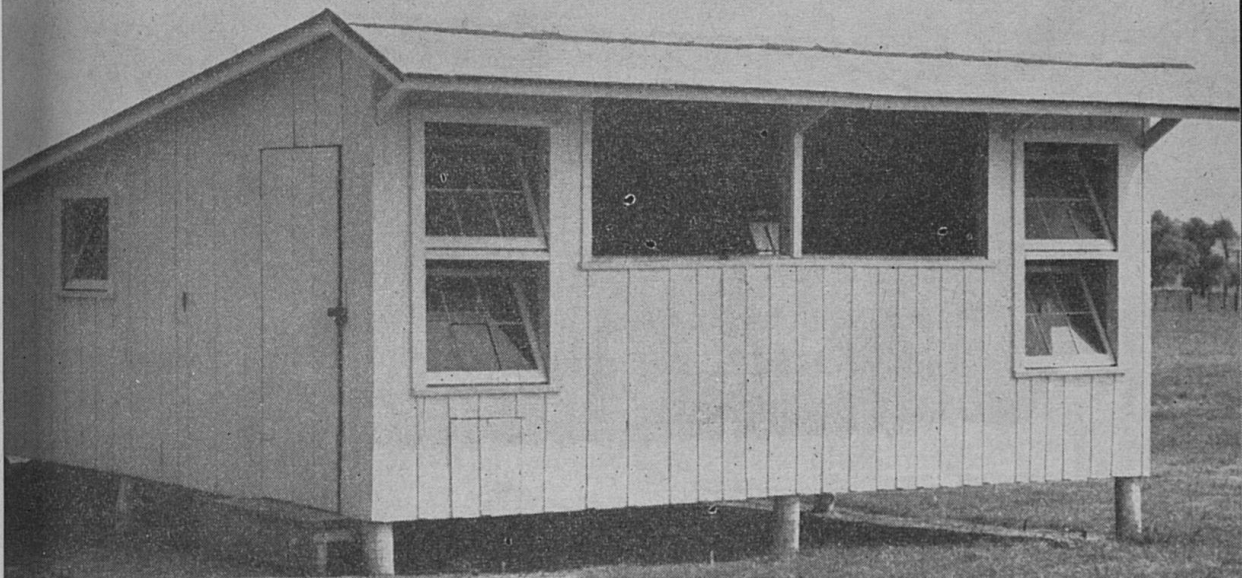


SHED-ROOF POULTRY HOUSE

for the LAYING FLOCK



Circular 403

UNIVERSITY OF KENTUCKY
College of Agriculture and Home Economics
Agricultural Extension Division

Thomas P. Cooper, Dean and Director

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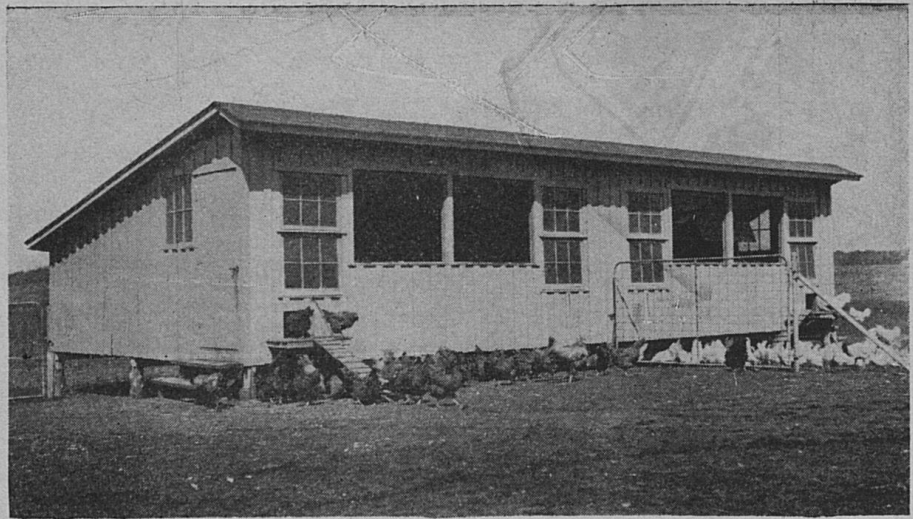


Fig. 1.— A 20'x40' Kentucky shed-roof house for 200 hens

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Shed-Roof Poultry House for the Laying Flock

By J. B. KELLEY and W. M. INSKO, JR.

GOOD HOUSING of the laying flock means more eggs and less labor in caring for the hens. Hens do not lay well unless they are comfortable. Dry quarters and a ventilation system so regulated as to prevent sudden changes in temperature are essential to comfort. It matters not so much whether the temperature in the house is warm or cool so long as it is fairly uniform. Sudden, severe changes in temperature cut down egg production. A properly designed house and properly designed roosting, laying, and feeding equipment provide comfortable quarters for the flock.

Proper housing is but one of the five factors, however, that are essential for good egg production and large profits. The other four are (1) stock bred for egg production, (2) stock that is vigorous and free from disease, (3) feed that contains all the essential nutrients, vitamins, and minerals in proper proportion, and (4) sanitation; that is, keeping the feed, houses, and yards clean, so as to avoid loss from parasites and diseases.

The poultry house described in this circular was designed for Kentucky conditions, to provide the following essential features in good housing at a reasonably low cost:

1. Enough space for the desired number of hens.
2. Good distribution of sunlight.
3. Plenty of ventilation.
4. Comfort in quarters and equipment.
5. Durability.
6. Convenience.

Choosing the Place to Build

In choosing a site for the poultry house, consider its relation to other farm buildings so as to save time and labor in caring for the flock. The site should be on high land, preferably a soil which drains readily and is fertile enough to produce good green pasture for the flock. Low sites are cold and damp and fowls kept in such locations are susceptible to disease. To admit most sunlight during the day build the house to face the south, but if the prevailing wind is from the south it is better to face the house southeast or east. The sun's rays enter a house facing southeast or east earlier in the morning,

warm the interior and cause the hens to come down from the roosts, but the benefit of the afternoon sunshine is lost.

To insure adequate ventilation the house should be placed where there is a good circulation of air. In the mountain section of the state it may be necessary to face the house in such a way as to avoid the strong cold air currents which sweep through the valleys in winter.

Size of House to Build

The size of the house should depend on the number of hens to be kept. If the hens are to have free range throughout the year, more can be kept in a given house if enough roosting space is provided.

The standard 20' x 20' Kentucky shed-roof house* shown on the title page, provides quarters for 100 laying hens, allowing 4 square feet of floor space and 8 to 10 inches of roosting space per bird. One nest is provided for each four hens. For large flocks several of the 20-foot units can be built together making houses 20' x 40' for 200 birds, 20' x 60' for 300 birds, and so on (Fig. 1). Each 20' x 20' unit should be separated by a wooden partition. In Fig. 2 is shown a house for 400 birds with two-story feed storage barn in the center.

Houses for smaller flocks may be built from these same plans. Allow 4 square feet of floor space per bird and make the house square. For example, a house 12' x 12' would accommodate 35 birds and one 14' x 14' would accommodate 50 birds. The nest and roost facilities per bird are the same as those given in the preceding paragraph (See house plans, pages 12 and 13).

Plenty of Sunlight Needed

A house should let in as much sunshine as possible for sunshine adds warmth and cheerfulness, promotes dryness, aids ventilation, makes for better sanitation, and has a stimulating effect on the fowls by supplying vitamin D. Flooding the house with sunlight in the winter aids in making conditions springlike and favorable for egg production. Hens receiving direct rays of sunshine lay more eggs, eggs with thicker shells, and eggs that give better hatches than those which do not get the direct rays.

Good Ventilation Necessary

The ventilation system should provide fresh air without undue drafts and should aid in keeping the house dry and comfortable.

* Throughout this circular the standard abbreviations of the building trade are used. ' equals feet; " equals inches; X equals by; etc.

