## THE FARMER'S ADVOCATE.

# THE FARM.

#### A Well-ventilated Barn.

The accompanying basement plan illustrates a simple, compact and convenient barn, 82x84 feet, for beef and dairy cattle and horses, in satisfactory use for several years past on the farm of Messrs. D. and M. Mac-Vicar, South Dorchester Township, Elgin County, Ont. The basement walls are built of large bricks, with a cement concrete footing. It is all under one roof, but a solid brick wall separates the horse and cattle stables, and aids in supporting the superstructure. The space for vehicles ("drive shed" on plan) is 34x36 feet, and the horse stable, 36x46 feet; cattle stable, 48x82 feet. The cattle stable houses 80 head very comfortably; the stanchions tying 50 head of full-grown cattle, 25 in each row, and the box stalls accommodating about 30 head of yearlings. Except in the "drive shed," all the floors, including gutters and passages, are cement. The upper part of the horse stalls is finished with 1 round iron, which allows a free passage of light and air. For all the horses tilting mangers (hinged at bottom), with one slat opening in bottom to let dirt and chaff work through on to the floor, are used. The cattle box stalls are also fitted with these swing mangers. The horse box-stall doors are 41 feet wide. Manure sled and horses are used to clean out all the stabling. The stables are well lighted, with 29 windows of 9 lights, 10x12 inches each, three in the upper sash, every other one of which are hinged at bottom to be opened if desired, and six lights in lower sash. Two large chutes from above bring hay and straw into cattle feed alley, and one in the horse feed alley. From the granary above smaller chutes carry chop to the cattle alley and oats to the horses.

An outstanding feature of this barn is the ventilation system. On the peak of the north end of the roof is a large cowl, which turns to the wind, connecting with a galvanized iron pipe, 30 inches in diameter, which extends down through barn to a wooden box 3x6 feet, and about 10 feet deep, which opens into a cement hole 6 feet square below stable floor, marked "air" in cut. From this hole six 12-inch tiles, 6 inches below fleor, run out in three different directions, carrying fresh air to all parts of the stables. To raise its temperature it is made to travel as far as convenient under the floors before the big tiles are tapped on the upper sides about every six feet with four-inch tiles, through which the air empties in front of every pair of cattle and into all the box stalls. Wooden boxes by the walls are provided in the latter for the purpose, with openings on side, covered with strong wire netting. The front of the cattle mangers are made of inch boards, inverted-V shape, about 3 ft. high, and the tiles open into this throughout, and the air passes out

through openings also covered with netting. The writer examined nearly all of these openings, and without exception found a good current of fresh air pouring out. The moist, heated stable air passes upward through the three large feed chutes. The proprietors think the system might be improved by more exits at the ceiling, but state that, as it is, the stable air in the morning appears almost as fresh as when closed up the evening before, although the basement is filled with cattle. Last winter the temperature of the air coming in was raised from 20 below zero outside, to 10 above at the tile openings. The owners are well satisfied with the expenditure of a couple of hundred dollars to attain such results in ventilation. In the cattle stable three pairs of the large tile are in use, in order to provide a ufficient volume for the cubic-air space of the stable. In the plan they are shown by dotted lines. On returning from south end under feed alley, one of these tiles just runs half way along, and then its mate crosses in and takes its place the rest of the distance. This is practically the system once described and recommended in "The Farmer's Advocate" by Prof. J. B. Reynolds, of the Ontario Agricultural College. The stable ceilings are eight feet high. The cattle are turned out to water, but a system of inside troughs is contemplated. There are doors into the manure passage way from all the box stalls, so that they are easily cleaned out. A silo is to be erected next season at north end, opposite feed-alley door. Considerable space for root storage could be provided if a covered approach were constructed on east side of barn to the upper barn floor, and a door made through wall into one of the box stalls. There are no partitions in this basement to obstruct light, and labor has been reduced to a minimum. In these days this is all-important.

The lay-out of the upper part of the barn is also simple. One barn floor 21 feet wide runs from west to east, the approach being from the former side. All across the north end of the barn is a bay 26 ft. wide, and south of the floor two bays 14 feet and 21 feet wide, respectively. Out of the middle of these is taken the granary, 24x85 feet. From floor to barn peak is 46 feet, and three car tracks are used for unloading hay and grain. The roof has about 1-3 pitch and 51 ft. rafters, and is supported by four purlines. There are three large house windows in each end of barn, and two to light the barn floor.

#### Case of Cause and Effect.

You will find enclosed a cheque for \_\_\_\_\_, being payment for advertising of my sale. I think the money was well spent, as I shipped to buyers from a distance 22 animals out of 42 animals. It appears to me that those who want good stock are subscribers of your paper. HENRY B. WEBSTER. Wellington Co., Ont.



