

corners and at the door. If your silo is so arranged that you can put a horse in to tramp do so.

Covering.—Tramp the surface thoroughly; as soon as you are done filling, put on about two inches of chaff or cut straw; then tramp again, and add about two feet of chaff or cut straw.

I am sending you a plan of our corn rack for hauling to barn. This is a very handy rig, as one man can pick up the corn and load it himself. It is also useful for hauling out manure and many other things on the farm.

JOHN FIXTER,
Foreman, Central Experimental Farm.

[NOTE.—The plan of rack sent by Mr. Fixter is similar in principle to that illustrated in another column. We notice, however, that he makes provision for stakes to hold the corn in position and from falling against the wheels, both fore and hind. He also braces these stakes so that a heavy load will not break them.—EDITOR.]

Silo Filling at "Pine Grove Stock Farm."

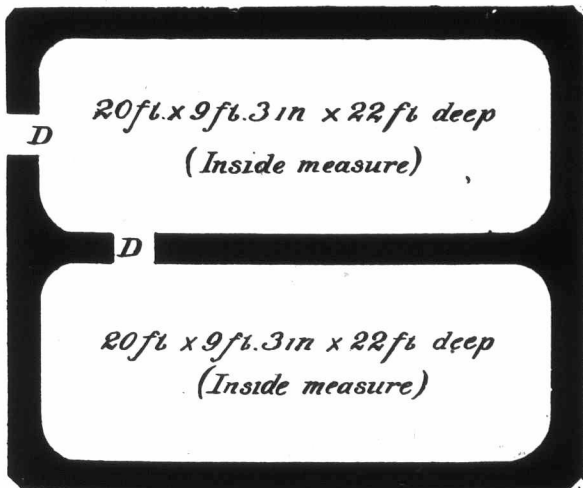
To the Editor FARMER'S ADVOCATE:

SIR,—We always make it a point to mature our corn as much as possible, as our seasons down here (Ottawa district) are later than in the West. We find there is no danger of the corn getting too ripe. We start cutting in time, that we can get it all stored before the first frosts, which usually come about the last of September. We cut by hand, using the ordinary sickle, the men going ahead and cutting and laying the corn in bundles—about what a man can lift nicely. Then we have one man stop in the field and help the teamsters gather it up and load it, when it is hauled to the barn and cut from the wagon. We use the Bain farm truck altogether, and we find them very good for hauling the corn. Doubtless some contributor will give you a plan for drawing with the common wagon. We drive our cutter with the engine and use wagons enough to keep her running, being careful always to keep the silo leveled and well tramped from the bottom, especially the sides and corners. In leveling we always keep the center considerably higher than the sides. We think by keeping the center of silo high that the ensilage in settling is inclined to squeeze out and keep tight to the sides, thereby excluding the air around the sides better than it would if it settled inward.

In covering we have always cut some soft hay or put on chaff to the depth of about eight or ten inches, and always kept it well tramped until the ensilage had quit settling, the object being to exclude the air as much as possible. We have never used water on the top of the silo, but if it were getting dry I think it might be beneficial in stopping the dry mold which we sometimes find toward the top of the silo.

J. W. BARNETT,
Mgr. Pine Grove Stock Farm (W. C. Edwards & Co.),
Russell Co., Ont.

Mr. Jas. A. James' Cement Concrete Silo.



A good many cement concrete and other silos have been erected in Canada this season, of which the one illustrated herewith is an excellent example. The finishing touches were just being given when we inspected it about a fortnight ago. The owner is Mr. James A. James, Niles town, Ont., well-known as a successful factoryman and farmer of long standing. Having studied the question of silos and ensilage for a long time, he decided last spring to build, and, durability and other points considered, the cement concrete silo was his choice. As the illustration shows, he has erected a pair of silos, equal in size and 22 feet deep. The inside dimensions are 9 ft. 3 in. x 20 ft. each. The end of it stands against the stable. The walls are 18 inches thick at the bottom and 12 inches at the top; the partition wall being heavier, 14 inches at the top. Inside the silo is about an inch larger each way at the bottom than the top so as to give a relief from the great pressure as the ensilage heats and settles. One part Queenston cement was used to six parts sharp, coarse gravel, and about one-third the whole bulk in stones was bedded in; 127 barrels of cement were used. A cement concrete bottom a couple of inches thick was also laid. The corners are round—the first we have seen so constructed—which should be a decided improvement. Pieces of stout sheet iron, curved and securely fastened, were used to form the semicircle. There is but one outlet (18 in. wide) for the ensilage into the stable or feed alley, so that one of the silos will have to be emptied through the other. This par-