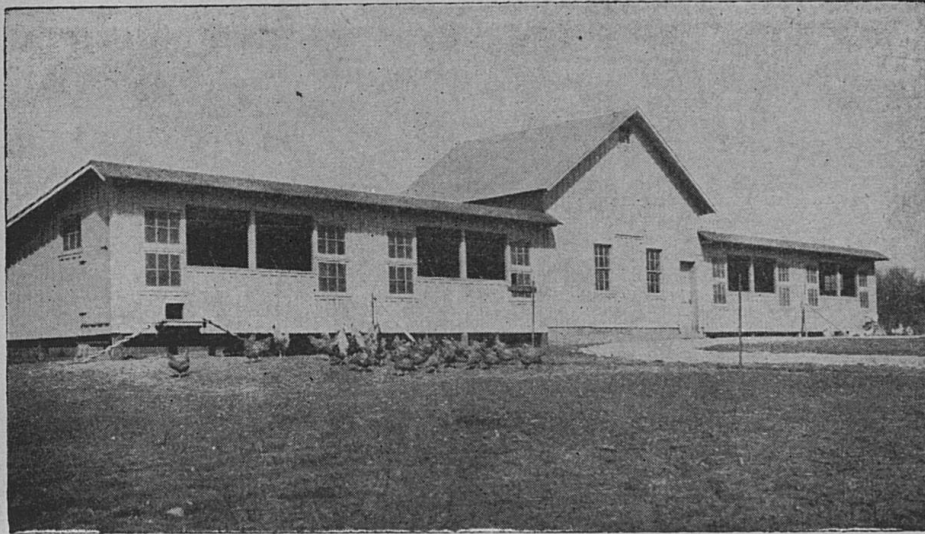


Fig. 2.— Kentucky shed-roof house for 400 birds, with a 2-story feed-storage barn at center.

Fresh air is necessary to the health of the birds. In order to get the oxygen needed, it is necessary for air to enter and leave the house at a rate of 35 cu. ft. per hour, per hen.

Dryness is the most important requirement of a good poultry house. Because chickens have no sweat glands, they depend upon respiration for the elimination of a great deal of moisture. If the air in the house is damp, it cannot absorb the moisture given off by the hens, and the litter and walls will be wet. In a damp house the flock is more susceptible to disease, and in winter there is greater danger of the combs freezing. In building a new house the essential factors to consider in order to provide dry quarters are: (1) drainage of the building site, (2) access to sunshine, (3) construction of floors, (4) construction of walls and windows to keep out snow and rain and provide ventilation.

Freedom from draft.— A hen roosting in a draft may develop roup; to avoid such trouble, the house should be so constructed as to allow adequate ventilation without drafts. It is advisable to make the house 20 feet from the front to the back and to place the roosts in the rear, as this lessens the chances of draft on the birds at night. All cracks should be stripped.

Durability of Building, at Low Cost

The durability of the building depends upon a proper selection and use of materials. The cost depends upon the local cost of materials and labor and the amount contributed from the farm.

Specifications for the Shed Roof House— Plan Ky. 11.727-2

These specifications are for the standard 20' x 20', 100-bird unit, Kentucky shed-roof house constructed of wood. A plan for building it of cement blocks or clay tile (Ky. 11.727-2A) can be furnished.

The drawings on pages 12 and 13 and bill of materials are for frame construction. By studying the drawings, the bill of materials and specifications, any carpenter should be able to build one of these houses.

As the foundation and floors may be constructed of either concrete or wood, specifications and bill of materials are given for both.

Concrete Foundation

A concrete foundation, properly made, is very durable. A solid concrete foundation for frame construction should be 8 inches wide at the bottom and 6 inches at the top. It should extend into the ground below the frost line (about 24 inches) and 8 inches above the ground. Half-inch bolts, 12 inches long should be embedded in the concrete six feet apart, with which creosoted sills should be bolted to the foundation. The concrete should be mixed in the proportion 1:2½:4. This means one sack of Portland cement to 2½ cubic feet of clean sand, and 4 cu. ft. of well-graded pebbles or broken stone ranging in size from ¼" to 1½". Add 6 gallons of clean water per sack of cement if the sand is dry. If the sand is damp, use 5½ gallons, and if dripping wet, only 4¼ gallons of additional water will be re-

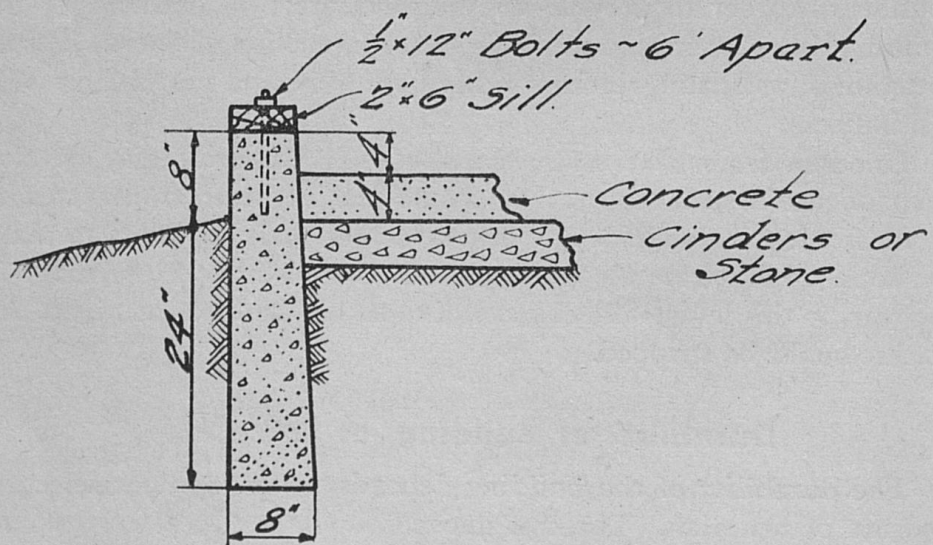


Fig. 3.—Section of concrete foundation and floor.

quired. Under no circumstances should the total ratio of water to a sack of cement be changed. Too much water weakens the concrete. It may be necessary to change the amount of sand and pebbles to make a workable mixture. In a workable mixture there is enough cement-sand in mortar to give good, smooth surfaces, to prevent honeycombing and rough spots, and to bind the coarse pieces into the mass so they will not separate in handling.

Concrete Floors

Concrete floors should be placed on well-drained ground and should be insulated and waterproofed to keep them from being cold and damp. All trash and sod should be removed, the area leveled and tamped to proper grade and then covered with six to eight inches of crushed stone or coarse cinders, before laying the floor. Sometimes tar felt paper is placed over the fill. Commercial waterproofing may be put into the mixture to help prevent water rising through the floor. If metal water pipes are to be laid beneath the floor, cinders should not be used.

Concrete for the floor, when the work is one-course construction, should be 1:2:3 mixture. For best sanitation, the surface must be troweled smooth. If the two-course construction is used, a leaner mixture, such as 1:2½:5, is advisable for the base. Mix with less water than would be used for foundation work. Use a workable mixture which trowels smooth and is not harsh. Cover this base coat immediately with a 1:2 mixture one inch thick, for the wearing coat; this coat, consisting of one sack of cement to 2 cubic feet of well-graded, clean, coarse sand not containing particles larger than ¼ inch, should be mixed to a consistency that can be easily leveled with a straightedge. Provide a floor drain at a convenient location, carefully grading the surface of the concrete so that water from all parts of the floor may readily enter the drain. Finish smooth with a trowel.

Posts and Wooden Floor

When a wooden floor is used, the house should be supported on sound locust or cedar posts 6" to 8" in diameter and 3' to 4' long. The posts should extend 18" to 2' into the ground, depending upon the nature of the soil. It is important to have a solid footing under each post to prevent the house from settling. If the soil will not support the post, place stone or concrete in the bottom of the hole. The posts should extend 12" to 18" above the ground to prevent harboring rats and skunks. The circulation of air under the house helps to keep the floor dry and thus lengthens the life of the flooring and joists. It is advisable to fence the birds out from under the house, with 1-inch

mesh poultry netting, unless no other shade is available near the house. During cold weather it is advisable to bank the walls of the house with horse manure and straw to prevent cold air from circulating beneath the floor.

Nine posts are required for the 20' x 20' house. They should be set securely, leveled and prepared to support the 2" x 6" floor stringers. The front and rear stringers should be placed on top of the posts and should be spiked securely to the posts and ends of the joists. The center posts should be notched to receive the stringer. See Fig. 8. The floor joists should be made of 2" x 6" sound rough oak or long-leaf yellow pine, spaced 2 ft. on centers using ten and twelve-foot lengths, the ends overlapping the center support. Treating the framing lumber with creosote would increase the life of the structure.

