

well throughout the whole Province. The farming element of the Province of Quebec look forward year after year to these annual sales, and many make use of the opportunity to procure pure-bred stock to improve their herds.

Hog Housing in a Tepee.

In Ontario, with all her farm buildings and stock pens, it may not seem necessary to make any special arrangement for wintering pigs, but even here many pig-breeders find difficulty in wintering brood sows successfully. These must have exercise, and outside, small pens have been advocated. We reproduce an article from "The Farmer's Advocate and Home Journal," Winnipeg, Man., which may interest some of our readers, and from it other ideas may be developed. The scheme is new to us.

The advent of the straw dispensation in construction of hog houses is exceedingly encouraging in these times when ready cash is scarce for elaborate buildings. In fact there is considerable virtue in favor of such methods, even if funds were not limited. In other words, it is questionable from a business standpoint whether the more costly structures are preferable. They may appear more attractive to the individual desiring scenery, but when it comes down to business, where efficiency is shown at the least cost and the hog proposition to show profits, the elaborate buildings will have a doubtful margin over the cheap straw construction.

More and more are farmers of the West realizing the value of straw which is usually wasted. Business farmers of considerable wealth are utilizing it in their swine industry, and have proven it efficient to a remarkable degree. In fact by many the idea is becoming prevalent that such construction coincides with sane business methods.

One of the greatest advocates of straw construction is O. C. Miller, whose Alberta herd of Duroc Jerseys win prizes at the big shows every year. He has reason to know whereof he speaks, because he is a breeder of experience. One might imagine that with pure-breds he would have them housed in elaborate buildings and keep them pampered. But in the case of Mr. Miller's pure-bred project it is not so. He believes sane treatment for pure-breds is sane treatment for grades. He has proven the efficiency of straw hog houses on his farm, and prefers them to more costly structures. In support of his system we need but take note of the excellent development his Durocs have made, and take into consideration the fact that two litters per year are raised.

Throughout the entire Western exhibition circuit is the quality of Miller's Durocs known. They have been prominent in winning championships and grand championships. Without good housing conditions such merits in individuals could not be attained. This quality is an indication of efficiency in his straw housing project. It is profits he is after, and if more elaborate structures would yield a greater return such costly ones would become fixtures on his farm.

A fence of lumber is first made to a rectangle 28 by 14 feet. Half way down the long side a board partition is run across, making two yards each 14 by 14 feet. In the yard to the north a tier of tepees is made out of four railroad ties, each eight feet long. Scantling or posts could be utilized instead. The base of this cone-shaped structure is six feet in diameter. Over the tepee and entirely filling the 14 by 14 yard straw is packed. The lumber fence is the exterior limit of the pen along which the straw is tightly pressed. Extending from the top of the tepee a ventilator may be installed, but this is not absolutely essential, providing not more than 18 inches of straw, extends above the apex of the posts. The other 14 by 14 feet yard on the south side is left open for a hog run. In the partition fence a hole is cut and a little straw pulled out, allowing the hogs an opportunity of locating in the winter pen, to and from which they may go and come. Mr. Miller builds a shelter extending the full width of the pen and over the opening. This is made by running a two-by-four inch scantling across, three and a half feet out from the covered pen, utilizing a part of the open yard. Small pieces of boards are interspaced, and the covering is made with straw. Simply stated, this is merely a shelter made continuous from the covered pen which contains the tepee.