tion door is about 24 inches wide. An ordinary shingle roof will cover the two silos, the peak being directly above the partition, over which, in the gable end, the entrance door will be placed, into which the carriers will extend. By setting a long triangle (shaped thus: \triangle) of boards on the top of the wall, Mr. James expects to be able to fill both silos at once without shifting the cutting-box or carriers. Any roughish spots in the walls after the planks were taken down were smoothed with the trowel, and to make them perfectly smooth at the last a wash of cement and water was rubbed on with a brush. Strips were bedded in the top of the wall, forming a trough to hold water when removed, thus causing the walls to set harder. They were also sprayed from time to time during the hot, dry weather in July and August. A less heavy wall for the partition would have served the purpose. Some would build with less length and greater width. A couple of feet more in depth is preferable if it can be secured, and the writer would prefer an exit direct from each silo; but they are a pair of about as substantial and well-finished silos as we have seen anywhere, and the proprietor has a grand crop of corn growing to fill them.

Leveling and Tramping in the Silo.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—For the best ensilage, corn should be allowed to come to the glazing stage, and cut and put in silo as soon as possible. For cutting the crop we use corn hooks, and lay in bundles as much as a man can lift and place on a low wagon. For hauling we use low trucks, with a flat rack of two-inch planks. We cut our ensilage with an ensilage cutter and use our own engine for the power. We keep one man in the silo most of the time, leveling and tramping; this is very important. We have abandoned covering our silo; but if the corn is overripe or dry, we pour two or three barrels of water over it. It is also necessary to tramp at intervals of a few days after filling, until it has done settling. I have found it best to keep putting corn in every day while filling the silo, as if you stopping filling for a few days you are apt to have a little moldy ensilage where you left off.

Brant Co., Ont.

R. S. STEVENSON.

Big Southern Corns for Ensilage Condemned.

To the Editor FARMER'S ADVOCATE:

SIR,—I have nothing new as to silos. Build them as cheaply as possible, bearing in mind lateral pressure. The strain is great, and strength is required to resist such. Let the beginner study the leverage and he will soon decide where the greatest resistance has to be met.

There are lots of contrivances to lessen labor, such as a peculiarly-arranged, low-down frame, with knife attached, but I don't use it. When silo-filling time comes the cost of an extra man or two will be money well spent. They cut close to the ground, and help to load; and where we live, in a community all depending upon each other, I would rather pay the extra price to the laborer, providing he does his work better, even if it costs a little more. The more mouths there are to fill the better for the producer. Grow only early-ripening corns. The big Southern varieties have done more to retard the silo than any other thing. Unripe, starchy corn won't make sweet silage, any more than green sour apples will make good apple-dumplings or cider to keep. The best and sweetest I ever made was when the stalks were brown and corn fit for cribbing—so dry that I watered the silage when putting away. Of this I am satisfied: The best corn for the silo is the corn that ripens in your particular district. Don't get greedy and expect sixteen-foot stalks grown thickly without the sign of an ear to produce good, sweet silage.

I think of nothing else, except to impress upon the mind of the beginner, that the main thing in building, after strength, is that the inner siding must be airtight, or as near that as possible. Rough siding will do on outside, but the inside must be smooth, so that there are no inequalities to prevent settling evenly.

Middlesex Co., Ont.

R. GIBSON.

Information Wanted re Clover Trouble.

To the Editor FARMER'S ADVOCATE:

SIR,—I remember reading in the FARMER'S ADVOCATE a few years ago something about a weed, or little vine, that saps the clover. I noticed some spots in my grass last season; they have spread considerably this year. I can see no roots that enter the ground, but it clings and mats on to the clover. I presume plenty of salt would kill out little spots? Would fall plowing and some other crop next season destroy it? I think it came with the clover seed.

