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PROBLEMS IN HANDICRAFT
FOR PIG CLUB PROJECTS

BY H. T. NIECE

Ada County Club Leader

COOPERATIVE EXTENSION SERVICE IN AGRICULTURE
AND HOME ECONOMICS OF THE STATE OF IDAHO
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Do You Understand Tools?

IF NOT, get Mr. Niece's bulletin on "Tools; Their Use and Care." It would be a good plan to get it anyway. There are bound to be several little pieces of information in it that will help you. They may be very simple things, but the simpler they are, the more likely you are to find them useful. You can obtain this bulletin by asking your county club leader or by writing to the University Extension Division, Boise, Idaho.

If you would like to make some articles, like a kitchen table, a fly trap or a mop rack, that would be useful about the house, write for the bulletin, "Handicraft Problems for the Home."

"Handicraft Problems in Poultry Club Work," "Handicraft Problems for Corn Club Work" and "Rope and Its Uses on the Farm" are other good bulletins in this series.

PROBLEMS IN HANDICRAFT FOR PIG CLUB PROJECTS

By H. T. NIECE
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THIS BULLETIN TELLS HOW TO MAKE:

Square Pig Trough
V-Shaped Pig Trough
Sling for Weighing Hogs
Post for Hanging Steelyards
Hog Hurdles

Shipping Crate
Loading Chute
Litter Feeding Pen
An "A" House
Iowa Gable-Roof House

FOR A BOY or girl to enter a pig club project without convenient equipment is as absurd as for a farmer to try to farm without horses or implements. This bulletin presents suggestions and detailed drawings for some problems that may be worked out with club members, for making such equipment.

The problems here offered are simple and do not require an extensive knowledge of tools. All of the problems may be used to advantage in arithmetic lessons.

It is suggested that all lumber that apparently is going to waste about the farm be utilized, wherever it is possible, in this construction.

It is desirable that the objects made in working out these handicraft problems receive at least two coats of paint. It will prove a good investment in prolonging the life of the structure and at the same time will add to its attractiveness. Any good outside paint will do.

Many successful swine raisers spray the structures both inside and out for purposes of sanitation.

It is hoped that these problems will add greatly to the interest of both handicraft and pig club work. The club member who takes them up will feel that he has a more vital interest in the life and work on the farm, and thus will enter more cheerfully upon the tasks set before him.

SQUARE PIG TROUGH

The drawing and picture show the construction of a "square" pig trough, which any club member can make easily and quickly.

Tools Required.—Hammer. Saw. Carpenter's square. One-inch chisel.

Material.—Two pieces $1\frac{1}{4}$ by 6 inches by 12 feet. One piece $1\frac{1}{4}$ by 8 inches by 12 feet. Two pieces $1\frac{1}{2}$ by 6 inches by 2 feet. One cleat $1\frac{1}{2}$ by 4 inches by 11 inches. Nails. One quart of paint for two coats. Use discarded lumber where it is possible.

Steps in Construction

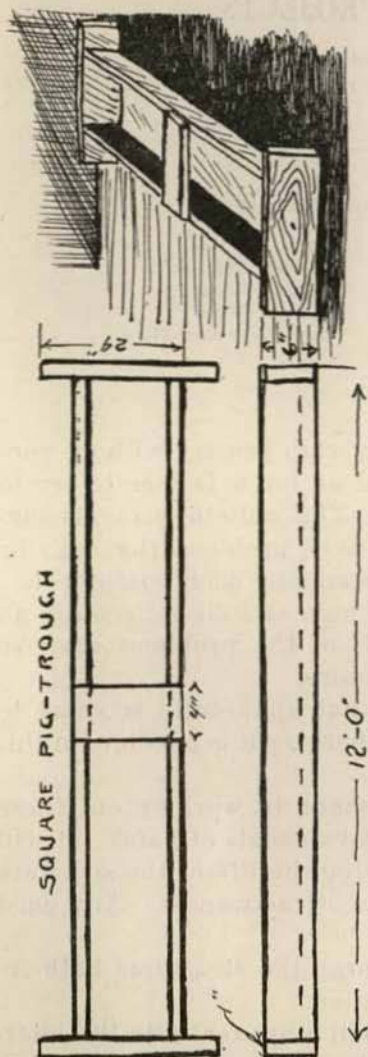
1. Measure length and square two ends. Saw.
2. Measure length and square two sides. Saw.
3. Measure length and square the bottom. Saw.
4. Nail two sides to edges of bottom.
5. Nail two ends to sides and bottom.
6. Nail cleat across top edges, or saw notches and set in.

V-SHAPED PIG TROUGH

Like the square pig trough, the V-shaped trough is easily and quickly made and any pig club member can make one in a little while.

Tools Required.—H a m m e r .
Saw. Carpenter's square. One-inch chisel.

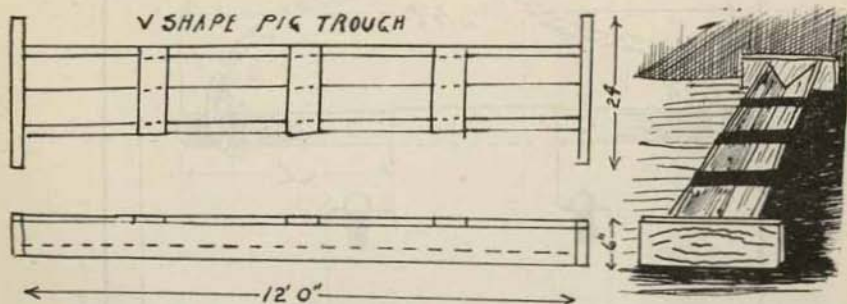
Material.—Two pieces $1\frac{1}{4}$ by 10 inches by 12 feet. Two pieces $1\frac{1}{4}$ by 8 inches by 2 feet. One and one-half pounds nails. One quart paint for two coats. Cleats, three pieces $1\frac{1}{2}$ by 4 inches by 12 inches. Use discarded lumber where it is possible.



