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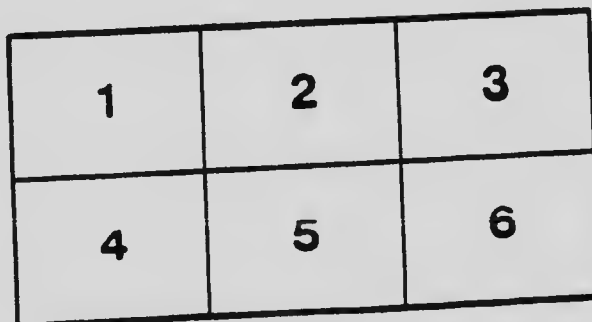
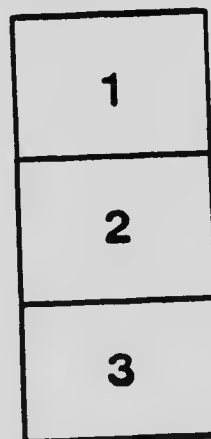
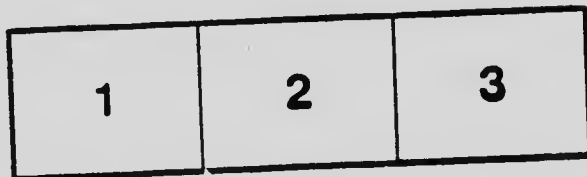
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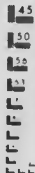
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PROVINCE OF ALBERTA
DEPARTMENT OF AGRICULTURE
LIVE STOCK BRANCH

LIVE STOCK PAMPHLET No. 3

AUGUST, 1913

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MINISTER OF AGRICULTURE

THE HOUSING OF SWINE

By W. F. STEVENS, Live Stock Commissioner.

The object of housing domestic animals is to protect them against unfavorable climatic conditions. The conditions that have to be considered in connection with swine raising in Alberta are rain and cold. In countries where there are sudden changes from one to the other of these, a style of housing is necessary that will afford protection against both. In Alberta this is not the case. Here rains are not followed by severe cold, and the season during which extreme cold occurs is free from rain.

Although it is possible to construct buildings here that will afford protection against both rain and cold, it naturally follows, because of the severity of our winter weather, that these must be expensive. The settler who is not yet fully established and the amateur in the business must, as a rule, endeavor to secure the largest possible equipment for the amount of money expended, and these will find that separate housing for the winter and summer months can be provided more cheaply than can a building suitable for use throughout the year. They will also find that a structure suitable for sleeping quarters during summer can be used as feeding quarters during the winter months and temporary sleeping quarters for winter use can, at a small cost, be attached thereto.

The purpose of this circular is to suggest to settlers of limited means a method whereby they can engage in swine raising even to the extent of marketing 100 hogs each year with an investment of less than one hundred dollars in buildings; and also to direct the attention of men of capital, who contemplate embarking in the business of swine raising, to certain features of housing made necessary by our climatic conditions.

THE FIRST REQUISITE

The first requisite for the successful and economical wintering of swine is an abundance of straw, preferably wheat straw. Oat straw may be used, but under no circumstances should

barley or flax straw be employed in a nesting place for hogs. The reason for this is that wheat straw is hard and fibrous; it therefore lies much looser than softer straws and the moisture from the breath of the animals escapes through it freely. When barley straw is used, besides the irritating effect of the awns to the skin, eyes, ears and nostrils of the animals nesting therein, trouble soon arises through the bedding becoming saturated with moisture, the animals getting steamy; and when they come in contact with the outside air, there is danger of their contracting rheumatism, pneumonia, or both. To an animal naturally inclined to burrowing, the difference between a bedding that lies loose and one that is compact may be likened to the difference between leather and rubber footwear. The one permits the exhalations of the body to escape, the other retains them, and their retention causes discomfort and injury to health.

The next requisite of a healthy sleeping place for swine in Alberta, where straw is relied on exclusively, is proper means of enabling the animals to get an entrance under this straw and bury themselves in it. In the bush country, there is no better method of doing this than by throwing a "setting" of wheat or oat straw over a tuft of strong willows, about 12 feet high. Where this cannot be done, a framework such as is shown in Fig. 1 may be employed, and a pile of straw thrown over it. The opening marked "X" should be near the outside of the pile so as to be easily found, and it should be so placed in relation to the prevailing winter winds as not to get filled with snow. With a structure such as this a dozen brood sows, or from forty to fifty shoats can be successfully wintered.

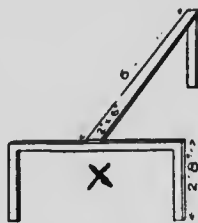


FIG. 1.—TRUSS FOR FACILITATING THE ENTRANCE OF PIGS UNDER A STRAW PILE.

THE POOR MAN'S PIG STY

In those parts of the province that are not subject to long continued rains such a structure will suffice throughout the year because the ridge pole will keep the centre of the pile from sagging; and since nearly all the settling must take place at the sides, a straw pile arranged as suggested above will turn any rains that are likely to occur where the annual rainfall is not more than 16 inches.

When providing hogs with winter quarters such as are suggested above, care should be taken to exclude all other live stock from them.

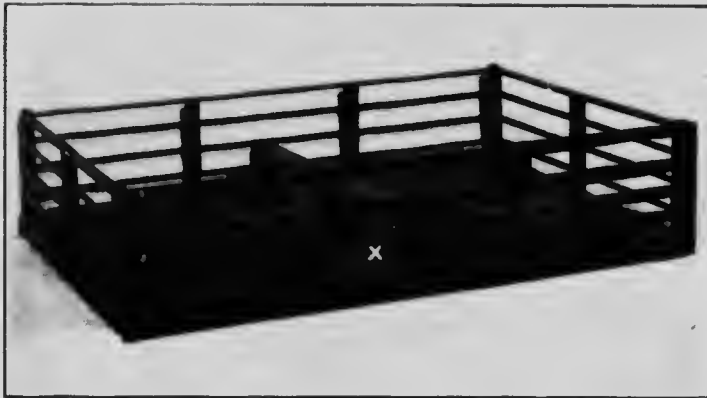


FIG. 2—ILLUSTRATING HOW TRUSS MAY BE PLACED IN THE ENCLOSURE.



FIG. 3—THE POOR MAN'S PIG STY.

Figs. 2 and 3 show the same principle carried a step further by enclosing the pile of straw with a substantial fence, and they may properly be termed the "Poor Man's Pig Sty." It may be built to any size desired, but it should never be built so small as to cause the straw to wedge in between the ridge pole and the fence, and thus prevent it from settling as it is required. An enclosure 14 feet square will be found satisfactory in those parts of the province where the straw is short, but where straw attains a length of four feet or more, a 16 feet enclosure will be necessary. Such a pen will accommodate a brood sow and litter of pigs, from 15 to 20 weanling pigs, or from 6 to 8 fat pigs.



FIG. 4. A SUCCESSFUL WINTER FARROWING PEN. — S. IN ALBERTA

A WINTER FARROWING PEN

A structure of this kind will be found to be an excellent winter farrowing pen. The sow should be made accustomed to it for a week or ten days before farrowing time, either by inducing her to adopt it voluntarily as her home, or by confining her in it by means of an enclosure as shown in Fig. 4.

When this last method is adopted, she should be supplied with a warm thin slop of ground oats, or oats and bran, every morning and evening, and a few whole oats should be thrown

broadcast on the ground in the enclosure in front in order to induce her to take sufficient exercise to keep her in health. Two or three pounds of roots daily will also have a beneficial effect.

A number of structures and enclosures such as are shown in Fig. 4 may be built adjoining each other, and the cost of each will thus be very much reduced. The illustration shown in Fig. 4 was taken on the farm of Mr. Wm. Moodie, eight miles east of De Winton, Alberta. The sow on the pen on the right farrowed seven pigs, the one on the left farrowed eight; both saved 100 per cent. of their litters.

When structures of this kind are built in the prairie districts, care must be exercised to so place them that the enclosures at the front will not become filled with snow.

