

the farmer, because people would take more papers if they could get their mail more conveniently. I am glad to see that not only the "Farmer's Advocate," but some of the leading daily newspapers have taken this matter up, and are giving their readers a good deal of information on it.

Thanking you for your efforts in this matter in the past, and wishing you greater success in the future.

WM. E. GRIEVE.

Middlesex Co., Ont.

Material for Stable Walls.

Mr. R. C. Clute, K. C., York Co., Ont., writes us: "Mr. Peer's book on stable construction, pages 104 and 105, says: 'The best possible construction of a barn to attain this end (that is warm in winter and cool in summer) is to build it with two air spaces between the outer and inside coverings.' Then again, 'I have had much experience with stone- and brick-wall basements, and would on no account recommend them for any kind of stock. They are, as a rule, damp, chilly and unwholesome, if not unhealthy, for a great portion of the year. I am so prejudiced against them, compared with double-air-spaced wooden barns, that I would not have one put in a barn of mine if it could be done without cost.' What is your opinion of this? Cement, I presume, is much like stone in regard to dampness, etc. Is the opinion of this writer now admitted to be correct? I am aware of the immense number of cement basement barns, but if, as he states, they are unhealthy, the sooner this is generally known the better. I am about building a barn for cattle and horses, and do not wish to make a mistake in this regard."

Ans.—There is no doubt, all other things being equal, such a wall as recommended in Mr. Peer's book would be drier than a stone, brick or concrete wall, but the objection of dampness in a stable built of either of the last named materials can be overcome. Mr. Peer's experience was probably with stone walls as they were built some fifteen or twenty years ago. Then the common practice was to select a bank into which to build the barn, and to make the wall and all of the stable as air-tight as possible. Very often, too, the site was naturally damp, and no care exercised in its selection or drainage. In such a stable dampness would be inevitable, and would be but an indication of a worse condition, namely, lack of ventilation. Proper ventilation and dryness are difficult to obtain in a bank stable, but in stables built on the level, as is now the common practice, such conditions are comparatively easy to attain. We would have no hesitancy in advising our correspondent to use either cement or stone, on condition that ample provision be made for ventilation, that the basement be well above ground, the site fairly dry, and that drainage be put in about the walls. If cement is used, the walls should not be given a smooth finish. The cement blocks, with air spaces inside, though more expensive, will probably insure a drier atmosphere inside, and make a more attractive wall outside. Cement walls have been so long and so thoroughly tested that their utility is well settled. Being so much less expensive to build, as a rule, than stone, not requiring skilled artisans, they have superseded the latter almost altogether. They are the cheapest and most durable wall ever introduced in farm practice.

Wheat Breeding in Canada.

At the organization meeting of the American Plant and Animal Breeders' Association, held in St. Louis, Mo., on Dec. 29th and 30th, Dr. Wm. Saunders, Ottawa, is credited with showing that Preston, Stanley and other wheats bred by him have been widely distributed throughout the entire Dominion. The report goes on to say that Preston wheat has been tested as to its milling and baking qualities by leading experts in Britain and in Minneapolis, and found practically as good as Red Fife. It is also said to be in the lead in yield per acre in several experiment stations in Canada.

Whether Dr. Saunders has been correctly reported in the abstract press report sent out by the American Breeders' Association we are not in a position to say, neither do we wish to detract from the value of any good work which he may be doing at Ottawa for this country. We believe that plant breeding is, to the farmers of Canada, one of the most important lines into which scientific research is being extended to-day, and when an investigator can by selecting and crossing varieties produce a wheat that will yield even one bushel per acre more than, and be of equal quality to our best, he has added to the financial advancement of agriculture beyond estimate.