$1\frac{1}{4}$ by 8 inches by 2 feet. One and one-half pounds nails. One quart paint for two coats. Cleats, three pieces $1\frac{1}{2}$ by 4 inches by 12 inches. Use discarded lumber where it is possible.

Steps in Construction

1. Measure length and square two ends. Saw.
2. Measure length and square two sides. Saw.
3. Nail two sides together at bottom.
4. Nail two ends on the side pieces.
5. Saw out notches in top edges of sides for cleats and nail.
6. Paint.



WEIGHING SLING

It is very essential that some means of weighing pigs should be provided for the pig club member, in order to facilitate keeping records of the growing pig.

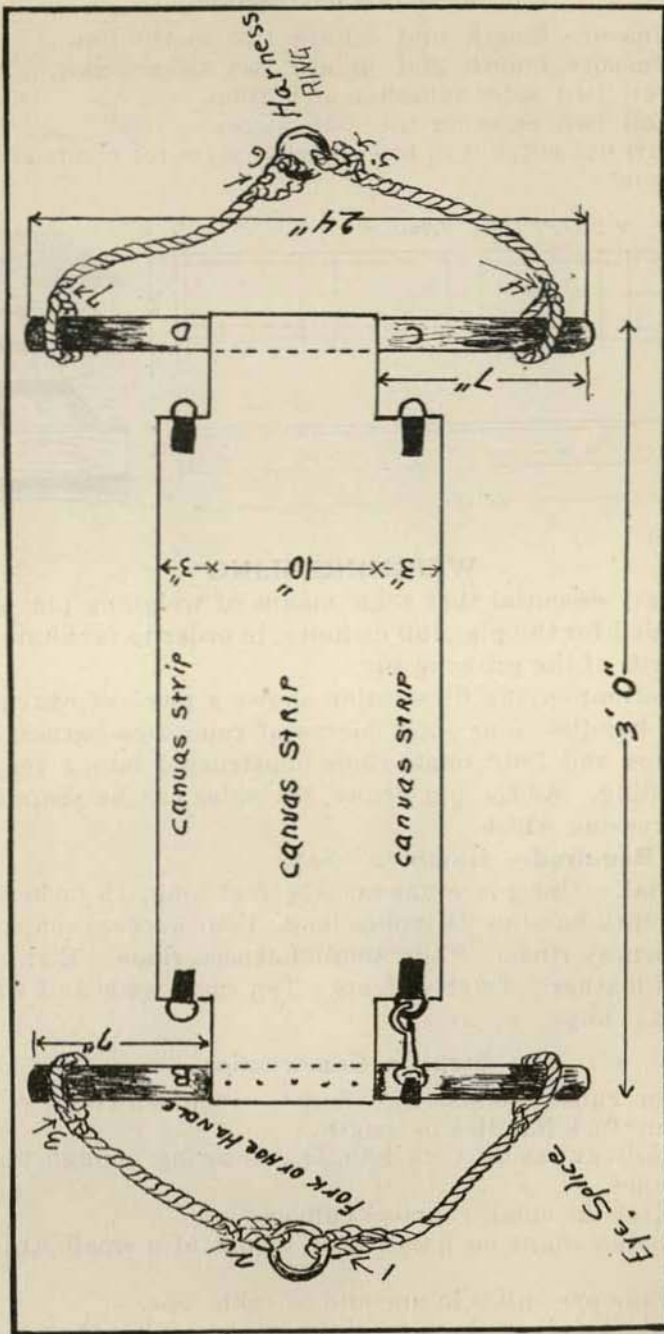
The accompanying illustration shows a piece of canvas, two old fork handles, four short pieces of rope, two harness rings, four snaps and four small rings constructed into a very convenient sling. As the pig grows, the sides can be snapped up, thus increasing width.

Tools Required.—Hammer. Saw.

Material.—One piece canvas $3\frac{1}{2}$ feet long, 16 inches wide. Two old fork handles 24 inches long. Four harness snaps. Two large harness rings. Four small harness rings. Eight small pieces of leather. Twelve rivets. Ten small nails and washers to match. Rope.