FEEDING QUARTERS

As the settler becomes better established he will find it to his advantage to provide better feeding quarters than have thus far been shown. The kind of building he will erect will be determined largely by the amount of money he has to put into it and the extent to which he intends to go into the business.



FIG. 5—FEEDING QUARTY SHOWING COTTON COVERED OPENING FOR LIGHT AND VENTILATION

For the farmer of limited means, a building such as is shown in Fig. 5 can be constructed at a price within his reach and can be so adjusted as to meet all requirements. It may be made to any length desired. It should be at least 16 feet wide and 6 feet high at the eave. A single course of lumber, logs, slabs or baled straw will suffice for the walls. Care should be exercised to make the roof waterproof. The building should face the south and an opening 2 feet wide, extending the length of the building, and six feet from the ground, should be made on the south side, as shown in Fig. 5.

This opening should be covered with cotton or burlap, which will admit sufficient light, provide good ventilation and prevent a draught. The interior arrangement should provide a feeding passage the full length of the south wall. A door

or gate 2 feet wide leading from this passage to the pens should be installed at intervals of from 12 to 18 feet. These will be found to be very convenient when changing hogs from one pen to another; and when marketing, a wagon can be backed up to the doorway, the required number of animals driven into the feeding passage, and from there through a loading chute into the wagon.

The main body of the house should be supplied with movable partitions for use at farrowing time. Each sow should be supplied with an individual pen not less than 6 feet, and better still, 8 feet wide. In the rear of each pen there should be a small runway of width equal to that of the pen, and from 20 feet to 24 feet long.

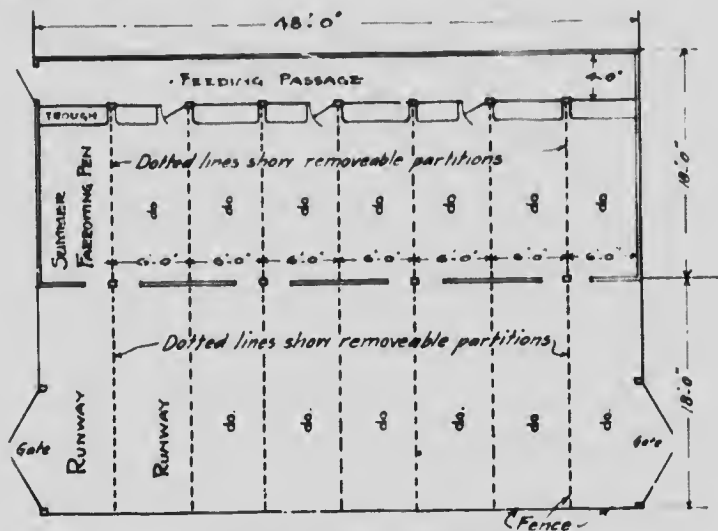


FIG. 6. FLOOR PLAN FOR LARGE FEEDING PEN.

Fig. 6 shows the floor arrangement of such a structure, 48 feet long. It provides farrowing pens for eight brood sows at one time. It will be observed that these pens are separated from one another by removable partitions, thus making it possible to transform the floor space into one or two large pens for housing and feeding a number of hogs that are being fitted for market.

It should also be noted that in the rear of the building provision is made for a small runway to connect with each farrowing pen. These runways are also separated from one another by removable partitions, by means of which this space may be transformed into one or two larger runways. These larger runways may be used in the autumn as places in which to build a pile of straw, which in turn can be utilized as sleeping quarters by the pigs during the winter months.

Fig. 7 shows such an arrangement of feeding and sleeping quarters for winter use. One or more trusses as shown in Fig. 1 should be so placed as to facilitate the entrance of the pigs into the straw pile.



FIG. 7.—ARRANGEMENT FOR FEEDING AND SLEEPING QUARTERS FOR WINTER USE.

SUBSTANTIAL BUILDINGS

Many swine raisers prefer a more substantial building than that shown in Fig. 5. They want something that is at once proof against both rain and cold, is lighted by means of glass and has ample provision for ventilation without a draught. Such a building, if built of boards, must necessarily consist of at least two courses of lumber with one of tar paper between.



FIG. 8.—SHOWING METHOD OF VENTILATION THROUGH A LAYER OF STRAW.

VENTILATION

Instead of covering the ceiling with lumber, strips or poles placed about three inches apart, over which a layer of straw about 18 inches thick is placed, will suffice.

Fig. 8 shows a two-pen hog house of this type. It is important that an opening 2 feet square be left in each gable, as shown, and marked Z, in order that the wind can circulate freely over the straw and thus carry off the moisture which it absorbs from the air passing through it from below. In those parts of the province where there is trouble from snow drifting into openings of this kind, that facing the prevailing winds will have to be protected or closed during stormy weather.

HOUSES OF BALED STRAW

From the prairie districts, particularly from points remote from a railway station, there have come numerous requests for suggestions and information regarding the building of hog houses with baled straw. Such buildings are entirely practicable, but care must be taken to protect the bales against water both from above and below. Flax straw is to be preferred to all others. The bales should be tied with three strands of wire in order to keep the ends as square as possible, and thus facilitate the securing of tight joints. The lower course of bales should not be placed on the ground, but on a platform about 4 inches narrower than the bale and at least 6 inches above the floor of the pen.

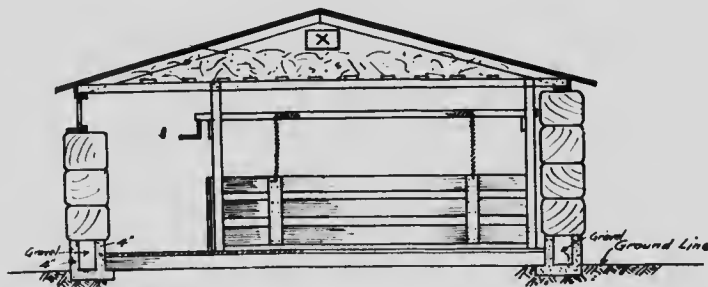
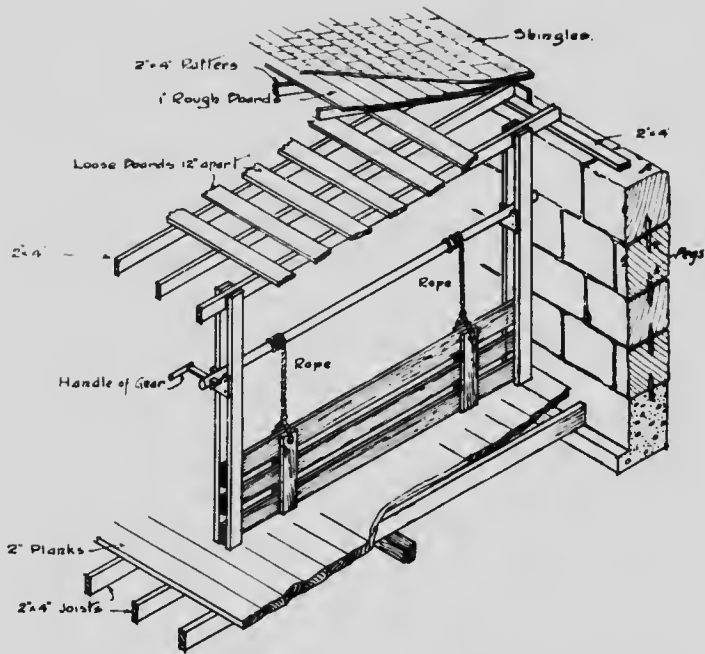


FIG. 9.—ARRANGEMENT OF GROUND WORK FOR HOUSE OF BALED STRAW.