The floor should be laid tight enough to prevent drafts and loss of feed through the cracks. A durable grade of shiplap or matched flooring is desirable.

Walls

The walls should be so constructed as to prevent drafts, retain heat, prevent the condensation of moisture, and have a smooth surface which can be kept free from mites and other vermin. The walls may be made of cement blocks, hollow tile or frame construction, covered with boxing, or six-inch flooring, exterior plywood, asbestos cement boards, or waterproofed fiber boards. The rough surface of fiber boards should be protected where birds may come in contact with it to prevent their pecking it to pieces.

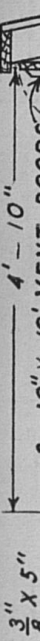
Box lumber placed vertically, with the cracks properly stripped, has been commonly used in Kentucky, but owing to the present scarcity of lumber, consideration will have to be given to other materials which are very satisfactory, if properly used.

The plans in this circular show vertical boxing with the cracks stripped with $\frac{3}{8}$ " by 3" flat strips or the standard yellow pine O. G. strips commonly called "battens." Use 2" x 4" yellow pine or oak studding spaced as indicated on the floor plan, Fig. 8, doubling the studding at the front corners, at side of door and at center of front of house. Great care must be taken in fitting the window sills at the proper outward slope of 30 degrees so as to prevent rain from entering under the windows.

Roof

The Kentucky house has a shed roof with a projecting hood at the front. The chief advantages of the shed roof are its ease of construction and economy of material.

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The roof is framed of good, sound 2" x 4" x 10' and 2" x 4" x 12' yellow pine or oak rafters, spaced 2 ft. on the centers, supported by double 2" x 4" wall plates at front and rear, and a 4" x 4" support at the center. (See Fig. 8.) This support should be braced at each end and at the center post. If two 2 x 4's are spiked together to form the center rafter support, they must be placed over the post edgewise rather than flat, and must be braced. The rafters should extend one foot over the rear wall to form the rear eaves and the ends must be sawed to a chalk line so that when the 1" x 6" facing board is nailed on it will be in a true line and thus will not interfere with the closing of the ventilator doors hinged under the eaves.

A projection or hood is built at the front as shown on plans, Fig. 8. The hood, when properly constructed, not only adds to the appearance of the house but helps to keep out driving rain. The rafters should be sheathed tight with six-inch sheathing or boxing dressed to uniform thickness.

The slope of the main roof of the Kentucky shed-roof house is so slight that it is not advisable to use wooden shingles. Asphalt shingles, roll roofing, built-up asphalt roofing or sheet metal, may be used.

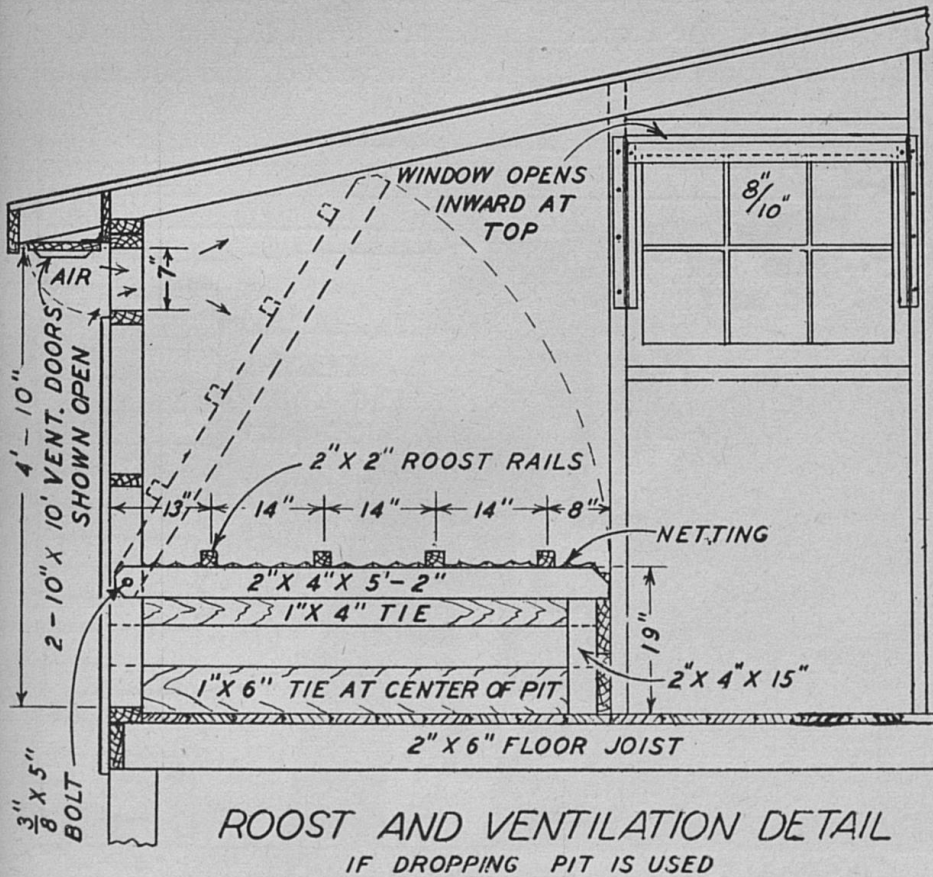


Fig. 4.—Roost and ventilation detail.

Shingle roof.— A good quality asphalt shingle known as a four-shingle strip 32 or 36 inches long by 12½ inches wide, having cut-outs 4 inches deep and ½ inch wide, produces the same appearance as individual shingles, when laid 4 inches to the weather. It makes a very durable roof. Special hexagon strips 11½" x 36", weighing not less than 165 pounds per square, may also be used.

Roll roofing.— There are a number of grades of roll roofing on the market but many of them have not proved to be durable. Use a good grade weighing not less than 65 pounds per 100 square feet, laying it lengthwise on the roof, over solid sheathing. Nail securely only the upper edges of the strips, and cement the entire strip to the roof. The lower edge of each strip should overlap the upper edge of the lower sheet at least 3 inches and be cemented to it.

Built-up roof.— A built-up roof made of layers of slater's felt and asphalt is very durable, not difficult to lay, and the materials of which it is constructed cost practically the same as a good grade of roll roofing. It is recommended for roofs having a pitch not greater than that of the Kentucky shed-roof poultry house. During the summer of 1927 over 14,000 square feet of this type of roofing were laid on twenty-two poultry houses on the Experiment Station farm, Lexington. After 17 years of service, only one small leak has developed and not any of the

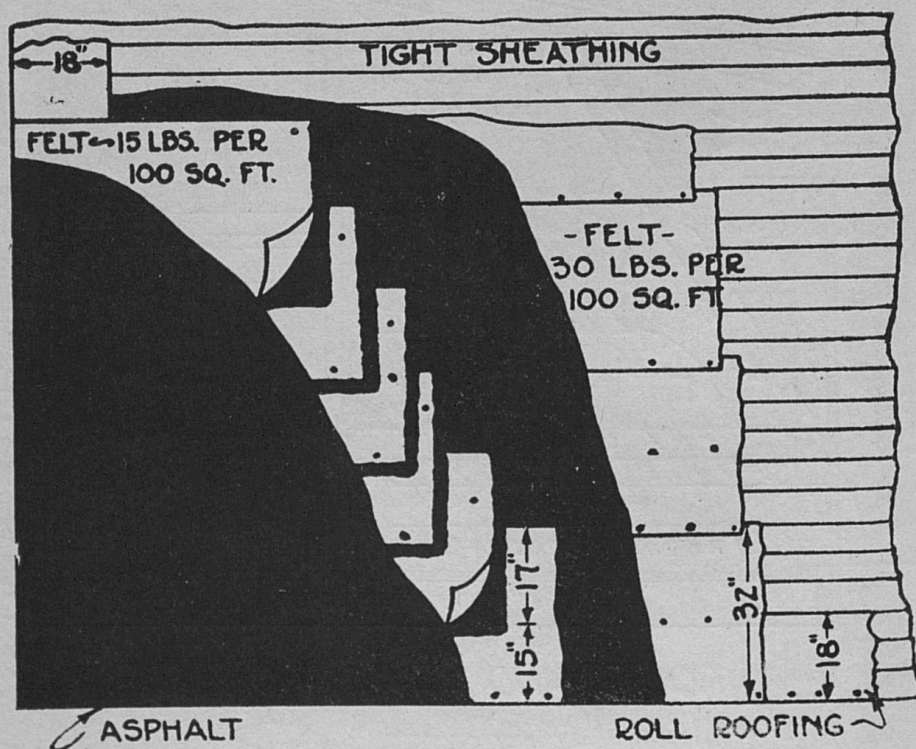


Fig. 5.— How to lay a built-up roof.

roofing has been loosened by the wind. However, during the summer of 1936 a surface coat of hot asphalt was applied to all the roofs.