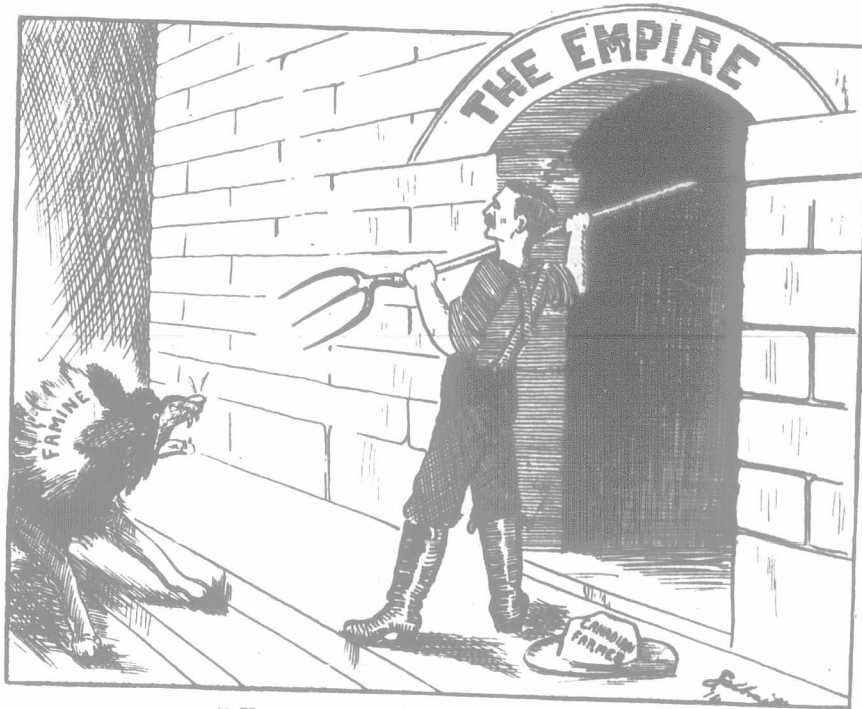
The shelter allows a certain amount of protection. In winter when fine weather prevails the hogs come out and lie in the sun, protected to some extent from draughts by this shelter and by the southern exposure.

There may be other detail fixtures, but in general the above description is ample as a guide to those who wish to construct a similar house. In the opening to the tepee is hung a swing door, made by utilizing boards and belting to assist in keeping the interior warm during the winter. The interior space is limited; hence a great deal of heat is conserved, and yet considerable ventilation is obtained through the straw, or ventilators if installed. With the ventilator system two or

three ply of sacking should be put over the ventilator opening so as to minimize the draught. A whole row of tepees all divided off could be installed, and the entire lot covered with straw.

Mr. Miller states that this is the best and most efficient method of housing brood sows and other hogs that he has ever seen. It has been worked out after many other systems have been tried. It is claimed to be warm and dry, and on the whole to compromise sane features lending to efficiency in the housing of swine.

There are many other systems of building cheap swine pens. Some use baled straw, others put up a frame work and thresh straw over it while still others may utilize straw in conjunction with fence wire. But one that we have not seen advocated, which looks feasible and modelled after the Miller tepee system, is made by building a



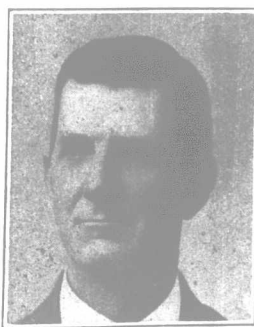
"Keeping the Wolf from the Door."

The Canadian farmer's work in the hour of the Empire's peril.

row of cone-shape structures out of posts or scantling, a short space from a fence of some kind. These tepees should be spaced in the row, and a short runway built out from each. The entire lot of tepees and runways should be covered with straw, using the fence for backing. The feed troughs should be located out in the open, forcing the pigs to come out daily for exercise and feed. This method should be feasible in wintering brood sows or fattening pigs. If desired a partition between each tepee could be installed for separating brood sows at farrowing time, or for dividing the fatters from the growing pigs.

Mac. Campbell Passes.

Readers of "The Farmer's Advocate" and a large circle of live stock friends will with a treasured sorrow learn of the death on October 31st, of the well-known and highly respected live stock breeder, Mac. Campbell, of Northwood. Mr. Campbell succumbed to an attack of typhoid fever. He was a familiar figure in the Canadian and American showing where he had for some years successfully exhibited Duroc Jersey swine and Jersey cattle. He will be missed.



Late Mac Campbell.

THE FARM.

Poisonous Gases in Silo Filling.