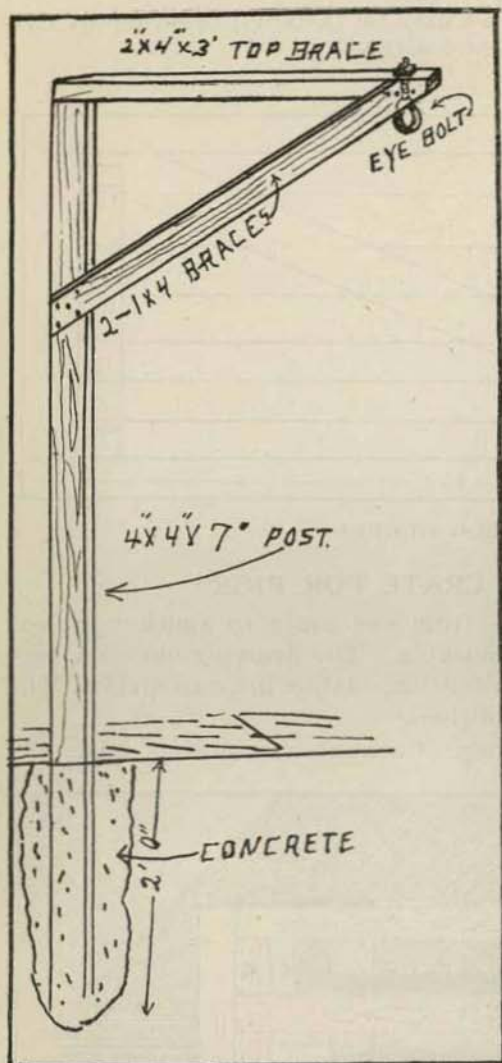
Steps in Construction

1. Cut canvas to size and shape. (See drawing.)
2. Cut fork handles to length.
3. Nail canvas on fork handles, allowing enough to wrap around once.
4. Rivet the small rings on canvas.
5. Fasten snaps on handles by means of a small strap and buckle.
6. Make eye-splice in one end of each rope.
7. Take two large harness rings and eye-splice them in other end of rope.



SLING FOR WEIGHING PIGS

Steps in Construction of Post for Hanging Steelyards for Weighing Pigs



Post for Hanging Steelyards to Weigh Pigs

One piece, 1 by 6 inches by 7 feet, brace. One pound nails. Four hasp hinges.

Steps in Construction

1. Measure length of sides. Saw.
2. Measure length of ends. Saw.

1. Set a post firmly in ground about 2 feet, and about 5 feet above ground; 4 inches by 4 inches is preferable.

2. Measure length and cut top piece.

3. Measure length of two braces.

4. Nail top piece and braces to post.

5. Fasten eye-bolt at end of brace for the steelyards.

HOG HURDLES

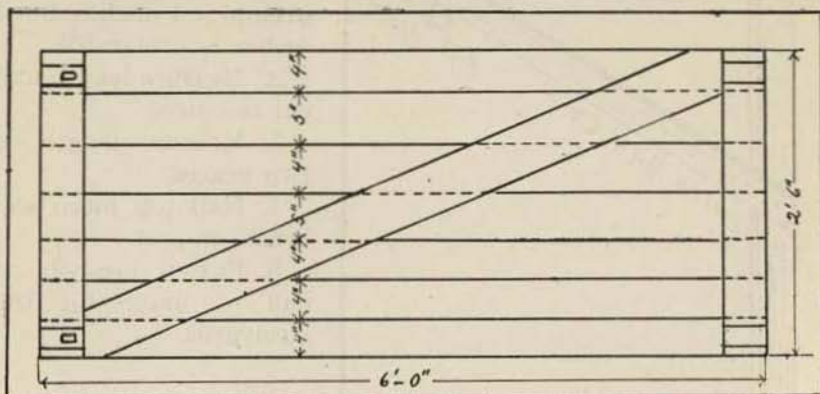
Hog hurdles are really sets of movable gates that may be arranged into a temporary pen or into a chute for leading the pig from the pen to a wagon or chute or from one pen to another. These are easily made and may vary in sizes.

Tools Required.—

Hammer. Saw. Square. Screw driver.

Material for One Hurdle.—Four pieces, 1 by 4 inches by 6 feet, side. Two pieces, 1 by 4 inches by 2½ feet, ends.

3. Nail sides to end pieces.
4. Lay out brace, saw and nail to side.
5. Space hinges and screw fast.
6. If preferred the pieces may be fastened together by carriage bolts instead of nails and screws.
7. Paint.

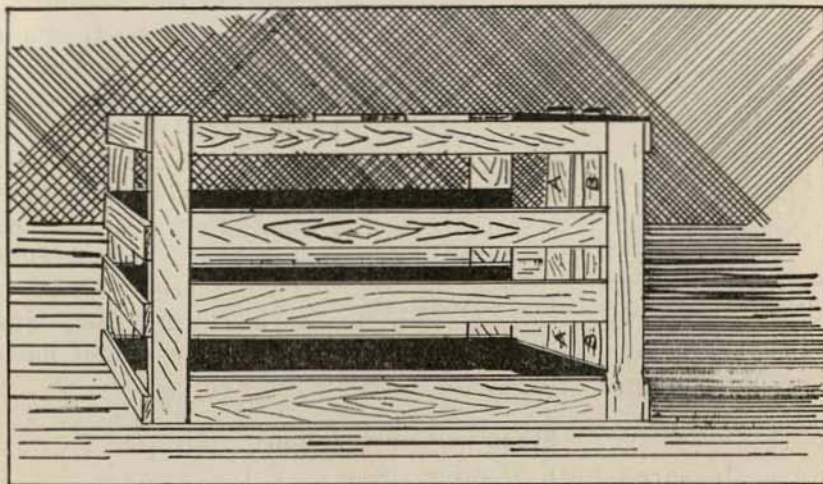


A HOG HURDLE

SHIPPING CRATE FOR PIGS

A crate for hauling pigs from one place to another for exhibit or to market is indispensable. The drawing shows a very simple one, which requires but little labor in construction. The sizes may vary to suit conditions.

Tools Required.—Hammer. Carpenter's square. Saw.