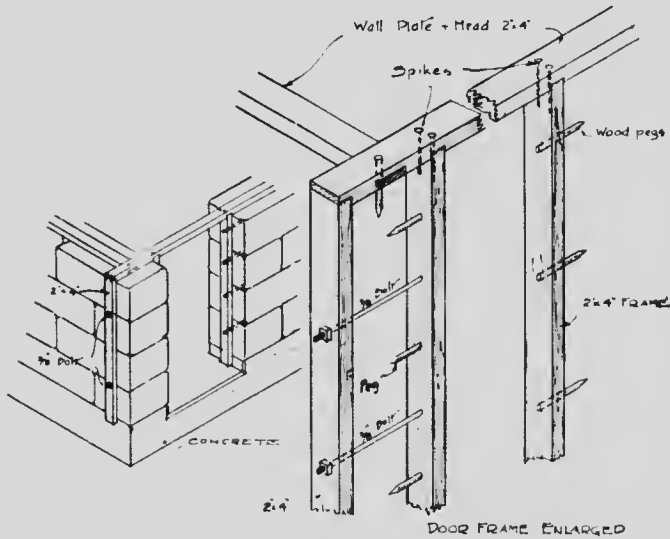
Fig. 9 shows, among other things, the arrangement of the ground work of such a wall. The illustration specifies concrete as the material to be used, but brick, logs, plank or sawed timber, in fact anything may be employed that will ensure a firm and durable base upon which the superstructure may be placed.

Care must be exercised when constructing the walls of any building with baled straw to so secure the bales that they cannot be easily jarred out of place by animals running or kicking against them, or by careless teamsters striking them with the wheel of a wagon. This end can be accomplished by means of pegs about 6 inches long and extending half their length into the lower and upper bales.



ISOMETRIC SKETCH OF WINDING GEAR

FIG. 10 METHOD OF ATTACHING ONE BALE TO ANOTHER BY MEANS OF PINS.



ISOMETRIC SKETCH OF DOOR FRAME

FIG. 11—METHOD OF ATTACHING BALES OF STRAW TO FRAMEWORK.

Fig. 10 shows the manner in which the bales of straw can be attached to one another in the main body of the wall in order to make them secure. Additional care must be exercised to attach them securely to the framework forming the various openings of the buildings.

Fig. 11 shows how this may be done at the main entrance, namely, by placing a 2" x 4" scantling on the outside of the bales and bolting all firmly to the door frame. At the remaining openings 8" bolts or spikes driven through the frames into the bales will suffice. When building such a structure, the number of openings in the walls should be reduced to a minimum.

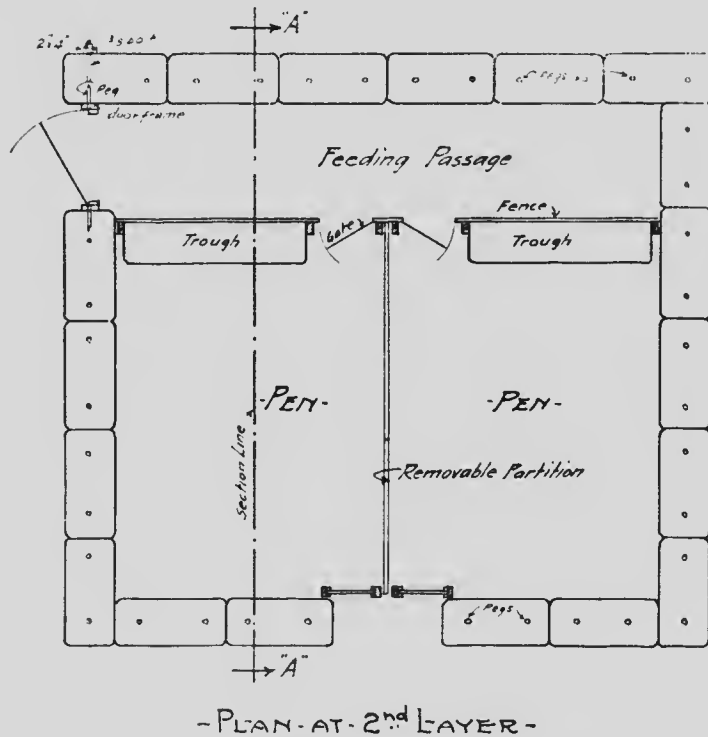


FIG. 12—FLOOR PLAN OF TWO-PEN HOUSE BUILT OF BALED STRAW.

Fig. 12 shows the floor of a two-pen hog house built of baled straw. The main entrance is made to correspond in width to the length of the bale, while the combined width of the two rear entrances are also made to correspond to the length of one bale.

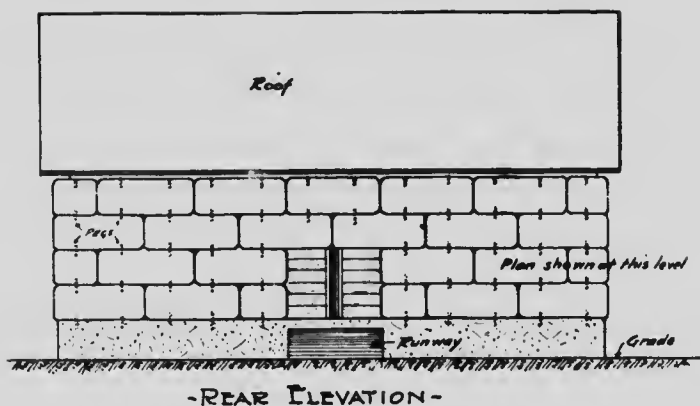


FIG. 13 - REAR ELEVATION OF BALED STRAW HOG HOUSE.

Fig. 13 shows the rear elevation of the same structure.

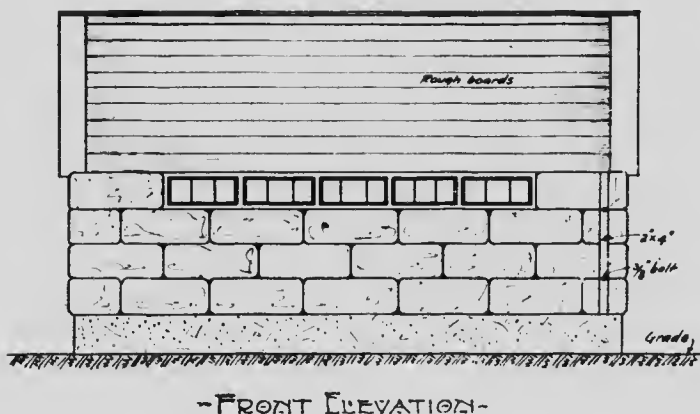


FIG. 14 - FRONT ELEVATION OF BALED STRAW HOG HOUSE.

Fig. 14 shows the front elevation of the same building. It will be observed that in this building light is admitted through glass. The size of the window frames is made to correspond to the thickness of the bales. In order to prevent water from running off the windows into the bales, it is necessary to use a wide plank extending to the outer edge of the bales, as a window sill. That portion of the building above the ceiling need not consist of more than a single course of lumber, and hence can be constructed more cheaply of lumber than bales of straw.

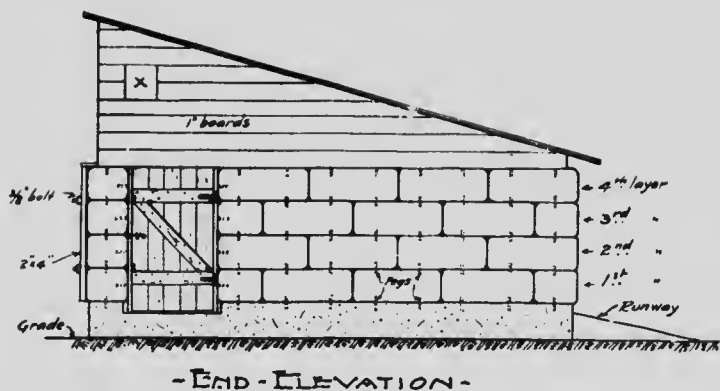


FIG. 15—END ELEVATION OF BALED STRAW HOG HOUSE.

Fig. 15 shows the end elevation. Attention is directed to the manner in which the bales are held firmly to the door frame; also to the opening marked "X" for supplying proper ventilation.

