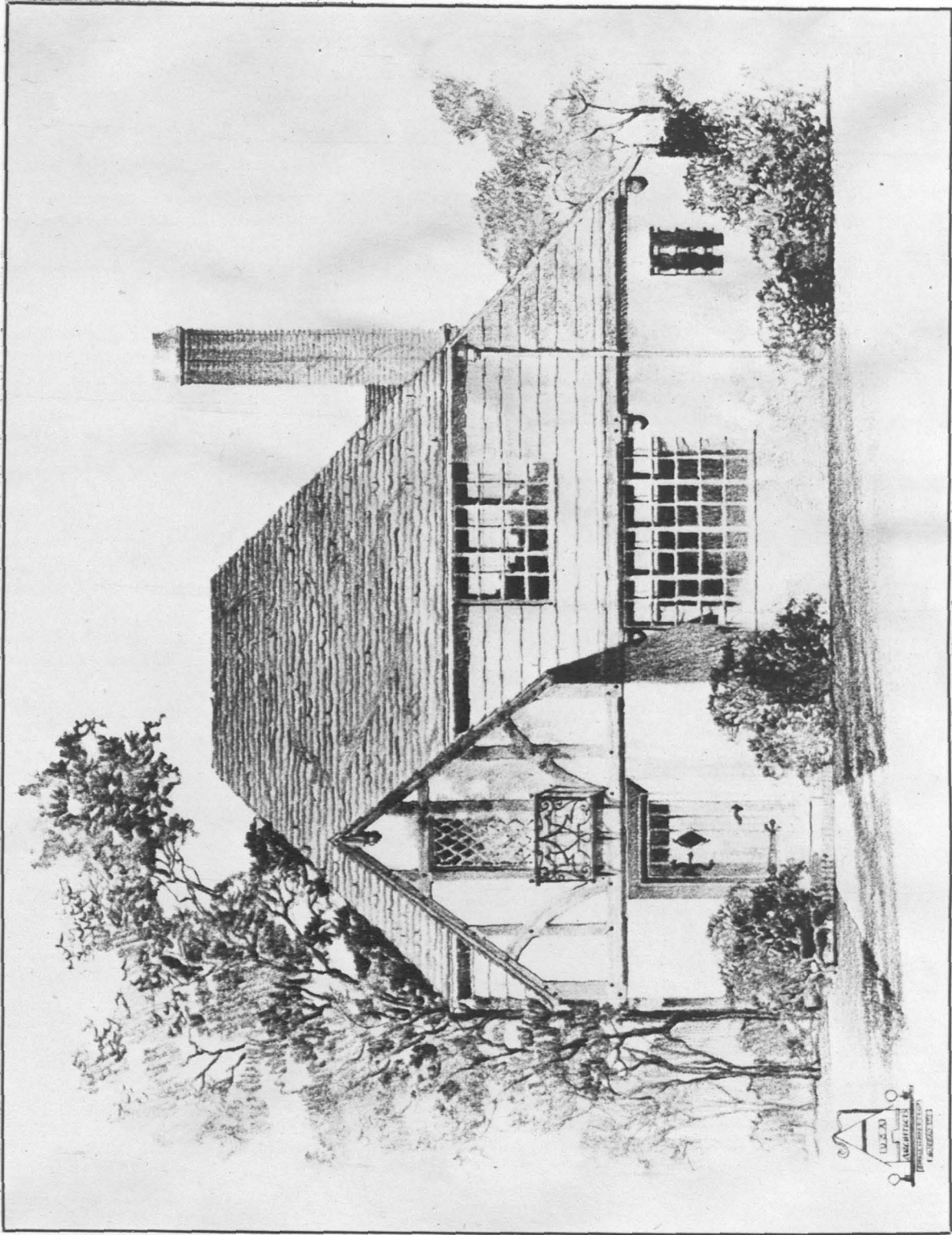


Plate XXV

Plate XXV House Selected from Illustrative Material that suggests Changes for Improving a Square Farmhouse.