SHIPPING CRATE; USED ALSO AT EXHIBITS

Materials Required

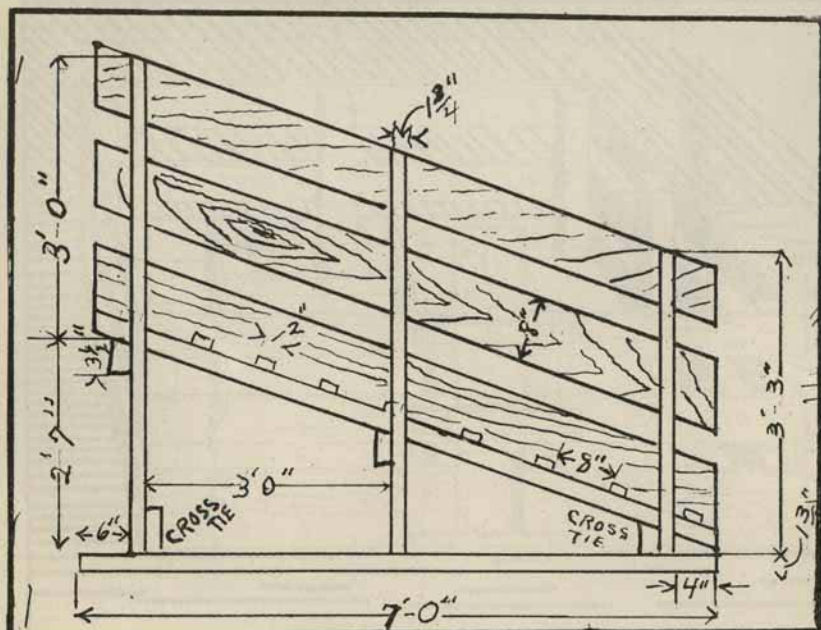
- 6 pieces, 1 in. x 6 in. x 4½ ft., sides.
- 2 pieces, 1 in. x 4 in. x 4½ ft., sides.
- 9 pieces, 1 in. x 4 in. x 18 in., ends and top.
- 2 pieces, 1 in. x 4 in. x 32 in., for door, A-A- B-B.
- 3 pieces, 1 in. x 6 in. x 4½ ft., floor.
- 2 pounds of nails.
- Half a gallon of paint, for two coats.
- Use old lumber where it is possible.

Steps in Construction

1. Cut all boards to length.
2. Nail cleats across the bottom of floor.
3. Nail side and end boards to floor.
4. Nail posts to side boards at bottom.
5. Nail sides and ends and top.
6. Make boards A and B so that they can be pulled up to allow pig to enter.
7. Paint two coats.

LOADING CHUTE

A loading chute for pigs is a very necessary part of an equipment for pig club members and is very convenient for the



THE LOADING CHUTE

farmer in general. It is simple in construction and quickly made. The accompanying cut shows the side view and dimensions for construction.

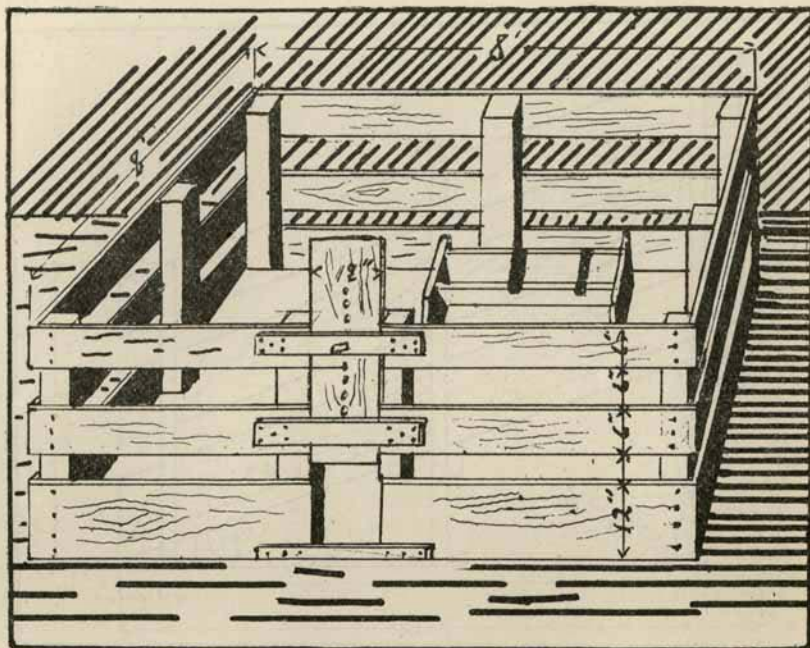
Tools Required.—Hammer. Carpenter's square. Saw.

Material Required

- 2 pieces, 2 in. x 4 in. x 7 ft., runners.
- 6 pieces, 1 in. x 8 in. x 8 ft., sides.
- 2 pieces, 2 in. x 4 in. x 14 ft., studs.
- 4 pieces, 2 in. x 4 in. x 3½ ft., cross ties.
- 8 pieces, 1 in. x 2 in. x 3½ ft., cleats for bottom.
- 5 pieces, 1½ in. x 8 in. x 8 ft., floor.
- 2 lbs. nails.
- ½ gal. paint for two coats.

Steps in Construction

1. Measure length of studs. Saw.
2. Measure length of cross-ties. Saw.
3. Nail cross-ties to studs.
4. Measure length of floor. Saw. Nail to cross-ties.
5. Nail on cleats.
6. Nail chute to runners.
7. Paint two coats.



LITTER FEEDING PEN

LITTER FEEDING PEN

This pen is very convenient when the pigs are to be fed alone, so that no other animals will drive them away or eat up their feed. A small V-shaped trough is placed inside. This pen may vary in size.

Tools Required.—Hammer. Square. Saw. Brace and bit, 1 inch.