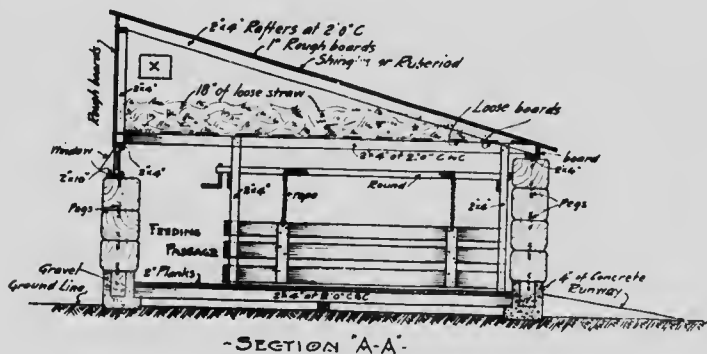
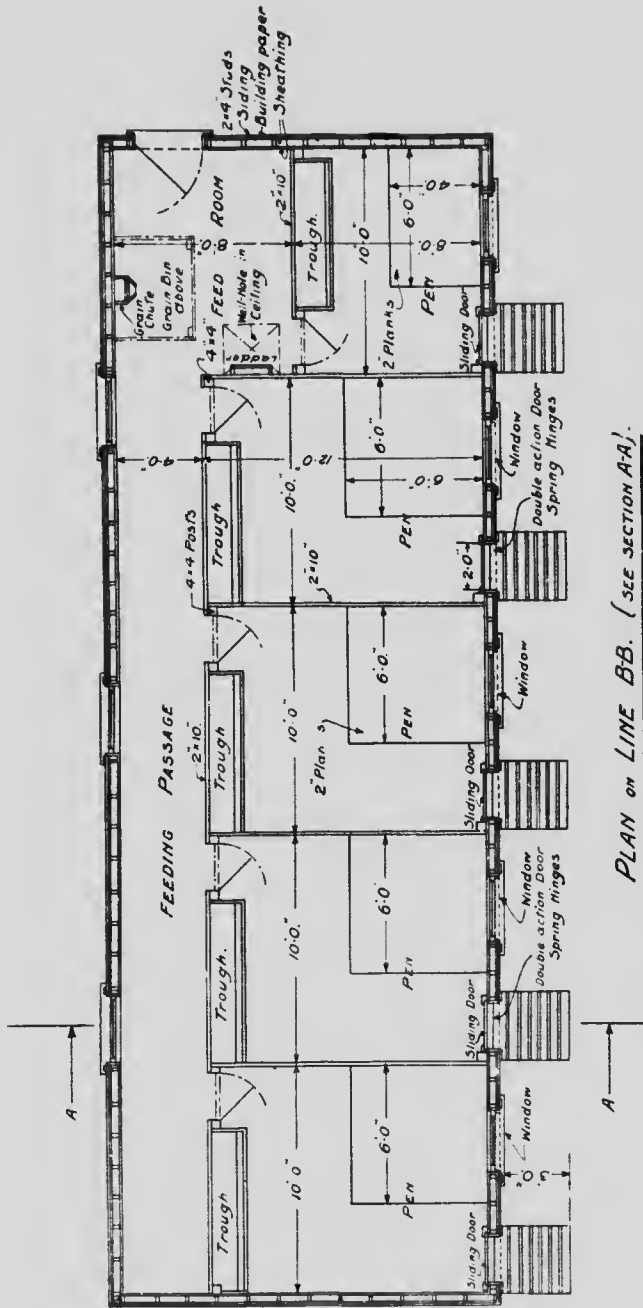


FIG. 16—CROSS SECTION OF BALED STRAW HOG HOUSE.

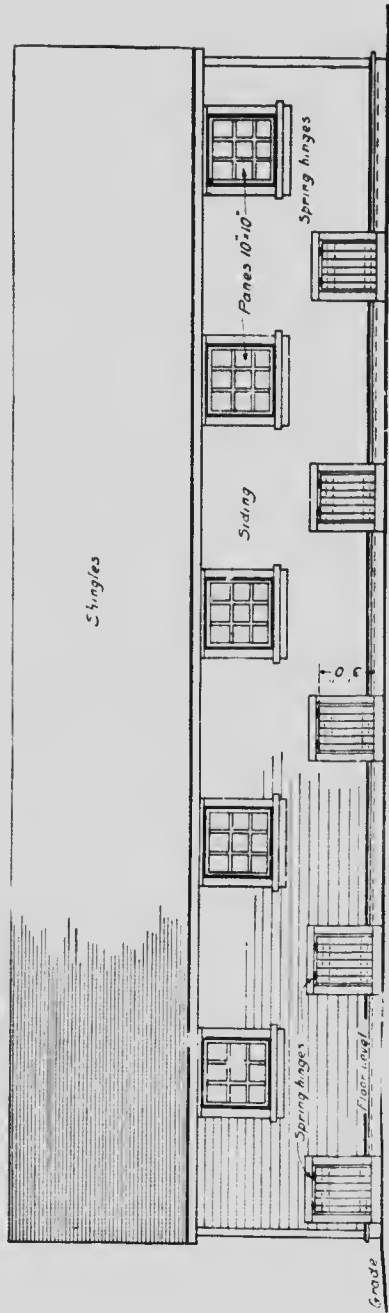
Fig. 16 shows a cross section of the same structure. In this figure attention is directed to the provision for ventilating through straw in the ceiling; also to the provision for raising and lowering a movable partition. Partitions of this sort are being successfully used on the farm of Major John Emslie of Belvedere, and are a great convenience.

Many swine raisers object to the high front elevation that is required by a building having a one-slope roof. This objection may be overcome by the use of the gable roof as shown in Fig. 9. It should be noted, however, that the projection of such a roof interferes somewhat with the admission of light into the building.



PLAN on LINE BB. (SEE SECTION A-A).

FIG. 17—FLOOR PLAN OF PIGGERIES ON THE ALBERTA GOVERNMENT DEMONSTRATION FARM.



SOUTH ELEVATION.

FIG. 18. SOUTH ELEVATION OF PIGGERIES ON ALBERTA GOVERNMENT DEMONSTRATION FARM.

DEMONSTRATION FARM PIGGERIES

Figs. 17 and 18 show the floor plan and south elevation of the piggeries in use on the Alberta Government Demonstration Farms. These consist of a single row of pens. Each pen has an opening into the feeding passage. The floors are made of concrete. The nesting places are raised about four inches above the concrete and are built of plank. Ventilation is supplied through a layer of straw in the ceiling.

A feature of these piggeries that is worthy of notice is the arrangement of the doors on the south side. They swing from the top and are hung with spring hinges. Immediately on the inside of these swinging doors there is another door that slides up and down and that is raised and lowered by means of a line extending through a pulley to the feeding passage. When it is desired to confine the pigs in the piggery, particularly during cold weather, both doors are closed. In case a brood sow has a litter of small pigs following her, it is necessary to keep both doors closed or open, because if the inner door be open, the sow in passing through the doorway raises the swinging door, and this, falling from her back after she has passed through, is likely to strike the young pigs following behind when it comes back into position, and kill or cripple them. When pigs of the same size are running together in a paddock and nesting in the piggery, the value of this style of door becomes apparent. It contributes greatly to the warmth of the piggery during extremely cold weather.

THE COLONY PEN

The "A" shaped colony pen is rapidly growing in favor with the swine raisers of the province. Fig. 19 shows a front and rear view of a structure of this kind.

It will be observed that there are three sloping sides to these pens. The object of this arrangement is to reduce the danger of having small pigs smothered, as sometimes happens in pens with perpendicular walls.

For summer use, pens of this kind should be floored, and a suitable approach supplied, as shown at "A" in Fig. 19. An opening at the rear of the pen, as shown at "X," is often a convenience when it is desired to drive out a cross animal. The openings at the apex marked "V" are for ventilation. By this arrangement the air is permitted to pass directly from one opening to the other without throwing a draught downward on the animals inside. It also carries away the moisture and foul air which always accumulate where animals are being housed.

