

carefully away, so as not to break the edge off the cement. Then you can add in the gutter with cement; mix same as finishing coat, leaving it any shape and depth you desire.

As for mangers, have foundation something the same as for floors; the only difference is that about two inches of cement, finished smoothly, are all that is necessary, but I think it wise to have them up about two or three inches above the floor.

J. V.

Favors the Two-story Frame Barn.

Editor "The Farmer's Advocate":

In various section of our Province farmers are "up against" the stable-building and remodeling problem. In some cases the old stable, built a generation ago, has outlived its usefulness, is perchance somewhat "used up" or out-of-date, and not in keeping with the present needs of stock-rearing or dairying. And we hear the question asked on every hand, "What material shall we use in constructing our stables, consistent with economy in construction, and comfort of our animals, while having a view to permanency?" In this age of high prices of lumber, we find many still building the stone basement, putting in more windows than formerly, or are using what seems a popular building material to-day, cement. But, after all, is the stone or concrete wall the best for a stable in a country like our, where we have a variable climate? Much may be said in their favor, as they can be built very close and tight; but is that an advantage, taking the health of our animals into consideration, where we practically keep them housed seven months of the year? The stone and concrete wall being a ready conductor of heat and cold, we find the temperature of these stables varies, the air is more moist unless the system of ventilation is perfect, and even then there is always a deadness and chilliness about the atmosphere which we very rarely find in a wooden stable, ventilation or no ventilation. And is it not a fact that where tuberculosis in our herds is most rife, we find, in eight cases out of ten, they have been housed in the stone stable? Again, many build the stone or concrete wall with a view to permanency. It is true that to-day the concrete wall, in most places, can be built as cheaply as one of lumber, but is it the best policy to build our farm buildings too permanent? In the course of events we see many changes in a generation. The buildings, even of a substantial character, built by our fathers are not the style required for our modern methods of farming, and on every hand we see them remodelled and rebuilt to suit the conditions of to-day; and will the same not occur a generation hence? We see to-day in European countries permanent stables built several generations ago, still in use. Nothing can be said in their favor except that they are durable and permanent; for handiness and convenience, they are "not in it."

We will presume that a two-story building is required (stable underneath and storage of fodder overhead). We will place this building on a stone or concrete foundation, and build all the walls of wood. I believe it can be built more cheaply, and we have a stable that, because of its being built of a non-conducting material, is therefore easier to regulate the temperature; the air is always drier, and, therefore, it must be more comfortable and healthful, not only for our animals, but for the attendants also.

This is the conclusion to which I have come after using wooden stables for many years, and

also from observation not only in our own Province, but in the other Eastern Provinces, as well as New York State. The wooden stable, too, may be made very attractive with a coat or two of paint, if one wishes to go to the expense of using matched lumber; if rough lumber is used, the coat of lime whitewash (both out and in) is cheap, economical and healthful to the animals when used inside, and is sure death to all vermin. While the two-story stable and barn is no doubt very popular to-day, and there is very much to be said in its favor, as we get so much space under one roof, which is an advantage in that we have a more compact building and less roofing, which is a matter of economy, still, is it not possible that the cheap storage barn, with the stable as an annex, and the concrete silo, may be more economical and convenient and suit the purpose, at less cost than the two-story barn. And we find some among our foremost thinkers are adopting this style. The silo, the cutting box and the feed carrier have changed the aspect of things very materially in regard to the handling of feed in our stables, while the concrete floor and the manure carrier have revolutionized the other end of the business, saving labor and manure.

Personally, I am in favor of the wooden two-story barn and stable, with concrete floor, built at a moderate expense, and in keeping with the line of farming which we desire to carry out, believing this to be the stable best suited to the conditions of our changeable climate and the health of our stock.

W. F. STEPHEN.

Huntingdon Co., Que.

Stone Basements Not Favored in Glengarry.