Material

- 4 pieces, 1 in. x 12 in. x 8 ft., bottom side boards.
- 8 pieces, 1 in. x 6 in. x 8 ft., top side boards.
- 9 pieces, 2 in. x 4 in. x 34 in., posts.
- 1 piece, 1 in. x 12 in. x 34 in., slide gate.
- 1 gal. paint for two coats.
- 2 lbs. nails.
- 3 cleats.

Steps in Construction

1. Measure all material to length. Saw.
2. Nail bottom boards all around to posts.
3. Nail top boards all around to posts.
4. Nail middle board.
5. Bore holes in door with brace and bit.
6. Paint.

THE "A" HOUSE

(Doors Hinged at Side)

The "A" house is a simple structure which can be easily and quickly erected. The "A" type has proven to be very satisfactory; it is strongly recommended by a large number of practical swine men.

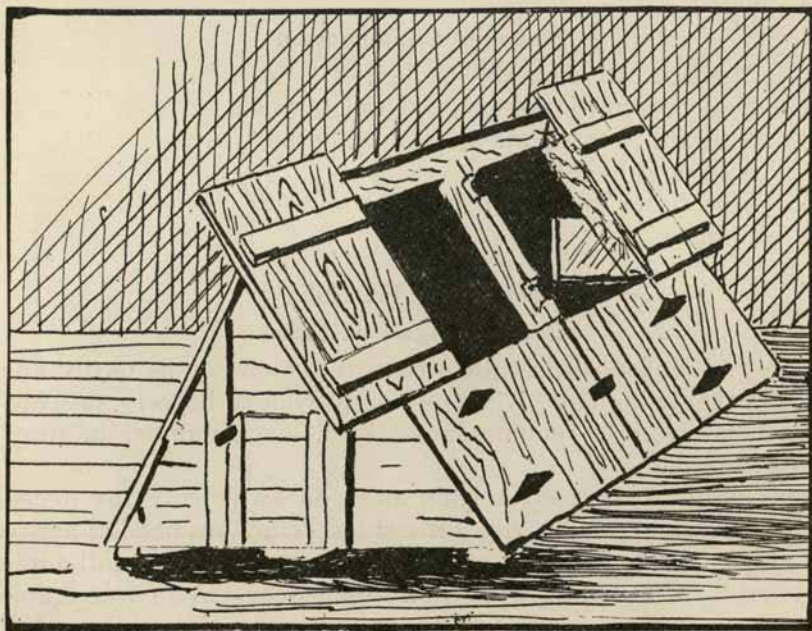
The slope of the roof is such as to do away with the necessity for interior fenders along the sides. They are needed across the end. The drawings on the accompanying page call for a very substantial frame with a two-inch floor. A lighter frame may be used if one wishes to reduce the cost. The substantial construction is much more durable and satisfactory and it is to be recommended.

The dimensions of the "A" house may vary considerably. The detailed drawing shows a house 6 ft. x 8 ft. in floor size with the ridge a little over 6 feet from the floor. In choosing a certain dimension, one must figure closely, among other things, on the size of house which will insure the owner that the lumber entering into the construction shall be cut with a

minimum of waste. The doors may be differently arranged, depending upon local conditions. The sliding entrance door is preferable. The side, shade or sun-doors had best be on the east side, where the entrance door faces the south, or on the south side if the entrance is on the east. With such doors on the east, advantage is taken of the early morning sunshine, which is more effective than from the afternoon sun when one is sheltering suckling pigs.

It is quite desirable sometimes to make the side doors double (as shown in pictures) so that one can better handle the sow and pigs. Ventilators may be constructed in various ways. The improved ventilators are constructed in the gable ends just under the comb of the house.

Tools Required.—Steel or carpenter's square. Hand-saw. Chisel. Hammer.



"A"-Shaped Hog House with Lower Double Doors and End Slide Door Closed

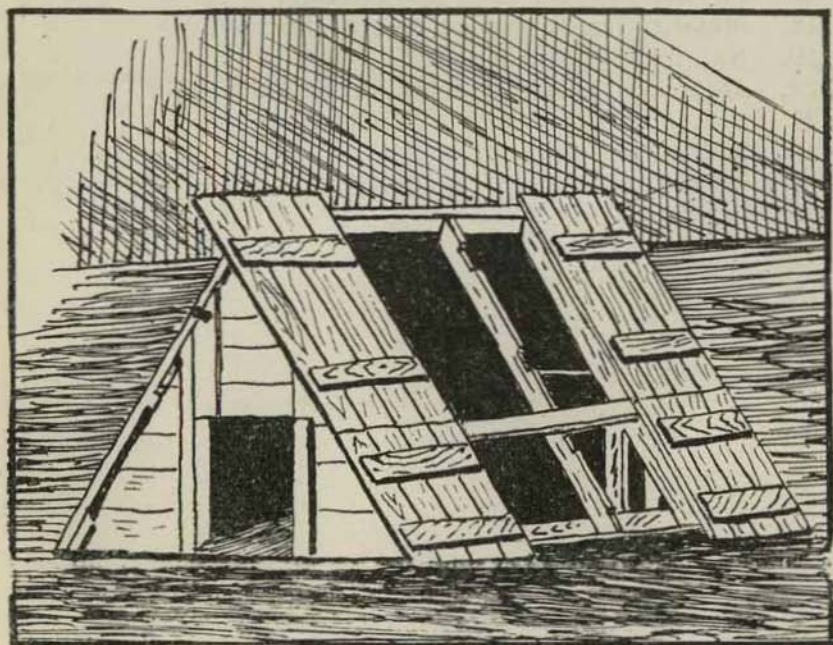
Bill of Material

- 1 piece, 4 in. x 4 in. x 16 ft., fir for runners.
- 4 pieces, 2 in. x 12 in. x 12 ft., plank for floor.
- 4 pieces, 2 in. x 4 in. x 16 ft., for rafters.
- 1 piece, 2 in. x 4 in. x 8 ft., for girt.
- 1 piece, 2 in. x 4 in. x 8 ft., for ridge.