A structure of this kind may be used as winter housing for a number of brood sows, or hogs that are being fattened for market. For weanling pigs, shelters such as are shown in Figs. 3, 4 and 7 are much to be preferred; or if there is a large number of such animals, a pile of wheat straw thrown over a frame such as is shown in Fig. 1.



FIG. 19—FRONT AND REAR VIEW OF COLONY PEN AS ARRANGED FOR SUMMER USE

A pen without a floor is much to be preferred for wintering purposes to one having a floor. It should be of a size to suit the number of animals to be kept therein. It is important that it be filled as near to the limit of its capacity as comfort will permit. Twenty animals in a structure 16 feet square will be more comfortable than three animals in a shelter 8 feet square. When used in this way there should be only two sills or runners, and these should be placed at the outer edge of the building. When put into place a bank of earth should be thrown up around it, so as to prevent a draught blowing across the animals.

It is a good plan to provide some means of preventing the wind from blowing on the animals through the opening marked "Z" either by installing doors hinged at the top, as shown in Fig. 18, or by erecting a windbreak about three feet in front of this opening. This windbreak should be about one foot higher than the opening referred to, and extend at least two feet on either side of it.



FIG. 20—FRONT VIEW OF TWO COLONY PENS DRAWN SIDE BY SIDE AND PROTECTED WITH STRAW FOR WINTER USE

In pens where only a few animals are being housed a door two and a half feet wide will suffice, but where fifteen or twenty grown hogs are being kept, doors four feet wide should be installed. A number of these pens may be drawn side by side and the spaces between them filled with straw, as shown in Fig. 20; the sloping portion at the rear may also be covered in the same way. Then if doors properly hinged at the top are installed and a suitable mulch secured in order to prevent the ground on which the animals are to lie from freezing, almost ideal winter quarters will be obtained for animals that are half or more than half grown.

In order to secure the most satisfactory results the pen should be moved to a piece of absolutely dry ground not later than October 15th. A small quantity of clean, dry straw should be thrown into it in order to attract the animals and induce them to adopt it voluntarily as their nesting place. In the course of a few days this straw will be broken into very small

pieces, and the pigs will then begin digging up the earth in order to secure a soft and warm place on which to lie. The earth thus loosened will soon dry out and form a dust mulch. If a proper mulch has been formed before the weather turns cold the ground under this mulch will not freeze, no matter how cold it may become. It is important that the openings "V" "V" be sufficiently large to carry off all moisture before it has a chance to congeal on the under side of the roof. To permit a considerable quantity of frost to accumulate on the interior of such a structure would be to destroy its usefulness, because on the first warm day this frost would melt and moisten the dust mulch below. At nightfall this moistened mulch would freeze, and pigs with colds or rheumatism would, in all probability, be the result.

Because of being easily moved from one field to another, housing of this kind is well suited to the field or open pasture method of swine raising. It simplifies the problem of keeping the animals on fresh, clean and wholesome earth, and in so doing greatly reduces the danger of disease. Should disease break out, the pens can be readily burned, without much loss and without endangering other buildings; besides by their use in connection with a pasture field a much larger percentage of the droppings are returned to the soil than is possible where hogs are confined to fixed runways.

When structures of this kind are used as farrowing pens they should be made 8 feet square on the floor and about 6 feet high. When used as a shelter for fattening hogs, they may be made 16 feet square or even larger.

THE BREEDERS' SWINE PALACE

Breeders of pure-bred swine usually find it advisable to adopt a system of housing that will enable them to show their animals to the best possible advantage to visitors and intending purchasers. It is necessary that such a building be compact, convenient for feeding and cleaning, well ventilated and lighted and free from offensive odors. For the benefit of such, the following plan is suggested, and the building represented thereby may properly be termed 'The Breeders' Swine Palace.'

Fig. 21 shows the ground plan of such a building. It will be observed that there are two rows of pens with a wide feeding passage between them. On the south side of the feeding passage provision is made for 5 individual pens with stationary partitions between them. On the north side provision is made for adjusting the space to the needs of the day. By means of removable partitions three extra farrowing pens can be supplied to meet an emergency, or the entire space can be thrown into one space in order to admit a number of fattening hogs to the self feeder which is placed convenient to the feed bin. Provision for a water supply is also made inside the building.

The main entrance to the building should be placed at the end opposite to the cesspit. It should open into a clean yard or court from which other stock is excluded and through which visitors can pass without coming in contact with the filth that is usually found in the stable yard or hog lot.

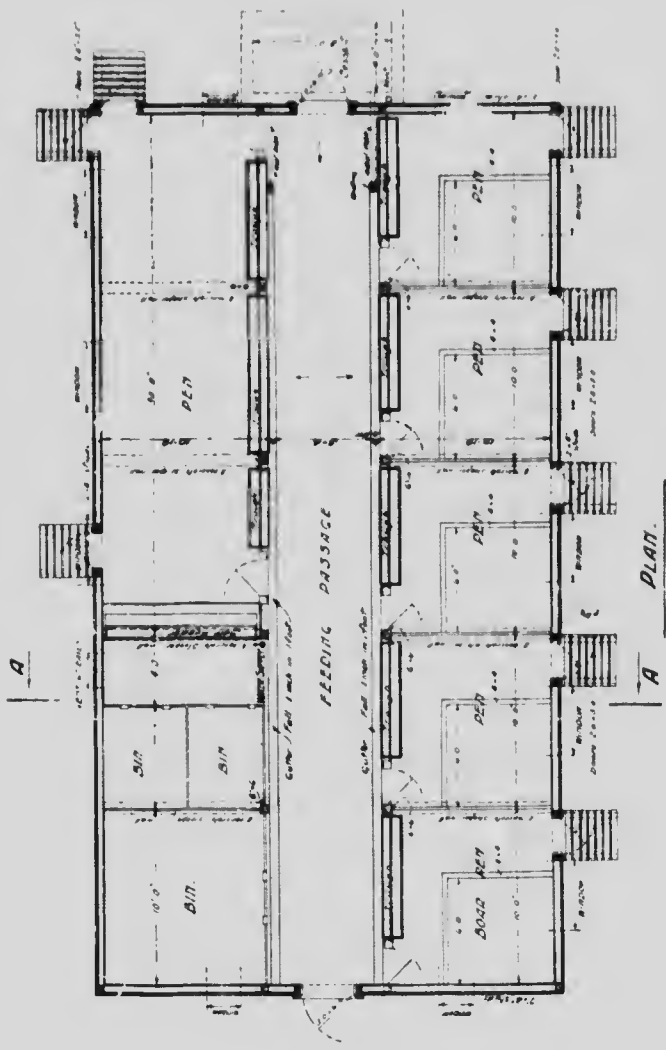


FIG. 21 100-BREEDER SWINE PALACE.

Fig. 22 shows an interior cross section of the same building. It provides for a concrete foundation, with sleepers and floor in the feeding passage. It will be observed that the floor of the pens consists of two courses of tamarac plank with a sheet of rubberoid between them. This arrangement, together with the manner of joining the flooring to the concrete at either end, makes it possible to wash out the pens and feeding passage, thus preventing foul odors from arising, and keeping the piggery in a thoroughly sanitary condition. The use of lumber flooring reduces the danger from rheumatism during the winter months. This danger may be further reduced by building the nesting places two feet above the floor and providing an inclined plane as a means of going up and down, after the style of many Ontario piggeries. It will also be observed that all floors slope toward the gutters, which run the full length of the building and empty through a four-inch pipe into a cess pool.

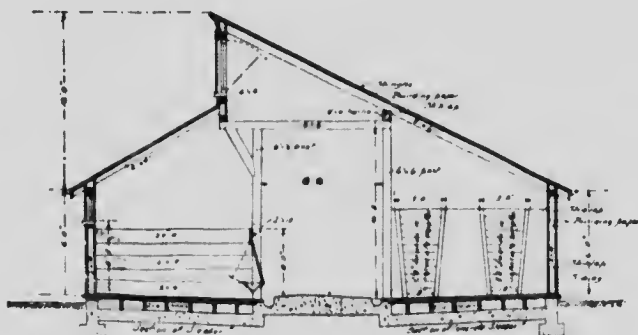


FIG. 22. CROSS SECTION OF SWINE PALACE.