Before laying the built-up roofing, the steeper overhanging roof at the front of the poultry house should be covered with pro-slate asphalt shingles, which gives the house an attractive appearance. The remainder of the roof should be covered with built-up roofing laid as illustrated in Fig. 5.

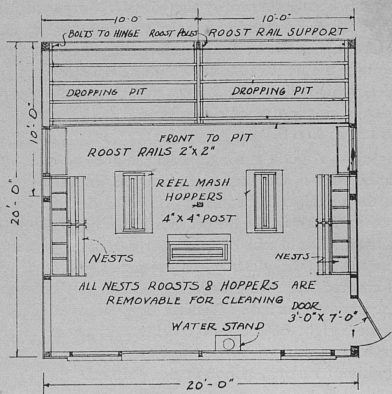
Metal.— A good grade of sheet metal may be used as roofing provided the roof is sheathed tight and an insulating felt is placed between the metal and sheathing. If the under surface of the metal is exposed to the air in the house, moisture will condense on it in winter. Sheet metal should not be laid over a roofing containing tar, as the acid in the tar will destroy the metal. The life of galvanized sheet metal covered with a light coating of zinc will be increased by painting the exposed surface. The life of galvanized sheet metal depends upon the weight of the zinc coating. A coating of two ounces per square foot of surface is recommended as it will last more than 20 years without rusting, although not painted.

Ventilating and Lighting Equipment

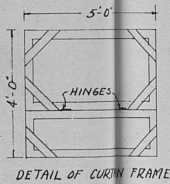
The ventilating system of the Kentucky shed-roof house consists of the following: the front and side windows, two 10" x 10' hinged ventilating doors under the rear eaves, and the two 4' x 5' curtained openings at the front (See Fig. 6). All the windows and the open front, in addition to admitting light, furnish a means of regulating the air supply and the temperature of the house in winter and summer. The windows should swing inward or may be made to slide up and down (See Fig. 7). The wooden sash of a sliding window or of one swinging inward will not rot out so rapidly as that of one swinging outward. All the sash should be made of white pine chemically treated to retard decay and should be thoroughly painted. It is important that the bottom of the windows and the sills be carefully fitted at a 30 degree angle to prevent water from entering the house when the windows are closed.

The hinged ventilators in the rear should be made in two 10" x 10' sections and well fitted. They should be left open during the summer and on cold, stormy days in the early fall when it is necessary to close the open front or some of the windows. They should be closed throughout the winter.

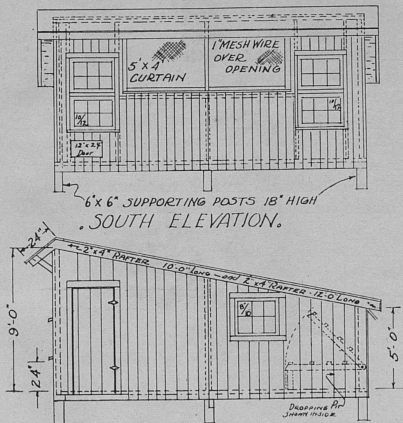
The open front, consisting of two 5' x 4' openings screened with one-inch mesh poultry wire or hardware cloth provides direct sunshine and fresh air. Unbleached muslin cloth curtains are provided for these openings. Feed sacks of a white muslin material may be used



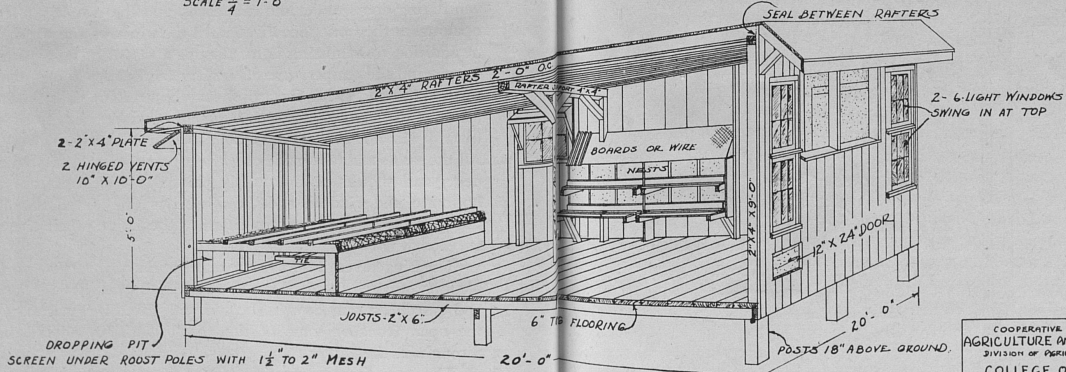
FLOOR PLAN.
SCALE $\frac{1}{4} = 1'-0''$



DETAIL OF CURTAIN FRAME



END ELEVATION.



PERSPECTIVE VIEW.
CAPACITY 100 HENS

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS
DIVISION OF AGRICULTURAL ENGINEERING
COLLEGE OF AGRICULTURE
UNIVERSITY OF KENTUCKY, LEXINGTON, KY
AND
U.S. DEPT. OF AGRICULTURE CO-OPERATING
SHEP-ROOF POULTRY HOUSE
DESIGNED BY J. B. BROWN TRACED SEP 18, 1924
BUILT BY A. E. BROWN APPROVED SEP 18, 1924
CHECKED BY J. B. BROWN (SCALE 1/4" = 1'-0")
TRACED BY J. B. BROWN FILE KY. 11,727-2

Fig. 8.— Plans of Kentucky shed-roof poultry house.

(see details, Fig. 6). The curtain frames are made in two sections hinged together so as to permit them to open inward and to fit tight against the top of the sloping sill when closed. The 2" x 8" sills extend out two inches beyond the boxing and slope downward four inches at an angle of 30 degrees, so that when the curtains are closed the rain cannot enter under them. These curtains need never be closed except to keep out rain and snow, and on very cold nights.

When the curtains are closed care must be taken to provide a circulation of air through windows and the rear ventilator, except in midwinter, when the muslin curtain will permit enough change of air.