FOUNDED 1866

### Cement-Silo Building-Frozen Corp.

To the Editor " The Farmer's Advocate " :

I have read with interest and profit the articles in your much-esteemed journal about silos and silo-building, and while the information was excellent, your correspondents did not cover all the ground. In January 18th issue a writer told of farmers in his locality building silos of nine inches thickness at the base. I would like very much to hear from some of those men who have built and filled silos of this kind. It is a clear saving of thirty per cent. in gravel from the kind mentioned in the letters of January 11th. This would make a good round sum saved from each silo if the proportions of cement and sand were the same in each case. Our silos here are thirteen inches at the base, and plastered inside and out with one part fresh lime, one part cement to four of sand. They claim this adheres better than cement and sand alone. We get one 124 feet diameter, and 35 feet high, built and finished as above for \$170; we have to furnish one man and a team to assist. Here I might say that I would advise anyone going to build, not to make their silo less than 14 feet in diameter. The same gang will build it in the same time as one smaller, and it can be filled in a day too, so that there is some economy of labor; the smaller one always spoils the day, and you have to make it good to the help, while you never get the full day's work. I am not in favor of putting in stone on a cement wall. I can't see how anyone can pack gravel tight to the bottom side of a round stone. It is my opinion the wall would be better made an inch or so thinner, and the stone left out. I am much in favor of a roof, and it is a good plan to build a box in the roof, with the back end about four feet from the door then, on filling day, have the blower pipe come up near the roof-say, three or four inches-and this will drop the corn in the middle of the silo, and is very handy for spreading. One man can easily do it. Some here have a hopper, with a long bag attached, and keep it moving around, but I have noticed the bag doesn't last long, and I don't want to be the fellow who has to attach a new one. I have found it very convenient to have the straw cut to the end of the barn where the silo is, so when you want to mix it with the corn, one can go in the silo and one in the straw; then by throwing down forkful about it will mix as well as if it is put into the stable, and done layer about, and much quicker.

There is a good deal of talk about clean gravel for cement work. Well, Mr. Editor, I put river gravel into mine, and it seems as good as any I have seen. Let anyone who has good river gravel set some of it on a box for a test, and if it sets all right there I would not hesitate to put it into a wall of any kind. The gravel must be evenly mixed, large and small, or it will not be as strong as it ought to be; the coarse stuff will not lie close enough to hold well.

Some one asked some time ago about putting in dry corn, and the best method of adding the water. I would like to answer here, and give some of my experience along that line. My corn this year was frozen in the milk stage. I cut it two days after, and it was six days after that before I got it to the silo. I had it shocked up, and as the weather was very warm it got pretty dry. The bundles only seemed about half the weight they were when I shocked it. Men were scarce, and with much fear and trembling I put it in as it was, and, sir, I am well pleased with it, so much so that in future I intend to shock it a few days each year. This might not do for well-matured corn. Frozen corn has lost all its terrors for me, and I would say that even frozen corn is excellent feed.

The best method I have seen for wetting the corn is a barrel or milk-can set full of water near the intake of the fans of the blower. Set the can a little higher than the fans. Take a hose (it must be air-tight), fill it with water; it must be long enough to reach the bottom of the can inside and out when doubled over the side. Drop one end into the can and fasten the other end near the fans, and as the water runs out the fans will draw it and distribute it with the corn. The end can be made larger or smaller as desired with a string. Bruce Co., Ont. R. B. C.

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Basement plan of a well-ventilated barn for dairy and beef cattle, on farm of D. and M. MacVicar, Elgin Co., Ont. By error of the engraver's artist, th 4- in. openings through which air is admitted into the stables are shown larger than the 12-in, file underneath, and no openings are shown from the tile in the row of box stalls

#### Pointers on Building Round Cement Silos.

The commonest dimensions for round cement silos are 12, 14 to 16 feet in diameter, and 30 to 35 feet in height. In building the wall, we have lifted the steel rings as often as three times in one day. This would build 71 feet; but if we build 5 feet we think we are doing well. I like scaffolding on the outside best, say eight poles about five feet from silo all around the outside, with tie poles from one to the other to lay plank on. I like to raise concrete in barrow from outside with derrick or gin pole. When I build a very large silo, say 20 feet in diameter, I build from inside ; raise scaffold every three rings. No stones should extend through the wall; they would prevent one from making a nice smooth job, and also let the frost through much more A. E. HODGERT.

I received the premium Bible and Knife all right. They are much better than anything I ever expected. I will try to get you some more new subscribers for your paper.

8.

WM, HANSELMAN,