- 2 pieces, 2 in. x 4 in. x 10 ft., for studs.
- 1 piece, 2 in. x 4 in. x 10 ft., for fenders.
- 1 piece, 2 in. x 4 in. x 8 ft., for floor stiffener.
- 1 piece, 1 in. x 4 in. x 18 ft., for wind brace.
- 11 pieces, 1 in. x 10 in. x 16 ft., for roof shi lap.
- 5 pieces, 1 in. x 10 in. x 12 ft., for ends.
- 3 pieces, 1 in. x 4 in. x 12 ft., for door cleats and slide strips for end door.
- 4 pair 6-in. strap hinges.
- 2 door hasps.
- 8 lbs. 8-penny nails; 5 lbs. 16-penny spikes.
- 3 quarts ready-mixed paint for two coats.

The above may be made into an arithmetic problem for the club members. Any old discarded lumber that can be used in the construction of the house should be utilized, thus reducing the cost.

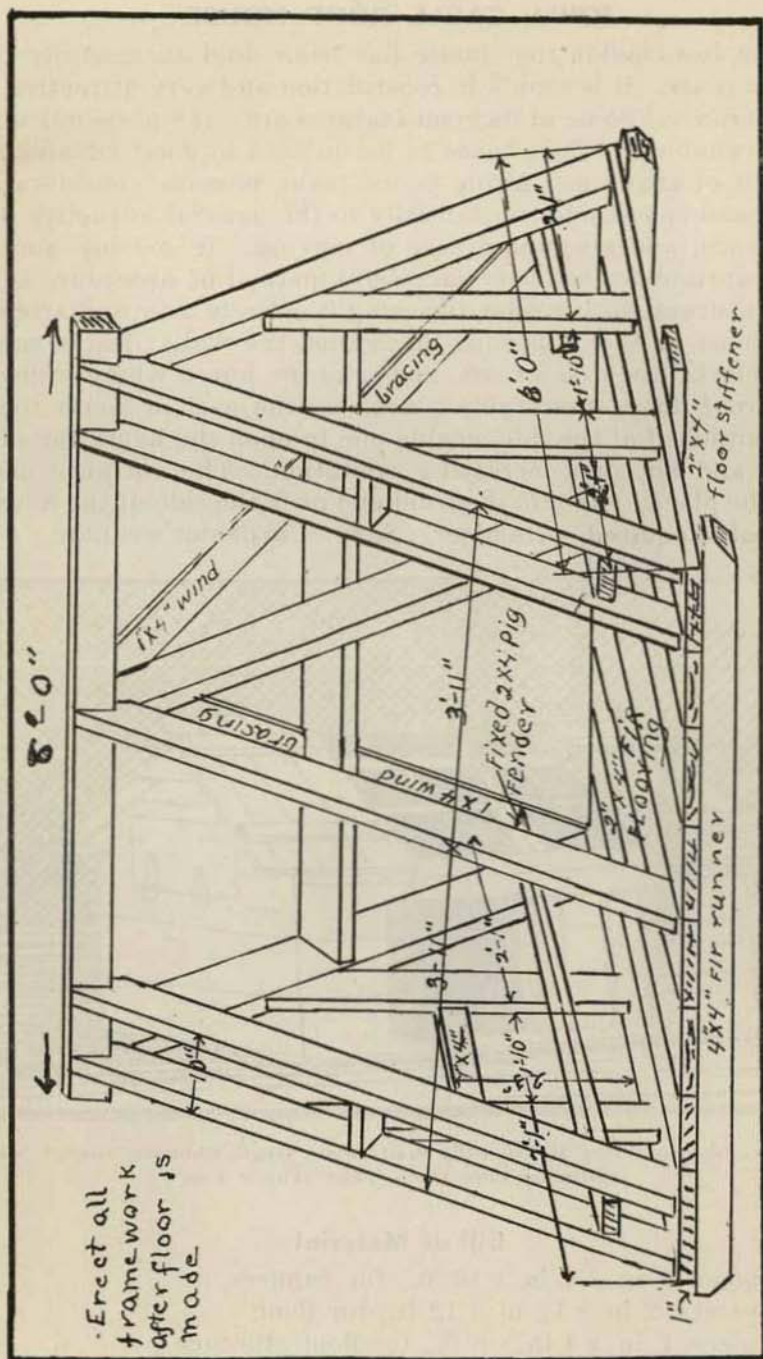
The drawings of the "A" house were made from those in Bulletin No. 152 of the Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts.



"A"-Shaped Hog House with Upper and Lower Double Doors and End Slide Door Open

Steps in Construction of "A" Hog House

1. Measure length and cut two runners 4 in. x 4 in. x 8 ft. Shape ends.
2. Measure length and cut floor planking.
3. Nail floor planking to runners.
4. Measure and cut length of floor stiffener, 2 in. x 4 in. x 8 ft.
5. Nail to under side of floor. (See frame plate.)
6. Lay out and cut 8 rafters. (See frame plate.)
7. Nail rafters to ridge.
8. Nail this assembled part to the floor.
9. Lay out and cut wind bracing pieces 1 in. x 4 in.
10. Measure length of girt across back rafters. Cut and nail in.
11. Nail wind bracing to rafters and girt.
12. Lay out and cut four studs.
13. Nail studs to the floor and rafters.
14. Measure and cut two short blocks for front rafters.
15. Nail blocks between two rafters on ends. (See plate.)
16. Measure and cut piece 1 x 4 for top of entrance door.
17. Lay out and cut two fixed fenders.
18. Measure length and cut boards for roof.
19. Nail on roof on one side.
20. Make double sets of doors out of other side.
21. Fasten on doors with 12-inch strap hinges.
22. Nail on one end.
23. Make slide door for other end. (See cut.)
24. Paint two coats.