A square house may be reconditioned in numerous ways. This plate shows one plan whereby the architect added a vestibule and continued the facade to form a wall for one end of the terrace which is at the end of the living room. The hip roof slopes down to meet the top of the wall which adds length to the house. The house is made apparently longer by the group of four windows, which carries the eye to the addition on the right side. This house may be found on page thirty-one in *The Small Home* for June 1930.

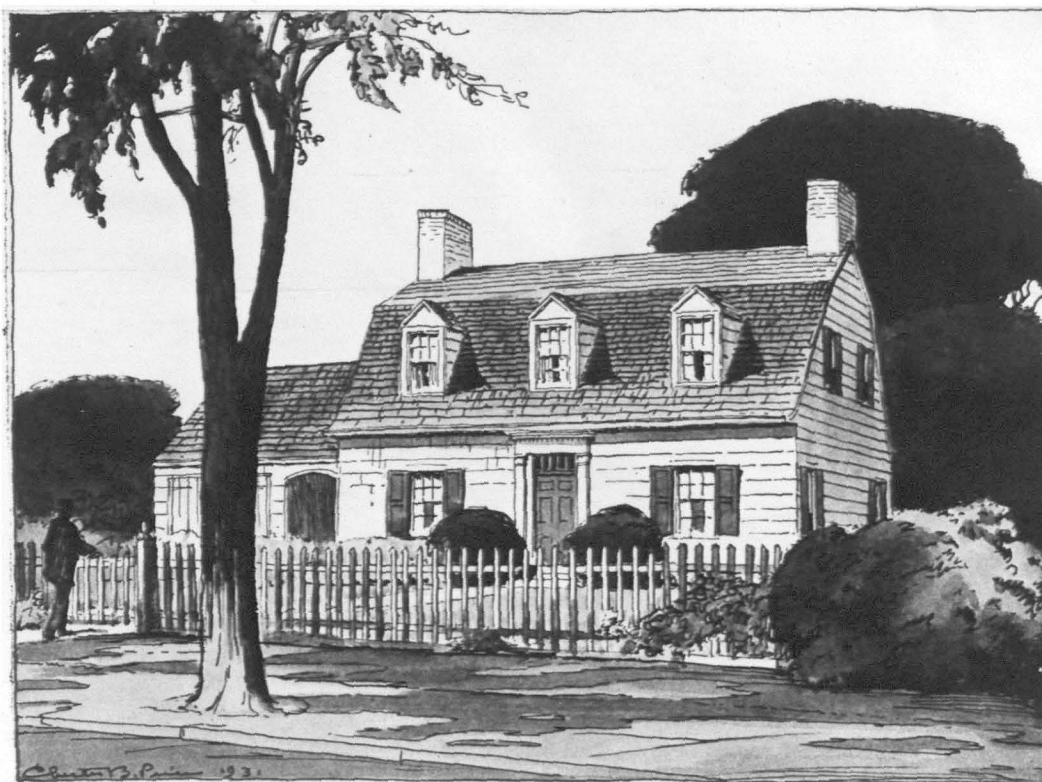


Plate XXVI

Plate XXVI Two Houses Selected from Illustrative Material that Suggest Changes for Improving a Small Farmhouse or Tenant Cottage.

These two plans show suggestions for improving the small Iowa farmhouse or tenant cottage. The house with the two dormers has a living room, dining room, and kitchen downstairs and two bedrooms and a bathroom up stairs. A nice feature about this cottage is the porch which opens from the living room.

A garage has been added to the Dutch Colonial house. This garage is connected to the house by means of a porch which is open at either end. Simplicity in the handling of both of these houses makes them interesting and highly practical for an Iowa farm site.

Frederic Horae Guilford is the Architect who drew the plans for the house at the top of this plate. The Dutch Colonial was designed by Donald G. Tarpley. Both houses may be found in the January 1932 issue of The American Home.