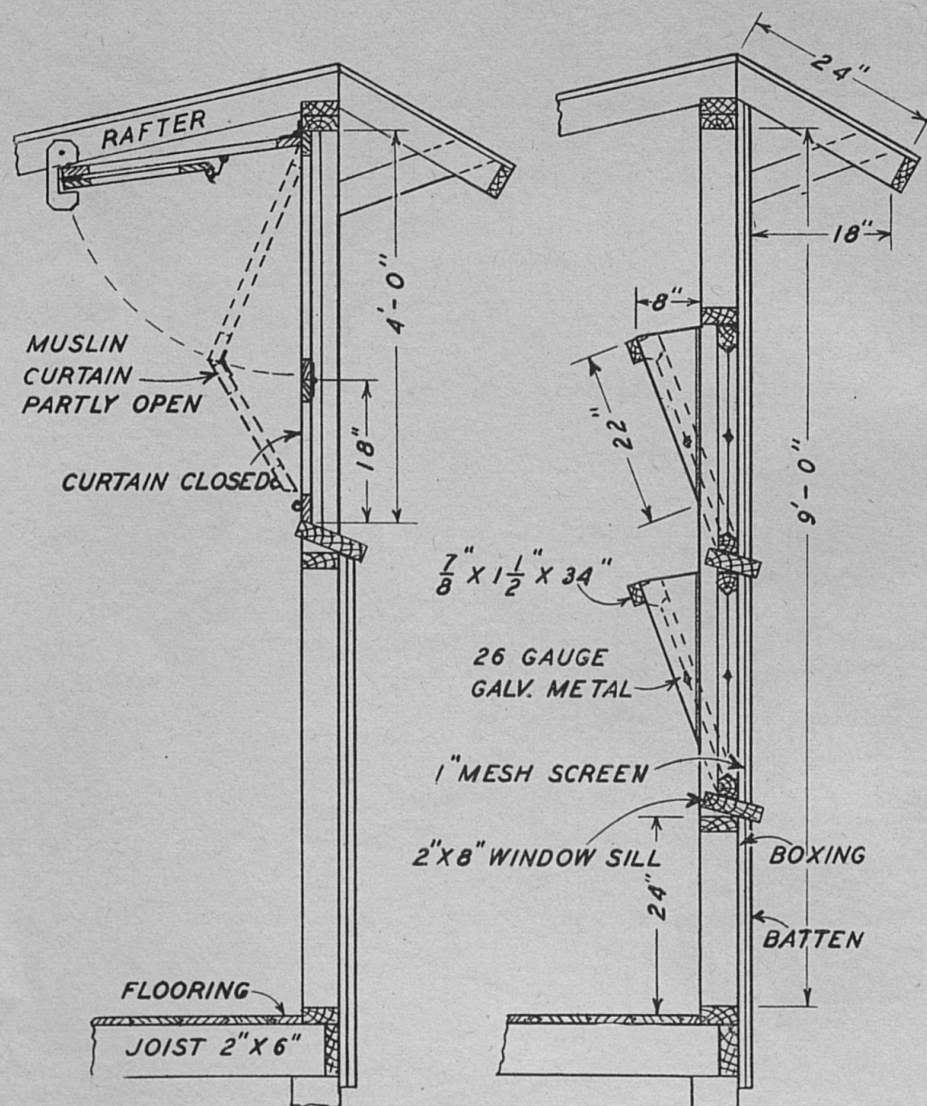


Fig. 6.—Section through open front, showing details of construction and operation of muslin curtains. Ropes and pulleys may be used for raising and lowering the muslin curtains.

Fig. 7.—Section through window, showing details of construction and operation. The sash may be arranged to slide up and down.

On very stormy days when it is necessary to curtain the open front to keep out wind, rain, and snow, the windows admit enough light. It has been found that common glass filters out most of the ultraviolet rays of the sun which are beneficial to the health and productivity of the birds; the open front is provided to permit these rays to enter the house. Substitutes for glass which do not filter out such a large percentage of the ultraviolet rays may be used in place of glass but not over the muslin curtain frames. Glass substitutes are not essential unless the flock is to be confined to the house most of the time. If the birds are allowed free range or even the range of a small yard, they will get out into the direct rays of the sun. These rays are more effective than those filtered through glass substitutes. Even though there may be a slight saving in first cost by use of glass substitutes, they are more costly in the long run than glass because they are less durable. They cannot withstand the severe heat of the sun's rays in the summer and must be removed during the summer if they are to be preserved.

Proper management in opening and closing the windows and the small bird entrance door at the front, helps to regulate the circulation of air over the floor and aids greatly in keeping the floor litter dry in wet weather. If the birds are not let out the small bird entrance can be covered with poultry wire to permit a circulation of air over the floor. Stock windows should always be purchased, preferably of the sizes indicated on the plans, Fig. 8.

Interior Equipment

The nests and feeding equipment in the Kentucky house are arranged to permit the floor space to be used.

Roosts.— The roosts are placed on the same level to prevent the birds fighting for the top perches. Ten to twelve inches of roost space should be provided for each bird of the heavier breeds, but eight inches is enough for Leghorns. The roosts are divided into two sections of 4 rails each made of 2" x 2" lumber rounded at the upper edges. Each section is hinged at the rear and can be raised for removing the droppings. One-inch mesh poultry netting or heavy wire fencing should be used to keep the birds out of the droppings. The latter is preferred and should be fastened over the 2" x 4" roost rail supports extending to the front of the dropping pit (Fig. 4).

Dropping pits.— Many poultrymen use dropping pits (Fig. 4, page 9) rather than dropping boards. It is not necessary to clean the dropping pits as often as dropping boards; in fact, two or three cleanings a year may be enough. This depends entirely on the condition of the pit. Superphosphate or gypsum (land plaster) may be sprinkled



Fig. 9.— Interior of poultry house showing the arrangement of nests, roosts, and feeding equipment to permit all the floor space to be used for scratching.

over the droppings at regular intervals to keep them dry. Lime should not be used since it releases ammonia.

Since the dropping pit is set upon the floor it uses floor space. The flock will use the roosting space from time to time during the day, however, and this will compensate for the space lost. In cold weather, if a large number of the birds use the roosts, it is an advantage to place feeders on the roost during the day. This will induce the birds to eat enough feed to continue to produce well.

Cleaning.— When cleaning a 20' x 20' house, the litter can be easily removed through the entrance door. Dropping pits should be cleaned at the same time as the house. Completely remove all litter and droppings from the ground allotted to poultry. This assures more thorough sanitation through proper disposition of disease germs and parasite eggs.

When cleaning a multiple house provision may be made for the removal of litter through one of the openings in the front of the house.

Nests.— At least 24 nests should be provided for 100 hens. Orange crates make very satisfactory nests, 12 boxes being needed for each pen. The crates should be placed on their sides on a platform built to support them and a 1" x 4" strip should be nailed over the front

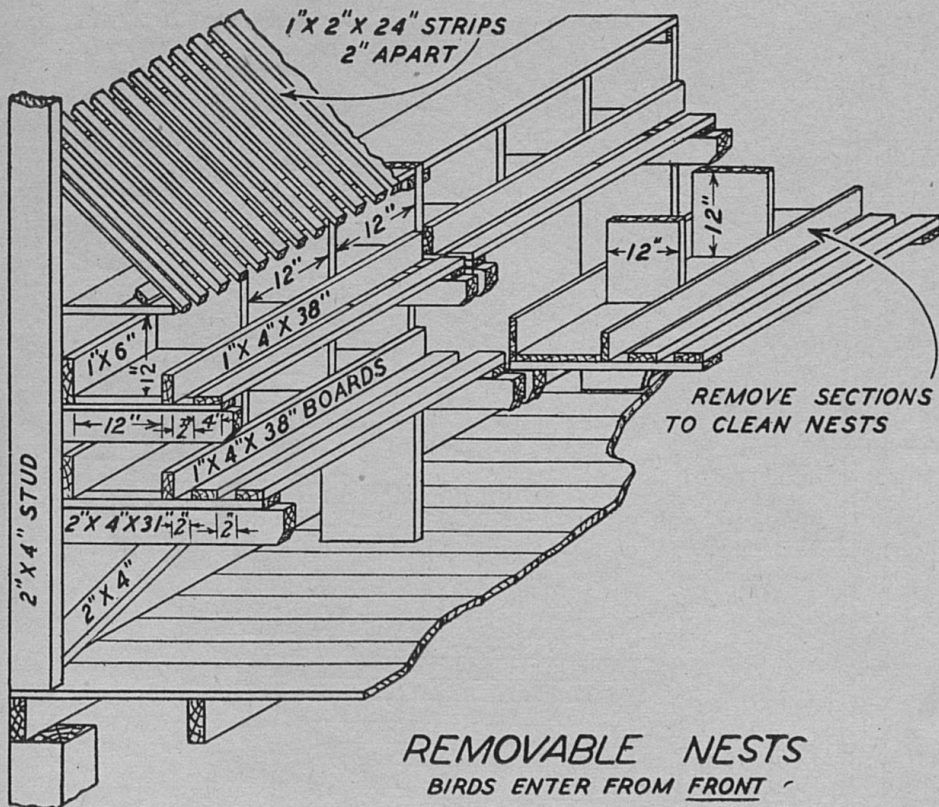


Fig. 10.— Details for removable nests where hens enter from front.

of the boxes at the bottom to keep in the hay or straw. Plans (and bill of materials) are given in this circular for making nests, if crates are not available. To keep the hens from roosting on top of the nests, wire netting, slats, or boards may be placed at a 45 degree angle above them. See Figs. 10 and 11.

Feeding equipment.— Three reel mash hoppers or self feeders should be provided for 100 hens (Fig. 12). Since these are 4 feet long and accessible on both sides, this allows at least one foot of hopper space to each 5 birds (counting the roosters) which is the desired allowance. Three hoppers hold 100 pounds of feed. The purpose of the reel is to prevent the fowls from getting droppings into the feed.

A watering platform with a hole to allow the bucket to go half way below the top should be provided (Fig. 13).