In places where the subsoil is porous and there is no danger of contaminating the water supply, the cess pool may be built as shown in Fig. 22, but where the liquid that accumulates in the cess pool has to be pumped into tanks and drawn away, it will be found better to place the cess pool under the building, making the outside cess pool wall coincide with the foundation instead of the inside wall, as shown in Figs. 21 and 23. This arrangement will tend to protect the cess pool against freezing.

The object of the style of roof shown in Figs. 22 and 23 is to provide a means of admitting the direct rays of the sun into the pens on the north side of the building. In this latitude it is important that this second elevation be placed at least three feet south of the feeding passage, as shown in Fig. 22.

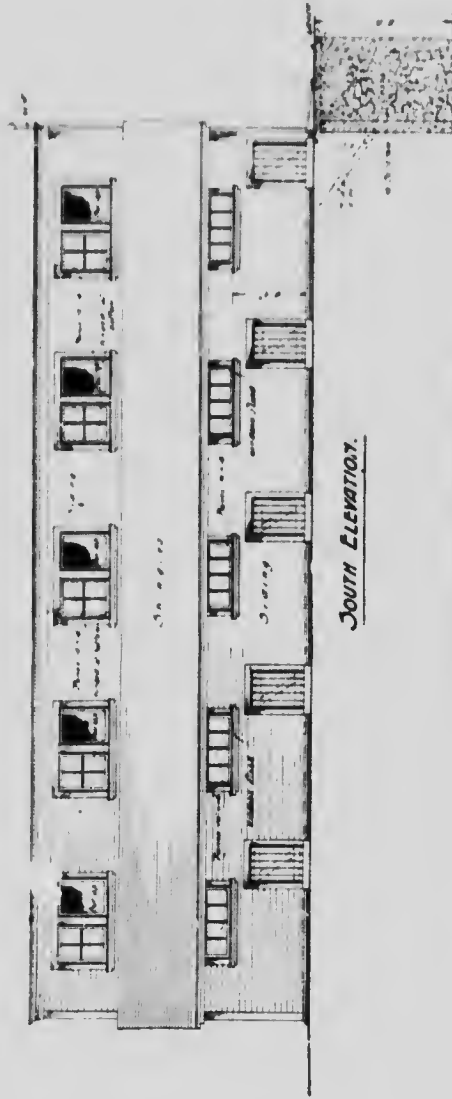


FIG. 23—SOUTH ELEVATION OF SWINE PALACE.

It will be observed that practically all the light is admitted on the south side of the building, and that the openings in the north wall have been reduced to a minimum. This is an important point to observe in the construction of farm buildings in Alberta. It should also be observed in Fig. 23 that permanent ventilation is secured through sheets of burlap placed over frames alongside the windows and are of the same size as the window frames. Provision is made for additional ventilation

by opening the windows which are hinged at the bottom, as shown in Figs. 22 and 24, and are operated by means of an iron rod, the same as an ordinary transom. The underside of the rafters should be sealed the same as the inside of the studding, else it will be difficult to maintain the proper temperature during cold weather, and prevent frost from accumulating on the underside of the roof.

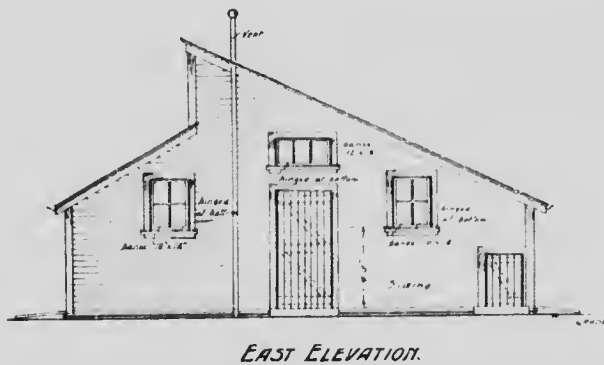


FIG. 24—REAR END ELEVATION OF SAINE PALACE, SHOWING VENT FROM THE CESS POOL.

Fig. 24 shows the rear end elevation of the building in which is placed the vent from the cess pool.

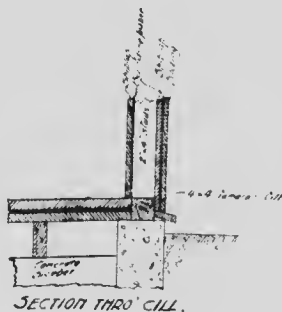
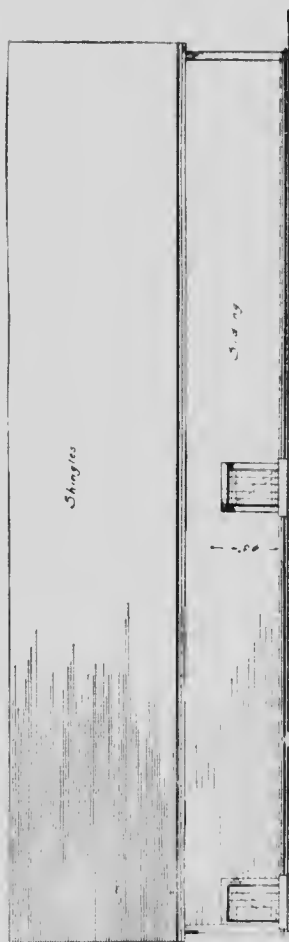


FIG. 25—CROSS SECTION OF FOUNDATION, FLOOR AND WALL.

Fig. 25 shows the framework of the walls.



NORTH ELEVATION.

FIG. 26. NORTH ELEVATION OF SWINE PALACE.

Fig. 26 shows the north side of the piggery. It will be observed that there are but two openings in this wall, namely, those that are made necessary for ingress and egress.

On the left hand side of Fig. 27 there is shown the fitting of the floor of the pen into the concrete in order to make the floors waterproof. The setting of the trough 2 inches above the floor is also shown. The object of this arrangement is to facilitate the washing out of the pens and to permit the drainage

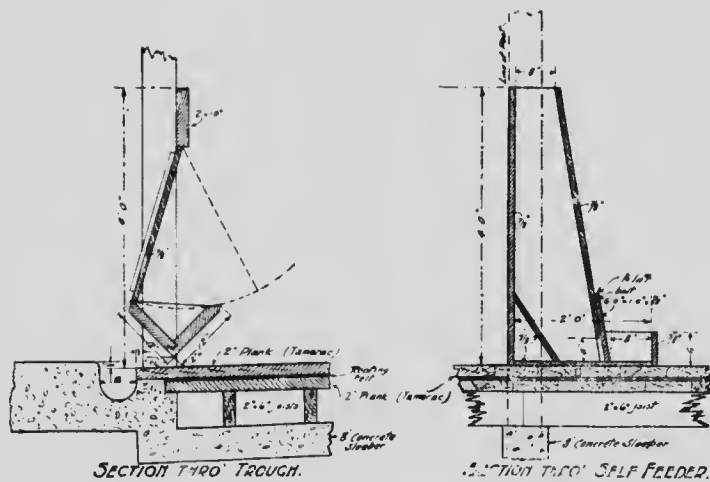


FIG. 27—CROSS SECTION OF FEEDING TROUGH, FLOOR AND GUTTER SHOWN TO THE LEFT, WHILE TO THE RIGHT IS A CROSS SECTION OF THE SELF FEEDER.

from the pens to pass freely into the gutters. There is also shown the manner of constructing a hog trough from which the pigs can be excluded while the trough is being cleaned or the feed is being supplied. On the right hand side of Fig. 27, the arrangement of the self feeder is shown. The size of the opening at the bottom is regulated by a sliding door, which is raised or lowered as the nature of the feed requires, and is held in place by means of bolts or pins.



SECTION SHOWING
DOUBLE GLAZING

FIG. 28—CROSS SECTION OF DOUBLE GLAZED WINDOW SASH.