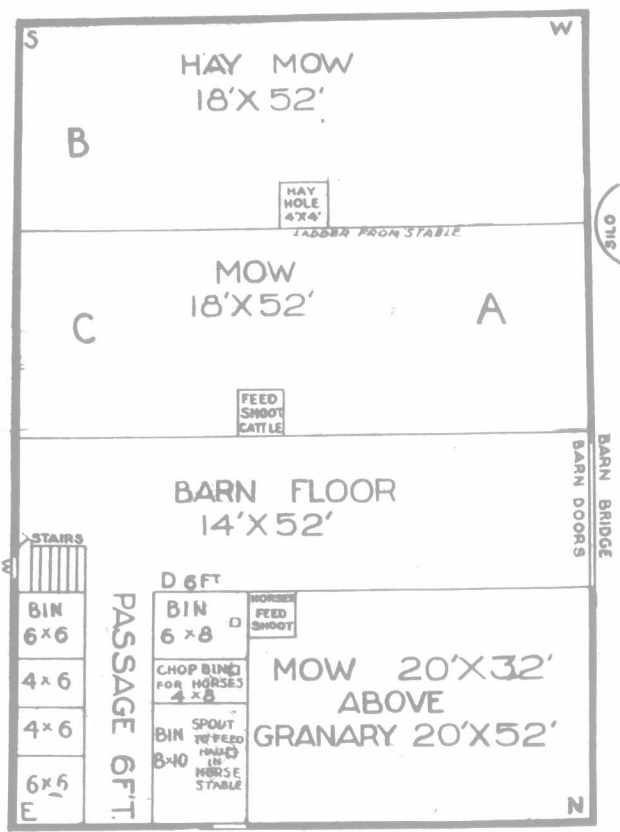
American Drovers and the Railroads.

One of the most recent innovations in American railroad management is to charge stock dealers returning from Chicago and other markets full fare for their passage. Previous to January 1st, the dealer who used a car for shipping purposes was given a complimentary ride to his original destination, and the action of the railway companies in inaugurating the new policy has aroused considerable dissension among the fraternity of stockmen.

Plan of a Convenient Barn.

In your issue of January 14th, I noticed a large barn that stabled about thirty head of cattle and six or eight horses. It allowed no feed-room or machine-house, and all work of stable cleaning was to be done by hand.

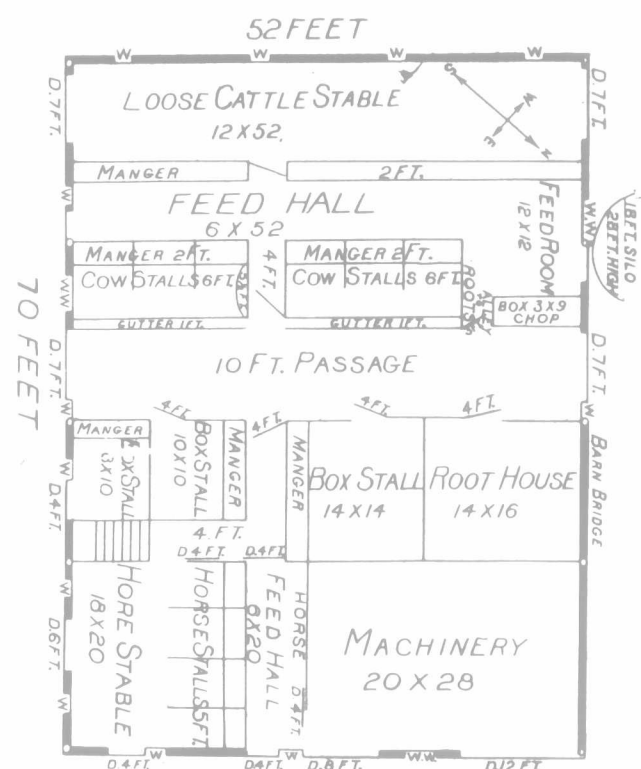
In the plan I am submitting for your inspection, I have taken the same sized barn, but I prefer having two feet longer on the west end where the loose cattle are. It stables a few more cattle,



a few less horses, and leaves a machine and drive house 20 x 28; also, a feed-room 12 x 15, and all the work is horse work, as far as possible, and the barn is convenient throughout, as a large part of the plans are in present operation.

A glimpse at the plan shows its convenience for a hundred or hundred and fifty acre farm, but I might add a few suggestions.

The basement would be of stone or cement (the latter preferred), to a height above ground above the drips of rain spatter, say two or three feet, then frame or whatever desired. Underneath all drive doors would be a wide foundation, and raised six or eight inches above the level, and nicely sloped up with cement. If the upper foundation were cement, the windows would be about two feet wide and one foot high, and the double widows twice the size, and all set well to the top of the wall.