Electric Lights

Artificial lighting of poultry houses in winter from October 15 to March 15 lengthens the day for the flock and causes the hens to lay more eggs during the season when prices are high. The lights do not,

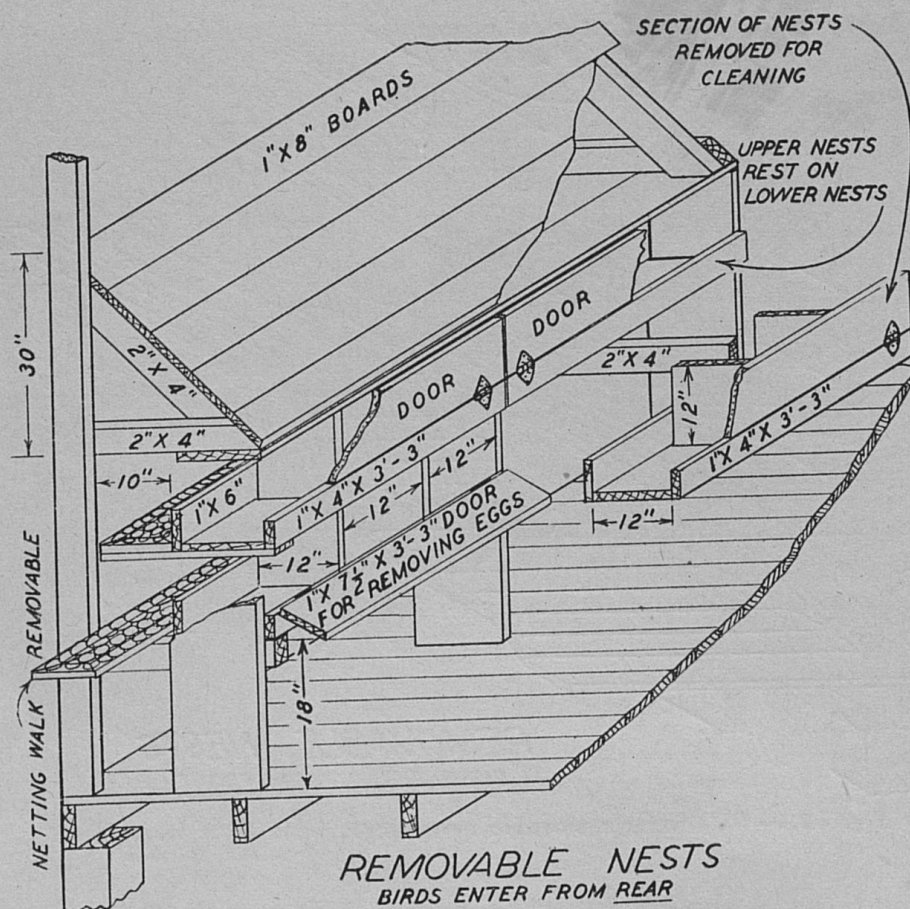


Fig. 11.— Details for removable nests where hens enter at rear.

however, increase total yearly production. (See Kentucky Extension Circular 372, Feeding Laying Hens.) Increased egg production when prices are high means additional profit. The electrical energy consumption should not be more than 3 to 5 kilowatt hours per 100 birds per month. The following recommendations regarding the installation of lighting equipment should be followed:

1. Have the house wired by a competent electrician, to avoid danger from fire.
2. Use as the lighting unit a 40-watt frosted Mazda lamp with a cone-shaped reflector 4 inches deep.
3. Coat the reflection surface with three coats of aluminum paint.
4. Place the lighting units 5 to 6 feet from the floor and 10 feet apart, on the center roof support or on a line midway between the front of the house and the roosts. The roosts as well as the floor must be lighted or some of the birds will stay on the dark roosts.

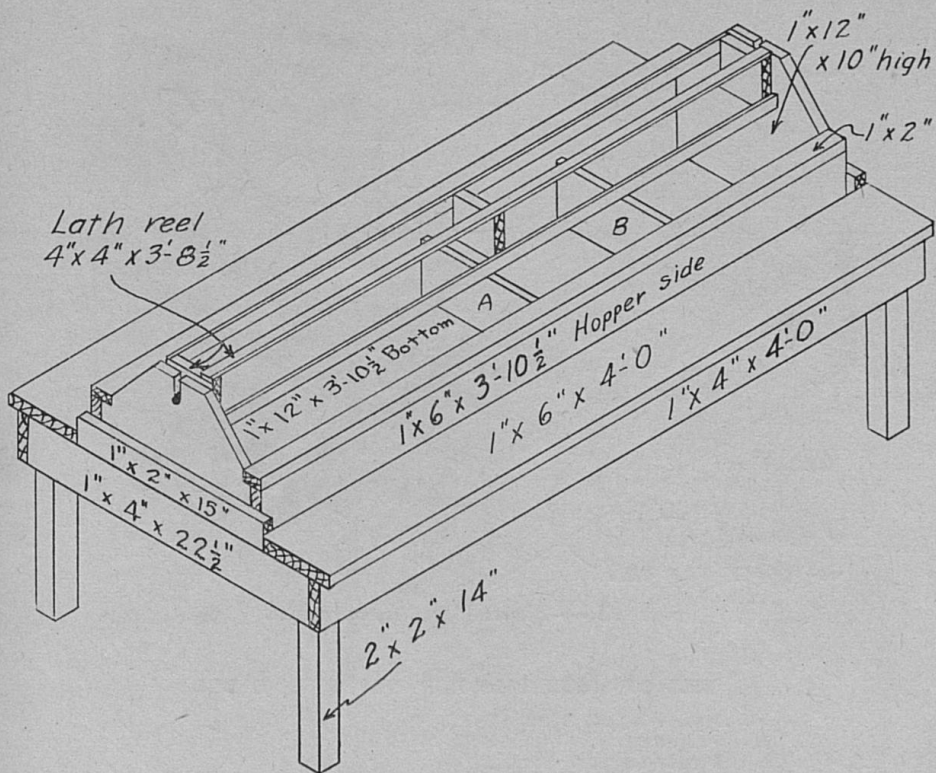


Fig. 12.—Details of mash or grain hopper. A piece of 3-inch down spouting is as satisfactory as the lath reel. A small circular block may be placed in each end to support the screws which serve as spindles.

BILL OF MATERIALS FOR MASH OR GRAIN HOPPER

- Legs—4 pcs. 2"x2"x14".
- End aprons—2 pcs. 1"x4"x22½".
- Side aprons—2 pcs. 1"x4"x4'-0".
- Walk boards—2 pcs. 1"x6"x4'-0".
- Hopper bottom—1 pc. 1"x12"x3'-10½".
- Hopper sides—2 pcs. 1"x6"x3'-10½".
- Hopper ends—2 pcs. 1"x12"x10".
- Hopper top edge—2 pcs. 1"x2"x3'-10½".
- Cleats—2 pcs. 1"x2"x15".
- Partitions A & B 2 pcs. 1"x4"x12".
- Reel strips—4 pcs. lath 3'-8½".
- Reel blocks—2 pcs. 1"x4"x4".
- 1 lb. 6d common nails.
- 2, 2½" Screws for reel.

5. Use one 40-watt bulb per 100 square feet of floor space. A 20' x 20' Kentucky poultry house requires two 40-watt bulbs.

6. Provide an alarm clock to throw the switch for turning on the lights.

7. When electricity is to be provided for lights for 500 hens from a 32-volt farm lighting plant, it will be necessary to run the generator while the poultry-house lights are on.

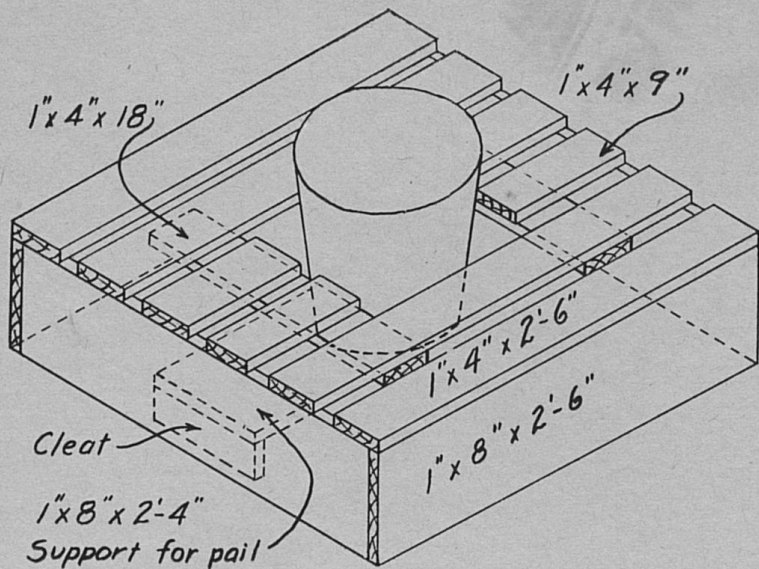


Fig. 13.— Slatted watering table.