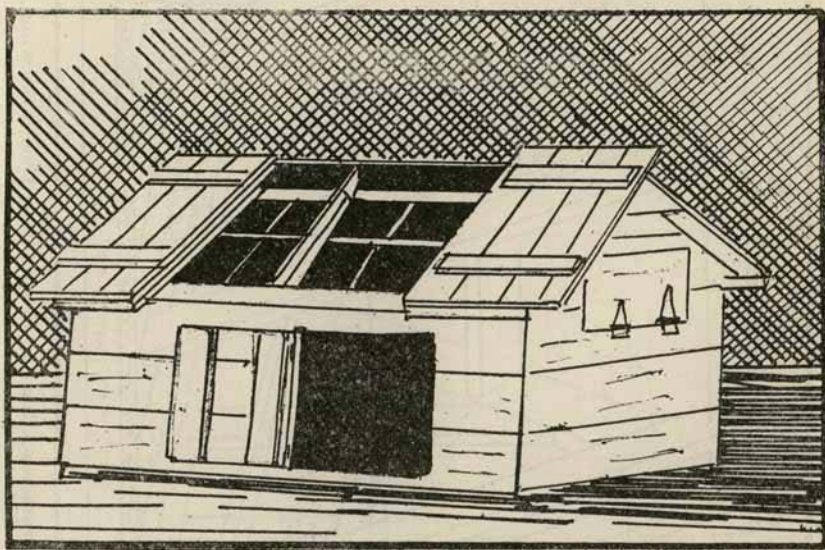


Framework for "A"-Shaped Hog House, Showing Dimensions and Perspective.

IOWA GABLE ROOF HOUSE

The Iowa gable roof house has been used successfully for many years. It is simple in construction and very attractive in appearance. Some of its good features are: the perpendicular walls enable the floor space to be utilized to good advantage, permit of shade and airing doors, make possible considerable overhead space, add substantially to the general attractive appearance, and encourage ease of moving. In moving houses with upright walls a very successful method of procedure is to take a strong, heavy rope, throwing it entirely over and around the house so that it is snug up against the walls; fasten same to a clevis, hitch on a team, and take the house where wished. The roof doors, preferably placed on the east or south roofs and attached at the side, enable one to open the house for sunlight and air, thus increasing sanitation. The entrance door may be placed either in the front end or in the side of the house.

Tools Required.—Hammer. Saw. Carpenter's square.



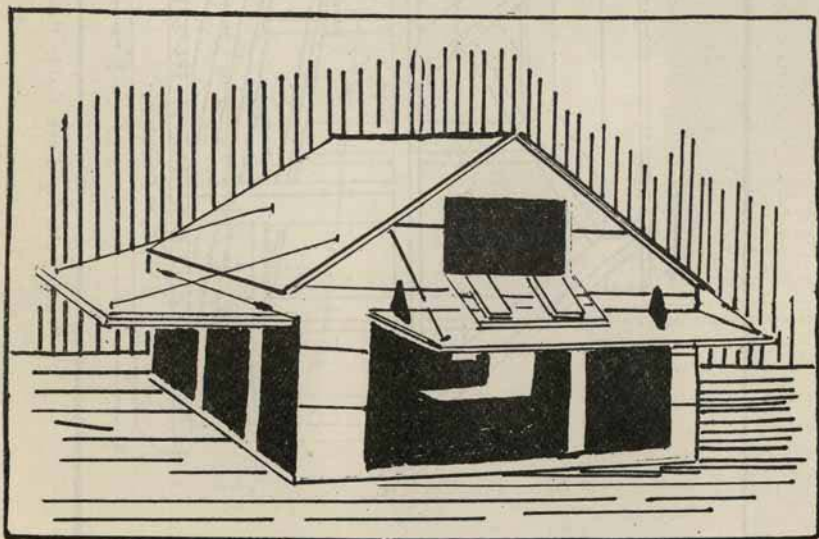
Iowa Gable Roof Hog House with Roof Doors Open, Showing Glazed Sash. Entrance Door Open. For Winter Use.