Plate XXVII

Plate XXVII Two Houses Selected from Illustrative Material that Suggest Changes for Improving an L Shaped Iowa Farmhouse.

The roof line of an L shaped Iowa farmhouse might be changed to conform with the roof line of either of the two houses shown on this plate. A bay window adds interest to one of these houses which has been given a dormer to permit cross ventilation in the bedrooms.

In the other house, two long windows have been placed in the part which corresponds to the bay window of the first house. These two windows are located on the stair landing. Good proportion is found in this house since the ell which contains the dormer is considerably longer than the other ell.

The house at the top of Plate XXVII may be found on page eighteen of Better Homes and Gardens for February 1932; Harold E. Ehlert is the architect. On page twenty-four of the May 1931 issue of The Small Home may be found the second house shown on this plate.

B. General Discussion

It may occur to the reader that important standards of design for both the exteriors and interiors of typical Iowa farmhouses have been omitted. The selection of the ones given was made only after the literature read was thoroughly evaluated and all of the standards listed. By a process of elimination resulting from a count of the number of times each standard was listed, the most important ones as determined by the author were chosen.

To incorporate all the important standards into each plan was impossible and, as always happens with anyone who attempts either building or remodeling, occasionally an important but apparently less desirable feature had to be sacrificed to obtain the most essential things.

Economy was kept constantly in mind and minimum instead of maximum improvements were always considered. Even though every change in all the plans meant that some money would have to be expended, it is true that these changes would mean less expense than building a new house. While any expenditure of money for building purposes is practically impossible until agricultural economic conditions improve, there is no doubt that more interest will be taken in the remodeling of the farmhouse in the future. With this in mind, it is hoped that these drawings, which are not to take the place of architect's plans, will serve as suggestions for making typical Iowa farmhouses

more distinctive.

V CONCLUSIONS

A. Suggestive Changes for the Improvement of Iowa Farmhouses.

The square house, the L shaped house, and the small farmhouse or tenant cottage are types of Iowa farmhouses which lend themselves to reconditioning.

As agricultural conditions become stabilized it is hoped that the farmer's attention will be brought to the fact that changes to improve the design and the convenience of his dwelling have not been in accordance with the progress that has been made in his out-buildings. Once his attention is directed to this fact and information concerning suitable improvements in the farmhouse is made available to him, much advancement in farmhouse planning may be made. It has been found that comparatively few and inexpensive changes will improve the beauty and usefulness of the farmers' homes. These changes will tend to make the homes assets rather than liabilities.

B. Important Standards of Design for the Exterior of the Iowa Farmhouse.

- a. Exterior plan should indicate to some degree the interior arrangement.
- b. Simplicity rather than ornateness should be emphasized.
- c. Strength of structure should be expressed.
- d. Openings should be placed to meet with utilitarian requirements and to relate to mass.

e. Design principles should be used.

C. Important Standards of Design that relate to Convenience for the Interior of the Iowa Farmhouse.

a. Kitchen should have cross ventilation and be located at rear of house with view toward farm buildings.

b. Rear entrance hall should give easy access to the service area.

c. Wash room should be accessible from rear entrance hall.

d. Ventilated closet for work clothes should open into rear entrance hall.

e. Downstairs bedroom and office should open from rear entrance.

f. Coat closet should open into front hall.

g. Stairway should be located near service area.

h. Side or rear porches are preferable to front ones and should be placed so that they will not darken the interior.

i. Living room should be located to secure sunshine, air, and the best view.

j. Bedrooms should have cross ventilation; double bedrooms should have two closets.

k. Linen closet should be accessible from second floor hall.