BILL OF MATERIALS FOR WATERING TABLE

Base—4 pcs. 1"x8"x2'-6".
 Pail support—1 pc. 1"x8"x2'-4".
 Cleats—2 pcs. 1"x3"x8".
 Top—4 pcs. 1"x4"x2'-6".
 Top—4 pcs. 1"x4"x9".
 Cleats—2 pcs. 1"x4"x18".
 ½ lb. of 6d common nails.
 1 three-gallon pail.

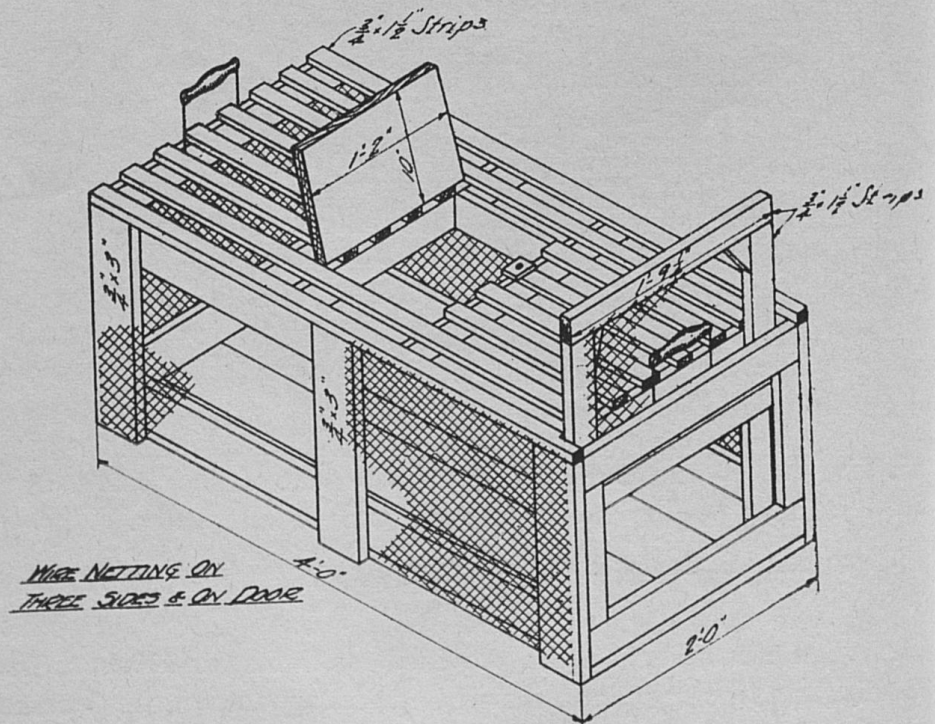


Fig. 14.— A catching coop.

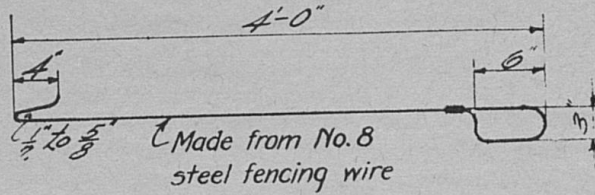


Fig. 15.— A catching hook.

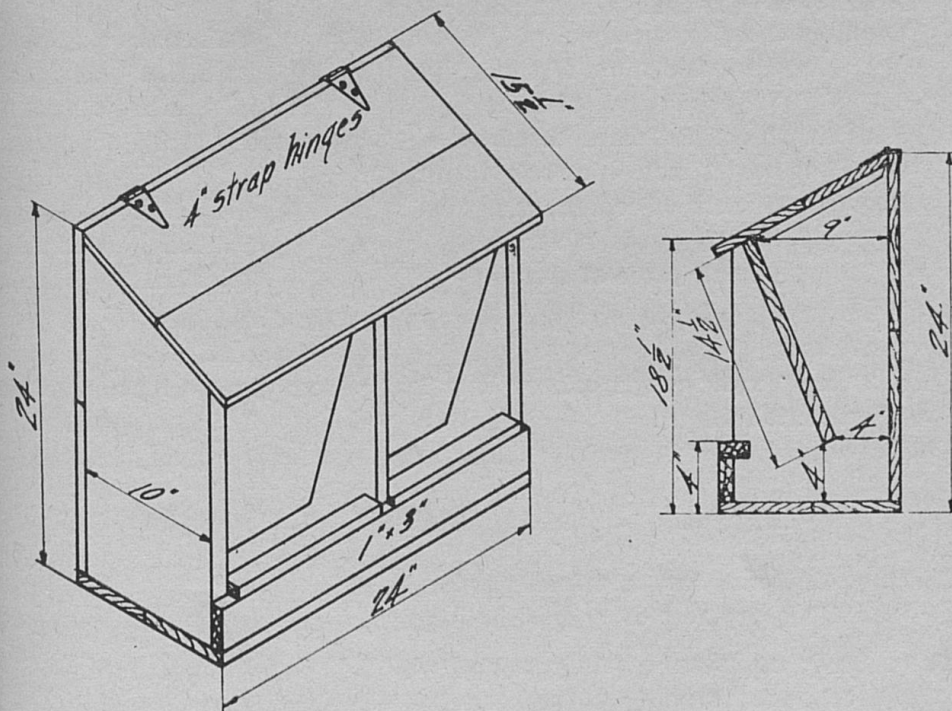


Fig. 16.— Limestone and grit hopper.

BILL OF MATERIALS FOR LIMESTONE AND GRIT HOPPER

- Bottom—2 Pcs. 1" x 6" x 24".
- Back—2 Pcs. 1" x 12" x 24".
- Lid—2 Pcs. 1" x 8" x 24".
- Cleats—2 Pcs. 1" x 2" x 10".
- Ends and Partition—3 Pcs. 1" x 10" x 24".
- Front of hopper—2 Pcs. 1" x 12" x 14 1/2".
- 1 Pc. 1" x 3" x 24".
- 2 Pcs. 1" x 2" x 12".
- 1 pound 6d common nails.
- 1 pair of 4" strap hinges.

BILL OF MATERIALS FOR POULTRY HOUSE PLANS NO. KY. 11.727-2

(Have your dealer make estimates)

Concrete Foundation. Estimate based on mixture of 1 part cement, 2½ parts sand and 4 parts of pebbles or crushed stone. Foundation assumed to extend 2 feet below and 8 inches above ground.

Requires 39 sacks of cement	@.....	\$.....
3.5 cubic yards of sand	@.....	\$.....
5¾ cubic yards of stone	@.....	\$.....

Foundation Bolts. 12, ½" x 12" bolts and washers @..... \$.....

Concrete Floor. 4 inches thick. Estimate based on a one-coat mixture of 1 part cement, 2 parts sand, 3 parts stone.

Requires 32 sacks of cement	@.....	\$.....
2½ cubic yards of sand	@.....	\$.....
3¾ cubic yards of stone	@.....	\$.....

5 inches thick. Estimate based on a 4" base coat of 1:2½:5 mixture and a top coat 1 inch thick of a 1:2 mixture.

Requires 35 sacks of cement	@.....	\$.....
3 cubic yards of sand	@.....	\$.....
4 cubic yards of stone	@.....	\$.....

Post Foundation. 9 locust or cedar posts 6" to 8" in diameter, 3' long @..... \$.....

6, 2" x 6" x 10' rough oak or long leaf yellow pine stringers. Sound material. @..... \$.....

Select a good, durable grade of lumber, free from large knots and shakes.

Floor. Joists 17 pcs. 2" x 6" x 10'	@.....	\$.....
11 pcs. 2" x 6" x 12'	@.....	\$.....