Fig. 28 shows the provisions for double glazing a single window frame. The dead air space of one-quarter of an inch which this arrangement provides aids materially in preserving the temperature of the piggery during cold weather. 

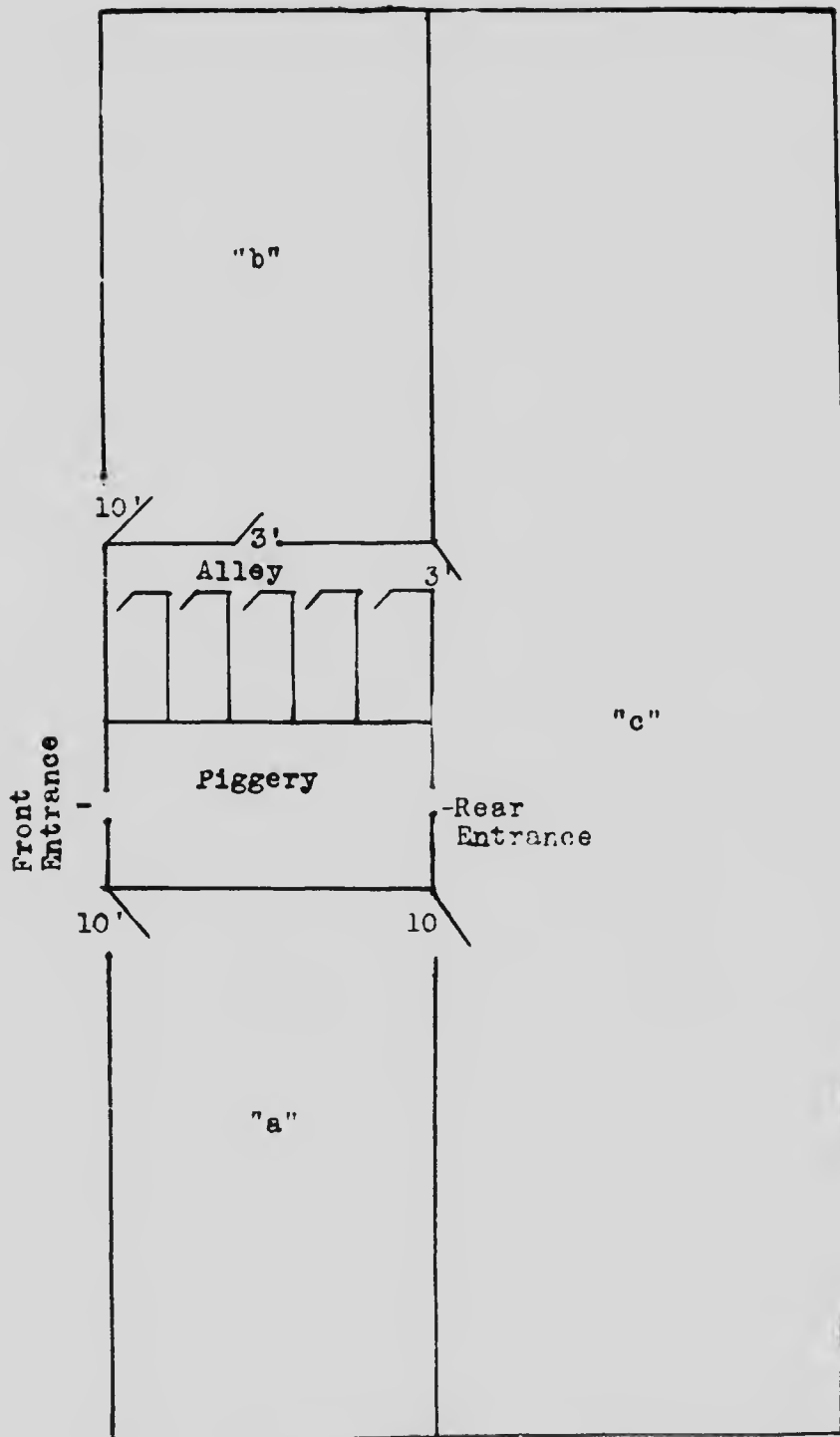


FIG. 29—ARRANGEMENT OF PASTURE LOTS.

PASTURE LOTS

As one or more pasture lots are essential to successful and economical swine raising, a few suggestions regarding the placing of these may not be out of place. In order to be of the greatest value to the swine raiser, they should be convenient to and always accessible from the piggery.

Fig. 29 shows a piggery of the dimensions given in Fig. 21, with small runways attached to the farrowing pens on the south side, and an alley connecting with these and with the pasture lot "b." On the north there is another pasture lot, which may be used by a number of weanling pigs or fattening hogs. The main and largest feed lot is marked "c." It will be observed that it is accessible to the animals housed in the south side of the pen through the runway and alley, and to those confined to the north side, through the small doorway shown in Fig. 24.

The kinds of crops to grow as forage for swine in Alberta will be dealt with in a subsequent circular.

THE SELF-FEEDER

The self-feeder is now an almost necessary adjunct of the swine raiser's equipment, particularly feeders suitable for out-of-door use. The writer is convinced that dry feed too often supplied to animals through the self-feeder with thin slops fed from a trough would give much better results because better suited to the age and condition of the animals. But for pigs that have been properly grown and brought to a weight of 120 pounds without having had their digestion impaired either by over-feeding or starvation, the self-feeder is a good device through which to supply the grain necessary for finishing purposes.

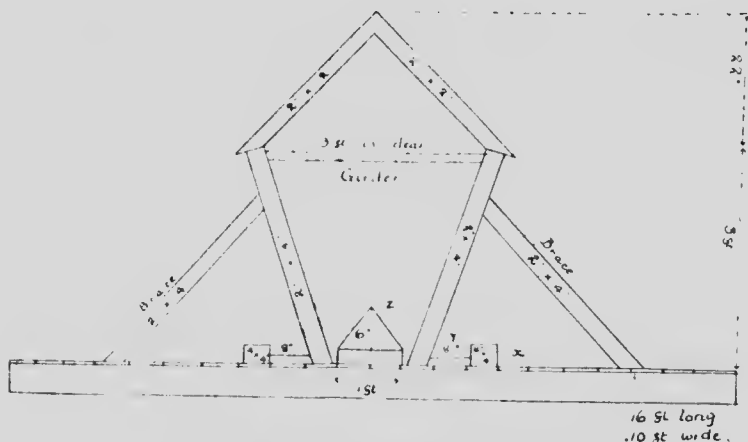


FIG. 30—CROSS SECTION OF FRAME WORK OF SELF FEEDER

Fig. 30 shows the end view of the framework of a substantial self-feeder mounted on a platform 16 feet long and 10 feet wide. All of the details of construction are set forth in the cut, with the exception that the middle portion of one side of the roof is hinged to the opposite side in order to provide a convenient opening when it is desired to fill the feeder with meal.

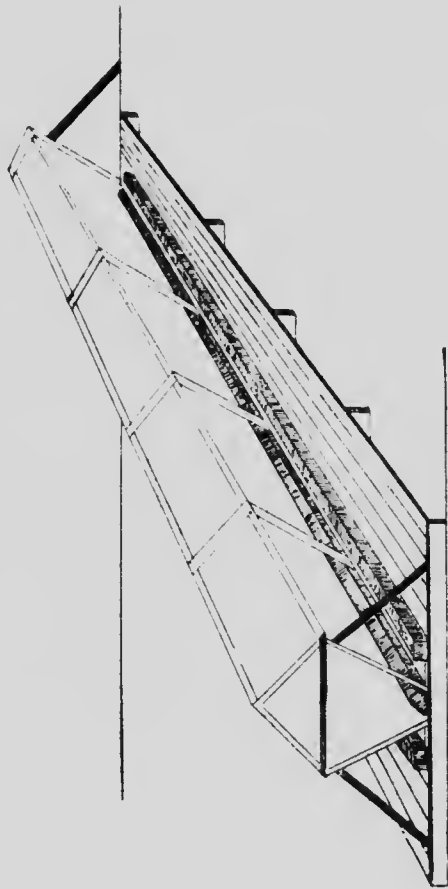


FIG. 31. SELF FEEDER IN PERSPECTIVE

Fig. 31 shows the feeder in perspective, and Fig. 32 shows the method of increasing or reducing the feed supply by raising or lowering the board marked "X" and holding it in position by means of the bolt marked "Y."