VI LITERATURE CITED

1. Brinkloe, W. D. The small home. p. 76-94
Robert M. McBride and Co., New York. 1924.
2. Dodds, Helen. The healthful farmhouse. p. 50-64.
Whitcomb and Barrows, Boston. 1916.
3. Ekblaw, K. J. T. Farm structures. p. 257-270.
Macmillan Company, New York. 1916.
4. Elliot, Berton. Keep your house young; interview with
William McIlroy. Bet. Homes and Gard., 10:28.
Sept., 1931.
- 4a. Etherton, W. A. The farmhouse improved.
Kansas State College. Engineering Experiment Station
Bulletin No. 7. p. 70-83. rev. ed. May, 1917.
5. Flagg, Maurice I. New homes from old.
Pop. Mech., 51:234-9. Feb., 1929.
6. Foster, W. A. and Carter, D. G. Farm buildings. p. 300-327.
John Wiley and Sons, Inc., New York. 1928.
7. Holden, Arthur C. What is good planning?
House B., 67:60,104. Jan. 1930.
8. See Ref. 4a.
9. See Ref. 22.
10. Kinball, Fiske. American architecture. p. 147-168.
Bobbs-Merrill Company, Indianapolis and New York. 1928.
11. President's Conference on Home Building and Home Ownership.
Committee on Farm and Village Housing.
Tentative report submitted for discussion at the con-
ference. Washington D. C. Dec., 1931.
12. Price, Llewellyn, New roof and walls make old homes young.
Bet. Homes and Gard., 10:13. Nov., 1931.
13. Robertson, Howard, Architecture explained. p. 85.
Ernest Benn Limited, London. 1926.

14. Robinson, L. Eugene. Domestic architecture. p. 50-83.
Macmillan Company, New York. 1928.
15. Rogers, Tyler S. Remodeling Victorian interiors.
Amer. Home. 5:43,144,168. Nov., 1930.
16. Rosengarten, A. Architectural styles. Translated from
German by W. Collett-Sanders. p. 459-501.
Chatto and Windus, London. 1927.
17. Sexton, R. W. The logic of modern architecture. p. 51-75.
Architectural Book Publishing Co., Inc., New York.
1929.
18. Stevenson, C. Modernize.
Pict. Review, 32:48. Feb., 1931.
19. Sucker, Milton. Aids in remodeling.
Ladies H. J., 46:213. Nov., 1929.
20. Varon, David. Architectural composition. p. 50-94.
William Halburn, Inc., New York. 1923.
21. White, Charles E. Jr., Successful homes and how to build
them. p. 143-148. Macmillan Company, New York. 1921.
22. Wichers, H. E. Design for Kansas farm homes.
Kansas State College. Engineering Experiment Station
Bulletin No. 23. p. 15-21. rev. ed., Oct., 1931.

VII ADDITIONAL REFERENCES READ BUT NOT CITED

- Allen, H. Two houses from one.
House B., 68:466-71. Nov., 1930.
- Brinkloe, W. D. I turn a barn into a home.
Pop. Mech., 56:634-7. Oct., 1931.
- Dominick, W. F. Lure of remodeling.
Good H., 92:65. June, 1931.
- Gregory, J. Before and after construction.
Arts and Dec., 29:52-3. Oct., 1928.
- Hawkins, J. K. Remodeling an old barn.
Ladies H. J., 47:217. Sept., 1930.
- Hoffman, M. F. Barns for fun.
Country Life, 59:61-2. Apr., 1931.
- Holden, A. C. Transforming an old farm cottage into a livable house.
Good H., 95:66-8. Aug., 1931.
- Kingsbury, H. S. We did it with models.
Woman's H. C., 57:134. Sept., 1930.
- Pomeroy, J. T. Keeping their home young.
Bet. Hom. and Gard., 9:33. Aug., 1931.
- Hodes, M. R. Rebuilt colonial home in Connecticut.
Bet. Hom. and Gard., 9:21. May, 1931.
- Seabury, Joseph S. New homes under old roofs. p. 47-64.
Frederick A. Stokes Company, New York. 1916.
- Seal, E. D. Economically made-over houses.
Ladies H. J., 43:81. Aug., 1926.
- Tarpley, D. G. Remodeled exteriors.
Woman's H. C., 59:43. Mar., 1923.
- Whitman, R. B. Are you dissatisfied with your home?
Good H., 91:71. Aug., 1930.

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