Flooring. 420 board feet of 8 inch shiplap, or	@.....	\$.....
460 board feet of ¾ x 6" flooring.	@.....	\$.....

Walls. Studding (rear)	11 pcs. 2"x4"x5'	@.....	\$.....
(Front)	10 pcs. 2"x4"x9'	@.....	\$.....
	2 pcs. 2"x4"x7'	@.....	\$.....
(Sides)	6 pcs. 2"x4"x8'	@.....	\$.....
	4 pcs. 2"x4"x9'	@.....	\$.....
Center post	1 pc. 4"x4"x8'	@.....	\$.....
Plates	8 pcs. 2"x4"x10'	@.....	\$.....
Headers and nailing strips	6 pcs. 2"x4"x10'	@.....	\$.....
Sills (window)	2 pcs. 2"x8"x16'	@.....	\$.....
Boxing, 10-foot lengths	580 board feet.	@.....	\$.....
Battens, 1280 lineal feet.		@.....	\$.....

Roof. Rafter support and braces	5 pcs. 2"x4"x10'—or	@.....	\$.....
	1 pc. 4"x4"x20'	@.....	\$.....
Rafters and hood	28 pcs. 2"x4"x12'	@.....	\$.....
Sheathing	600 bd. ft. dressed to uniform thickness	@.....	\$.....

Roofing	6 squares	@.....	\$.....
Ventilating doors	2 pcs. 1"x10"x10'	@.....	\$.....
	dressed No. 1 Y. P.	@.....	\$.....
	2 pcs. 1"x4"x12' for		
	cleats and hinge		
	supports	@.....	\$.....
Roof facing	4 pcs. 1"x6"x12'	@.....	\$.....
	No. 1 Y. P. dressed	@.....	\$.....
Material for Roosts (Figure 4).			
Rails	8 pcs. 2"x 2"x10' dressed Y. P.	@.....	\$.....
Rail Supports	2 pcs. 2"x 4"x14' dressed Y. P.	@.....	\$.....
	1 pc. 1"x 4"x 5' dressed Y. P.	@.....	\$.....
	1 pc. 1"x 6"x5' dressed Y. P.	@.....	\$.....
	4 pcs. 1"x10"x10' dressed Y. P.	@.....	\$.....
Screening	1" mesh 6'x20'	@.....	\$.....
Bolts	4- $\frac{3}{8}$ "x5" carriage	@.....	\$.....
Front	4 single sash 6-light 10"x12"	@.....	\$.....
Ends	2 single sash 6-light 8"x10"	@.....	\$.....
	1" wire mesh screen 4'x10.5' for open front	@.....	\$.....
	1" wire mesh screen 3'x20' for all windows	@.....	\$.....
	Unbleached muslin, for open front, 4'x10'	@.....	\$.....
	1 pc. 1"x4"x16' dressed for screen frames	@.....	\$.....
	6 pcs. 1"x4"x10' dressed for screen frames	@.....	\$.....
Material for 24 Nests (Constructed as shown in Figure 10) Open Front			
	20 pcs. 1"x 4"x38" dressed Y. P.	@.....	\$.....
	8 pcs. 1"x 6"x38" dressed Y. P.	@.....	\$.....
	4 pcs. 2"x 4"x12' dressed Y. P.	@.....	\$.....
	6 pcs. 1"x12"x12' dressed Y. P.	@.....	\$.....
	2 pcs. 1"x12"x14' dressed Y. P.	@.....	\$.....
	16 pcs. 1"x 2"x12' dressed Y. P.	@.....	\$.....
Material for 24 Nests (Constructed as shown in Figure 11) Rear Entrance			
	8 pcs. 1"x 3"x10' dressed Y. P.	@.....	\$.....
	8 pcs. 1"x 4"x39" dressed Y. P.	@.....	\$.....
	8 pcs. 1"x 6"x39" dressed Y. P.	@.....	\$.....
	7 pcs. 1"x 8"x14' dressed Y. P.	@.....	\$.....
	7 pcs. 1"x12"x12' dressed Y. P.	@.....	\$.....
	6 pcs. 2"x 4"x10' dressed Y. P.	@.....	\$.....
	12 pairs of 2" steel butt hinges	@.....	\$.....
	34' of one inch netting 10" wide	@.....	\$.....
Hardware.			
	9 pairs 3" steel strap hinges	@.....	\$.....
	1 pair 6" strap hinges	@.....	\$.....
	16 hooks and eyes	@.....	\$.....
	1 door latch set	@.....	\$.....
	6 pairs of metal window guards 26 gage galv. metal	@.....	\$.....
	5 lbs. galvanized roofing nails	@.....	\$.....
	10 lbs. 6d common nails	@.....	\$.....
	30 lbs. 8d common nails	@.....	\$.....
	20 lbs. 10d common nails	@.....	\$.....
	30 lbs. 20d common nails	@.....	\$.....

LIST OF PLANS FOR POULTRY HOUSES AND EQUIPMENT

Following is a list of plans for which blueprints may be obtained at 10c per sheet, to cover cost of making prints. If a plan is needed for a type of building not listed, write for information. All correspondence pertaining to plans should be addressed to the Agricultural Engineering Section, College of Agriculture and Home Economics, Lexington, Kentucky.

Ky.11.727-2	Two sheets, Kentucky 20'x20', shed-roof house for 100 birds.	Price 20¢
Ky.11.727-2A	Three sheets, Kentucky 20'x20', shed-roof house for 100 birds. Cement block construction.	Price 30¢
Ky.11.727-3	Two sheets, 10'x12' brooder house.	Price 20¢
Ky.11.727-4	One sheet, 12'x12' shed-roof poultry house, or house for mating pen for 35 hens.	Price 20¢
Ky.11.727-5	Two sheets, 20'x24', two-story gable-roof feed house or service building designed to fit between 20-foot units of shed-roof house 11.727-2.	Price 20¢
Ky.11.727-6	Two sheets, 14'x60' shed-roof poultry house divided into 10 pens.	Price 20¢
Ky.11.727-7	One sheet. 10'x10' shed-roof summer shelter for pullets.	Price 10¢
Ky.11.727-8	One sheet. 9'x10' gable-roof range shelter for pullets.	Price 10¢
Ky.11.727-9	Two sheets. 20'x50' 200-hen laying house with 10'x20' one-story feed room. Same style as 11.727-2.	Price 20¢
Ky.11.727-10	Three sheets. Two-story laying house, 26'x70' and feed storage for 800 to 1000 hens.	Price 30¢
Purdue 114-A	One sheet. Concrete masonry gable roof poultry house, 30'x30'.	Price 10¢
Ky.11.7271-1	One sheet. Size 5'x6' Kentucky turkey brooding coop.	Price 10¢
Ky.11.7271-2	One sheet. Reel mash and grain self-feeder.	Price 10¢
Ky.11.7271-5	One sheet. Grit hopper, watering table, green feed hopper	Price 10¢
Ky.11.7271-6	One sheet. Fattening coop and a catching coop.	Price 10¢
Ky.11.7271-7	One sheet. Reel mash-hopper for small chicks.	Price 10¢
Ky.11.7271-8	One sheet. Metal baby chick feeder.	Price 10¢
Ky.11.7271-10	One sheet. Reel feeder for baby chicks, (wood).	Price 10¢
Ky.11.7271-11	One sheet. Turkey mash hopper.	Price 10¢
Ky.11.7271-13	One sheet. Turkey shelter and corral 20'x20'	Price 10¢
Ky.11.7271-15	One sheet. Homemade electric brooder with electric light.	Price 10¢
Ky.11.7271-16	One sheet. Range self-feeder.	Price 10¢
Ky.11.7271-17	One sheet. Metal-drum brooder stove.	Price 10¢
U.S.11.771-2	One sheet. Water barrel on sled.	Price 10¢
Ky.11.7271-12	One sheet. Battery brooder for 3 to 6, and 6 to 9 weeks' old chicks.	Price 10¢
M.W. 77715	One sheet. Alfalfa rack, 16"x24", height 3'; movable; mounted on legs.	Price 10¢
M.W. 77716	One sheet. Alfalfa rack, built between studdings of the poultry house; of poultry netting, with solid cover.	Price 10¢
M.W. 77791	One sheet. Watering stand for baby chicks, 2'x5'. Light wood frame covered with hardware cloth.	Price 10¢

Lexington, Kentucky

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