Fig. 33 shows an end view of the feeder completed and properly bolted.

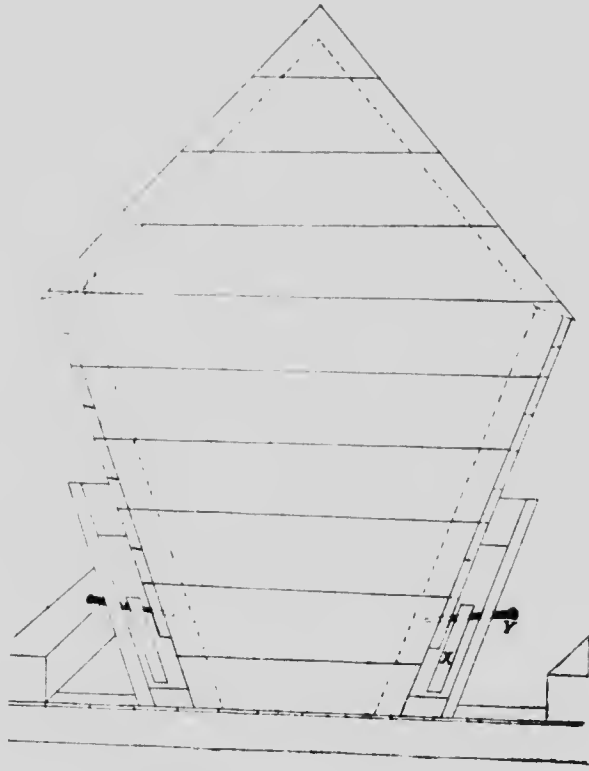


FIG. 32—METHOD OF INCREASING OR REDUCING RAPIDITY OF FEED

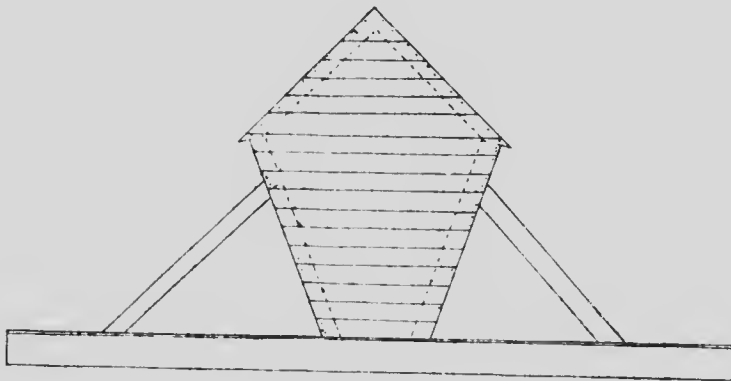


FIG. 33—END VIEW OF SELF FEEDER ENCLOSED.

THE FEED COOKER

A feed cooker is of great service to the swine raiser who raises late fall or winter litters. Warm, bulky, and easily digested food is necessary in order to prevent indigestion in young pigs when the weather is too cold to permit of taking out-of-door exercise and necessitates their lying in the nests the greater portion of the time.

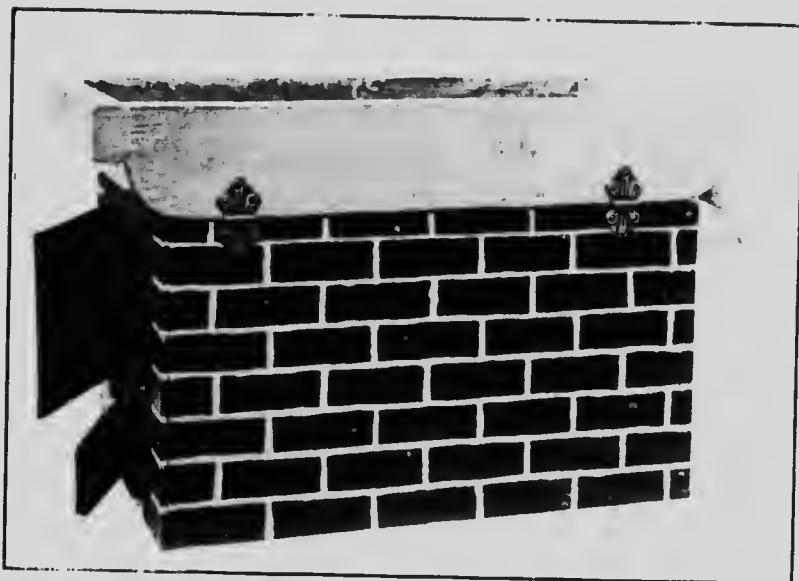


FIG. 34—HOME-MADE FEED COOKER COMPLETE.

A cooker need not be expensive. Figure 34 shows a home-made cooker that can be constructed by any farmer who is at all handy with tools. It may be made any length; usually from six to ten feet long will suffice. The sides may vary in depth. It is best to make it of a single board at either side so as to avoid making joints, because joints are always trouble-makers where water is used. A board two inches thick and not less than eight inches, or better still ten inches, wide will answer for this purpose. This board should be planed on both sides and one edge. In order to avoid making joints at the ends the boards should be cut round, as shown in Fig. 35. A groove should be made from one end to the other along what is to be the bottom edge of the board. This is best done by pounding a piece of iron set on edge, as shown in Fig. 35. A flat file or piece of buggy spring will suffice for this purpose. This groove must not be cut with a plane or chisel. It should be filled with



FIG. 35—METHOD OF MAKING GROOVE.

oakum, as shown in Fig. 36. Should oakum not be obtainable a number of strands of binder twine can be used instead. Then the piece of sheet metal which is to form the bottom of the cooker should be fastened to the boards by means of a row of shingle nails driven on either side of the oakum or twine and about $1\frac{1}{2}$ inches apart. When the cooker is filled with water and the wood becomes saturated, the portion that was pounded inward will go back to its original position and press the oakum firmly against the sheet metal and make it water tight.

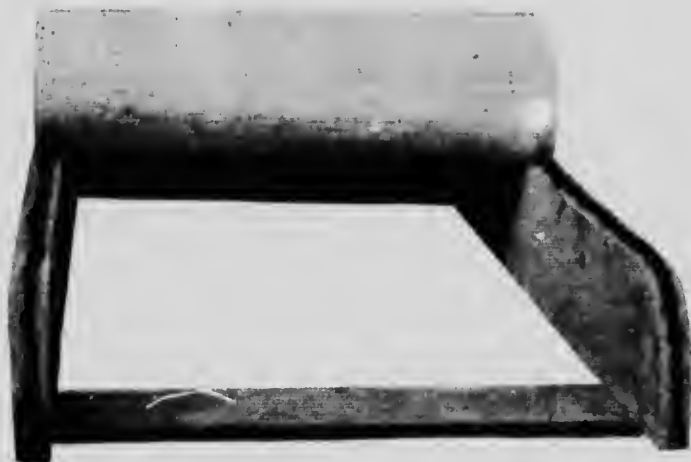


FIG. 36 - GROOVE FILLED WITH OAKUM.

When cooking potatoes it is a good plan to put in a false bottom which will leave at least half an inch of free water under the potatoes, and thus reduce the danger of having the cooker "boil dry" and destroy the metal.

Brick is the best material to use when making the fire box, although stone may also be employed. A grate is a convenience, but not a necessity. When constructing the fire box it is well, if wood is to be used as fuel, to make it of such a size as will permit of using large rough chunks, so as to be able to build a hot fire that will last for a considerable time. A small firebox necessitates too much attention to be of much use to the average farmer. What he requires is something that he can start going, leave for a couple of hours, and find the feed cooked when he returns.