It is not necessary to have all the loose cattle together, as gates can be swung on the outside wall at the posts, or fastened in the cement, and swung along the wall as desired. If the barn were two feet longer, it would probably be better to have three gates (if desired) to swing on separate posts, or a couple or three planks as bars serve as well.

The passage door would set to the outside of the manger, so as to avoid a hooking-corner.

This door should be short and swing several inches above the floor.

The feed-hall opens to nearly all the silo feeding cattle. The loose stall will hold fifteen or sixteen two-year-old steers and twenty yearlings. The cow stalls accommodate twelve cattle tied, and all may be cleaned with a wagon, and taken right away and spread on fields, or cleaned with a dump-cart and drawn to manure heap.

The silo, as you see, is handy at feed entry, and the chop-box is conveniently near, and the roots just across the manure passage.

A very handy illustration of a chop-box is given in your issue of the 14th inst., but on the top there should be a lid sloping to the manure passage, and the little cover at the back I would have two or three feet high, so no feed would roll in while mixing. This box filled five feet will hold a ton of shorts, or twenty to twenty-five bags of chop.

The walls of the root-house should be snugly built, and the beauty of it is you can draw your roots in a gravel-box on your barn floor and dump them down a chute through a trapdoor into the root-house.

In the feed-hall have spouts, coming from oat or grain bins above, come out near the partitions between horses, so as not to be inconvenient in feeding hay.

The doors about the horse stable (inside) are all roller doors, and close to the ceiling, as I believe horses are better in a separate compartment from cows.

Now for the main part of the building: In a barn of this size one should have two center posts under a swing-beam. After threshing, it would be well to save the space from west center post out for cut feed.

In filling the barn, if not crowded for room, leave from center post out for straw, marked B, also C.

The hay mow at the west end would hold thirty loads of hay, leaving a space, B, 17 x 18, for straw, but a load or two better be rolled in here on the bottom.

It is necessary to have a cement floor under the large loose cattle, but the yearling calves do not necessarily need it. Have a cement floor in feed alleys, and clean daily. A gutter that is much admired hereabouts is a cement one, with a drop of from six to ten inches behind the cows and gradually sloped up to manure passage, with about a two-foot top. Some have the whole passage on a round, with steeper slopes by drops.

Middlesex Co., Ont.

WM. BRYAN.

The Prosperous West.

The General Manager of the Canadian Bank of Commerce, in his address delivered at the annual meeting of shareholders recently, quotes the Winnipeg manager, who in considering the present position of the Western farmer, says:

"He has within the past two or three years improved his position by going into mixed farming. The cattle, horses, hogs, sheep, and all classes of animals, so necessary to the Eastern farmer, have increased very rapidly in numbers on Western farms, and as regards grade and breeding compare equally with any part of Canada, so that the Western farmer is not now so dependent upon a big grain crop as formerly, or as the majority of Eastern Canadian people suppose. He has also been somewhat cured of the craze for more land, and is directing his attention more to improving what he already holds, in the way of better buildings for his live stock and more home comforts for himself and family.

The actual number of acres sold is less than last year, but, whereas last year large blocks changed hands with little relative settlement thereon, this year the sales are mainly for actual settlement, while the prices obtained are fifteen to twenty per cent. higher. Of course, what we want is settlement, not speculation in wild land. The new settlers who came into the Northwest in 1902 numbered 72,800. This year, estimating December, the total reaches 118,000."

How Trees Breathe.

Besides giving out oxygen in assimilation, trees also take in oxygen from the air through their leaves, and through the minute openings in the bark, called lenticels, such as the oblong raised spots or marks on the young branches of birch and cherry and many other trees, says a student of tree life. All plants, like animals, breathe; and plants, like animals, breathe in oxygen and breathe out carbonic acid gas. This process of respiration, or the breathing of the tree, goes on both day and night, but it is far less active than assimilation, which takes place only in the light. Consequently, more carbonic-acid gas is taken into the tree than is given out, and the surplus carbon remains to be used in growing.—[Farmers' Review.]