Editor "The Farmer's Advocate":

Basement stables have not been built to any great extent in these parts; that is, if we are to understand by the term, "basement stables," those built of stone, brick or concrete. A great many have what might be termed the wooden basement under their barns, and I have never heard one word of dissatisfaction coming from the owners. These stables are, as a rule, well lighted, dry and airy, where any system of ventilation is used. On the contrary, those who have had experience with the stone basement seem, as a rule, to have great difficulty with the ventilation. The stable is, as a rule, too hot, and, without exception, damp. One farmer in this district has attempted, with partial success, to ventilate his stable by connecting it with the roof by a pipe, on the top of which is a revolving cap which swings with the wind, making it possible to secure the greatest amount of ventilation at all times, consistent with size and length of pipe, etc. The general opinion, however, does not seem to be favorable to this class of stable. One farmer attributes the loss of all his cows in a single winter to the fact that they were housed in the above manner. We do not second this opinion, but it serves to show with what disfavor some regard the stone stable. Right here we would like to ask the question, what are the difficulties in the way of using hollow concrete blocks, which are being employed so extensively in building operations at the present time. We have had no experience whatever with them, but think that it is quite possible they might be used to advantage in this way. We should be glad to get the opinion of any one who has had experience in this matter.

J. E. M.

Glengarry Co., Ont.

One-story Annex for Stabling.

Editor "The Farmer's Advocate":

Live stock is the sheet-anchor of agriculture; therefore, anything which tends to promote the health, comfort, convenience and economy in caring for our domestic animals during our long winters is of the utmost importance.

Viewing this question from its various aspects, I think it will be conceded that, in order to obtain the best results, it is absolutely necessary that our stock should be well housed. Assuming this, your editorial on this subject, in your issue of Nov. 29th, suggests some very pertinent questions.

About ten years ago we had occasion to build a barn on the College Farm. As we had the construction of this barn in our mind for some time before it was erected, we took every opportunity to observe the construction of stables which were visited during those years, and were forced to conclude that the so-called basement barns, with stone or concrete walls, were more or less cold, dark and damp. At that time we could not get altogether away from the idea of a basement stable, so we decided to try some improvements. With this object in view, we made our basement story ten feet wider than our main barn. This extra ten feet was covered with a low lean-to roof. The south side and one end of this story were made of wood. This had the advantage of affording an opportunity of ventilating through the lean-to roof, and also of allowing for more effective windows. I am satisfied that this is a decided improvement over the entirely stone or concrete basement stables.

Having need of enlarging our stables a few years ago, we decided on another innovation. We made an excavation, and moved one end wall out twelve feet, and covered with a shed roof, the eaves of which were not more than a foot from the ground. This made it impossible to have windows in the wall, so we put them in the roof. The result has been that our most sanguine expectations have been more than realized. Roof windows not only admit light and heat under the most favorable conditions possible, but have the advantage of being less liable to become broken.

To sum the matter up, from my experience and close observation, my ideal of a stock barn, at the present time, is a two-story building, with stables running off from the basement. Would have the annex constructed with low posts, and just wide enough to accommodate two rows of cattle, and would give the cattle the entire structure for air space; that is, do not scaffold over the animals. Give them all the space to the ridge-pole for air. As you suggest, such stables would require a very light frame, and, consequently, would be cheaply constructed and easily ventilated. These stables would have another advantage for anyone keeping both beef and dairy breeds of cattle. Both of these breeds cannot be kept in the same stable under favorable conditions. Either the long-haired, thick-fleshed beef animals will be too warm, or the short-haired, thin-skinned dairy cows will suffer from cold. Under the annex system you could have a separate stable for each breed, without any unnecessary inconvenience or expense.

I will not take more of your valuable space, except to say that I have recently superintended the construction of one such stable, and, if I were building again, for myself, the only change I would make would be to light it through the roof.

F. L. FULLER.

N. S. Agricultural College.



Scene on a Western Canada Sheep Ranch.