Experience has taught that there is a danger in filling silos with green, immature silage, that enough harmful gases be generated to cause death to any human being or animal that may come in contact with them. No cases of such nature have come under our observation, but "Wallace's Farmer," an American farm paper, takes the following from "The Journal of the American Medical Association," reporting the death of four men from these gases which being heavier than air hang low over the silage. The danger, as far as can be learned, is confined to the period of filling the silo. Precautions should be taken where silos are being filled with very green corn to let down an open lantern to the surface of the silage before the men descend to tramp. If the gas is present the lantern will go out. Another precaution is to keep all doors open at or near the

level of the silage as long as possible. The gas being heavier than air will drain off these openings, provided the silage is up to a point about level with the opening.

At the Athens, Ohio, state hospital, at about seven o'clock on the morning of September 19th, 1914, four members of a squad of six men ascended the ladder on the outside of the silo in question, to an open door about twelve feet from the top, and jumped in, one after the other, on the silage, the level of which was about six feet below the doorway. Within five minutes, as reported, the next two men who ascended shouted down that the first four looked as though they were dead. A large force of workers who were at hand immediately ascended the silo, and, opening a lower door which was just above the level of the silage, hurriedly removed the unconscious forms, and, in spite of the immediate arrival of

four or five physicians from the institution, all attempts at resuscitation failed.

The unfortunate ones, one of whom was thirty-one years old, and the others fifty-six, fifty-six and sixty-seven, were 'trusties' at the institution, and all had been engaged for several years on the institutional farm, and had helped in filling silos for the past two or three years. During the two weeks previous, they had helped to fill two large wooden silos nearby, and during the three days previous had helped with the filling of the metal silo in question. Their work was to tramp down the ensilage as it was delivered down the blowpipe. On this morning the machine had not yet begun operations, and apparently the men sat down or lay down on the silage to wait.

The next morning, at about seven o'clock, we visited the silo in question, where conditions had been allowed to remain as on the previous morning, except that before orders could be issued, a couple of feet more of silage had been added. This had apparently sunk one foot during the night, leaving about five feet up to the bottom of the door in question. However, according to the manner in which the gases are generated, about ten or twelve feet should have been added, more nearly to reproduce the amount of gas to which the workmen had undoubtedly been subjected. The weather on the two days was practically unchanged, being slightly cool at night and warm during the day. The silage consisted of fresh, rather finely cut, immature corn. Light within the silo was good, owing to open doorways above and in the roof. The temperature seemed about ten degrees higher than that of the atmosphere without. A more peaceful and inviting scene could not be imagined than the warm, pleasant smelling green silage within. With a few moments to spare, the most natural thing for workmen to do would be to sit down or lie down on the silage.

We dropped a guinea pig within, which, in thirty seconds toppled over unconscious after a brief exhibit of respiratory difficulty. A rabbit was next dropped down on the silage. It took a few steps, showed some dyspnea and dropped over on its side unconscious at the end of sixty seconds. Next, a large, slender collie dog was lowered down, and in just two and three-quarters minutes it likewise fell over unconscious. The oncoming of unconsciousness in all cases was very sudden. The animals, after unconsciousness, rapidly turned bluish about the nose, lips, tongue (and ears in the case of the rabbit). The guinea pig was dead in ten minutes, the rabbit at the end of forty-two minutes, while the dog was removed at the end of thirty-three minutes, when abdominal and chest movements had ceased, although drawing back of the corners of the cheeks was still present. Within a few minutes on the outside, the dog, which had been let down by its tail, showed signs of reviving; at the end of six minutes it appeared partly conscious, and thereafter rapidly recovered without any efforts at resuscitation having been tried.

Next a bunch of matches, lowered on a pitchfork line, snuffed out at a level of about eighteen inches above the silage. A lantern behaved similarly, and the level of the gas could be estimated within half an inch by means of the effect on the lantern flame. At this point a gallon bottle of water was lowered, inverted, and a sample of the gas thus collected.

Another half-mongrel dog of medium size was dropped in, but, unlike the collie, which