Bill of Material

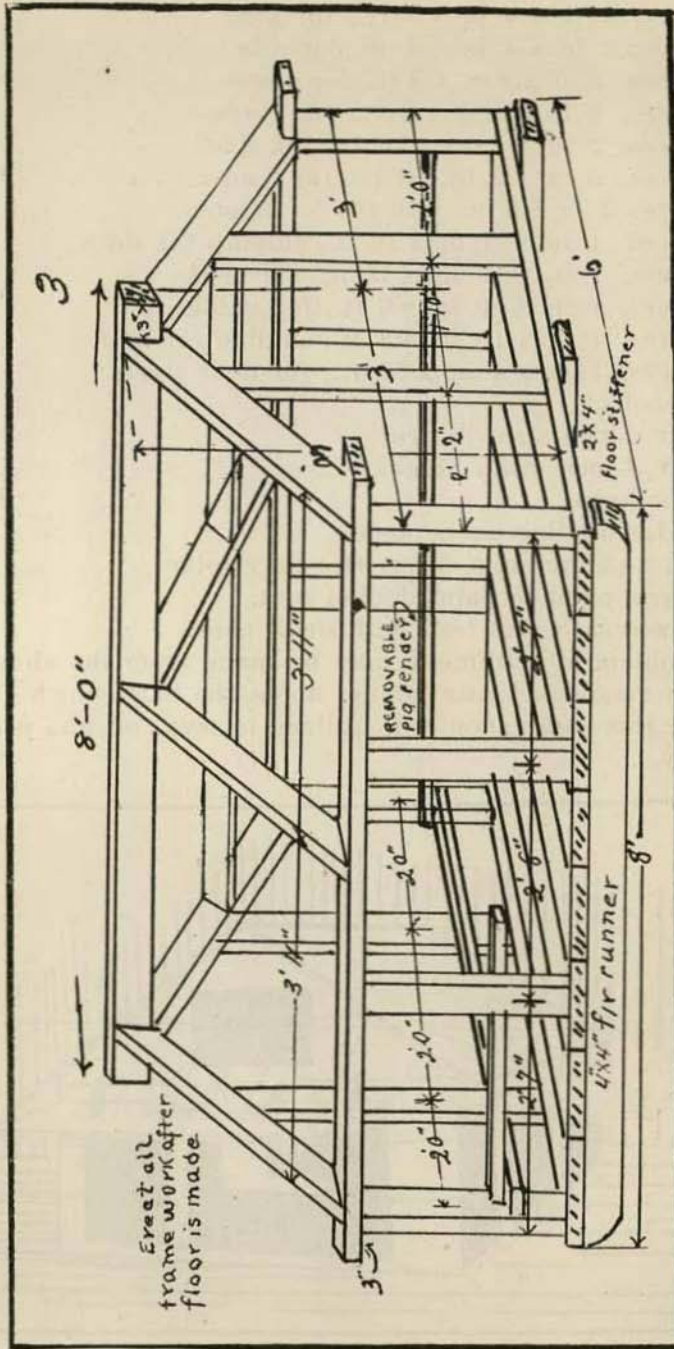
- 1 piece 4 in. x 4 in. x 16 ft., for runners.
- 4 pieces, 2 in. x 12 in. x 12 ft., for floor.
- 1 piece, 2 in. x 4 in. x 8 ft., for floor stiffener.
- 3 pieces, 2 in. x 4 in. x 8 ft., for rafters.

- 1 piece, 2 in. x 4 in. x 8 ft., for girt.
- 1 piece, 2 in. x 4 in. x 8 ft., for ridge.
- 2 pieces, 2 in. x 4 in. x 8 ft., for plates.
- 2 pieces, 2 in. x 4 in. x 8 ft., for studs.
- 2 pieces, 2 in. x 4 in. x 10 ft., for studs.
- 2 pieces, 2 in. x 4 in. x 8 ft., for fender.
- 1 piece, 2 in. x 4 in. x 10 ft., for fender.
- 3 pieces, 1 in. x 10 in. x 16 ft., shiplap for sides.
- 3 pieces, 1 in. x 10 in. x 12 ft., for ends.
- 3 pieces, 1 in. x 10 in. x 6 ft., for gables.
- 11 pieces, 1 in. x 10 in. x 8 ft., shiplap for roof.
- 2 pieces, 1 in. x 4 in. x 16 ft., for door cleats.
- 8 eyebolts.
- 4 pair 6-inch strap hinges.
- 2 pair 4-inch strap hinges.
- 3 door hasps.
- Wire for holding doors open.
- 8 lbs. 8-penny nails, 5 lbs. 16-penny spikes.
- 6 quarts paint to paint double coat.
- 2 glazed sash, 3x4 feet, with small panes.

A problem in arithmetic may be made from the above for the club members. Any lumber about the barn which can be used for this house should be utilized to save cost and practice economy.



Iowa Gable Roof Hog House with Doors Open for Shade and Sanitation. Gable Door Open for Ventilation. For Summer Use.



Framework for Iowa Gable Roof Hog House, Showing Dimensions and Perspective.

Steps in Construction

1. Measure length and square two runners. Saw; shape ends.
2. Measure length and square the floor planking. Saw.
3. Nail floor planks to runners.
4. Measure length and square 8 studs 2 in. x 4 in. x 26 in.
5. Measure length and square 2 plates 2 in. x 4 in. x 8 ft.
6. Space studs and toenail to floor.
7. Nail plates on top of studs.
8. Lay out six rafters. Saw out.
9. Space plates and ridge for rafters.
10. Nail rafters to ridge.
11. Nail rafters to plates.
12. Measure length and cut 4 long studs at each end.
13. Nail these studs in place.
14. Measure length, square and cut two pieces 2 in. x 4 in. x 3 ft. 8 in. for brace to back rafters, called girt.
15. Nail in the fenders.
16. Measure length and cut boards for ends and sides.
17. Make two doors as shown in plate for side and end. Fasten with 6-inch hinges.
18. Make entrance door for opposite side according to size wanted (see plate). Fasten with 4-inch hinges.
19. Make door for gable (see plate). Fasten with 4-inch hinges.
20. Measure length and cut boards for roof.
21. Nail on roof boards on side opposite lift door.
22. Construct two doors out of remaining roof boards. Fasten with hinges (see plate).
23. Nail strips on inside of rafters on which will rest the glazed sash.
24. Fasten eyebolts for the wires which hold the doors open.
25. Paint.

State of Construction

- 1. The work on the design of the main structure is now in progress.
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