Yarmouth Co., N. S.

Cross Fertilization of Grain.

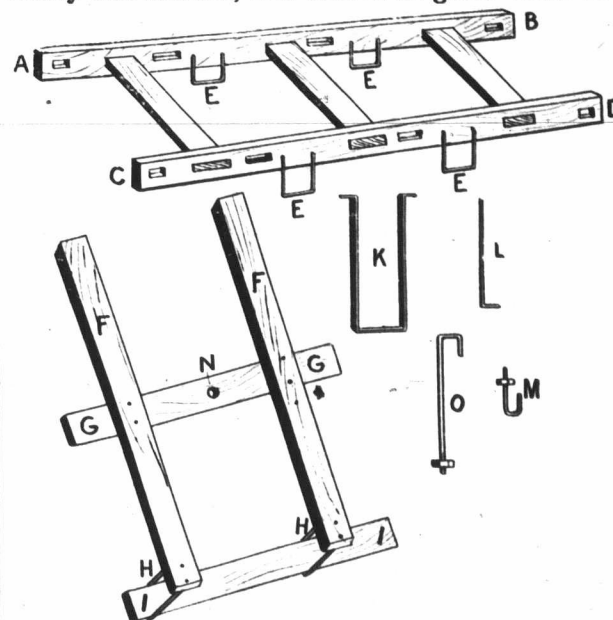
The natural decadence of the cereals through self-fertilization, or "inbreeding," is gradually becoming an accepted fact. There are many who believe, and not without some foundation for the belief, that the decreased yield of grain crops, compared with those of some decades ago, is due neither to altered seasons nor to decreased fertility, but to the constitutional degeneracy of the cereal. This view has been supported by the investigations and experiments in cross fertilization by Messrs. Garton Bros., of Newton-le-Willows. About sixteen

years ago the Messrs. Garton determined to attempt to produce improved types of cereals similar to those which have long been obtained in the case of flowers, fruit, and vegetables, by cross fertilization. This operation, however, which is easy enough in the cases last mentioned, is so difficult in cereals that it has never before been successfully achieved. The Messrs. Garton, however, have discovered a method by which it can be done, and Professor McAlpine, the Botanical Adviser to the Highland Agricultural Society, ranks this "among the greatest scientific discoveries of the nineteenth century." They have now produced a great number of fixed evolved types of wheat, barley, and oats, likely, it is thought, to revolutionize the whole conditions under which cereals are grown in this country and elsewhere. Several samples of their new grains in the fixed and unfixed conditions were shown at Winchelsea House. That wonderful improvements had been effected was manifest to the most casual observer.—*Farmer and Stock Breeder (Eng.)*.

Corn-Loading Contrivance.

To the Editor FARMER'S ADVOCATE:

SIR,—Enclosed you will please find \$1 for renewal of subscription. I also send you a cut of an arrangement we use in loading corn on the wagon while hauling to the silo. We have used it for nearly two seasons, and find it of great value in



[Corn Loader.]

saving labor. A B C D represent an ordinary hay-rack bottom. F F are two pieces of hardwood scantling, 3 in. by 4 in. and 7 ft. long, which pass under the sills of the rack—one immediately in front of the rear wheels and the other a sufficient distance behind the front wheels to allow the wagon to cramp. These are held in position by the four stirrups E E E E, which may be made of square or round iron and bolted to the sides of rack sills. G G is a plank 10 in. wide and 12 ft. long, fastened on the under sides of F F with 4 bolts, at a distance of about 16 or 18 in. from the sill C D. H H are two stirrups 16 in. long and 6 in. wide, in which the lower step (I) is placed and fastened with two bolts. These stirrups are made as Fig. K, and should be of some iron such as old wagon tire bent on the flat, bolted firmly to the under side of the scantling. Have the stirrups E on the sill A B made an inch shorter than the other two, and cut a shoulder on the under side of F F an inch deep and four inches back from the end. L is a strong hook fastened to the sill C D with the turned bolt M and dropped into the hole N. Tie the sill A B to the rear bolster to prevent it raising while treading on the steps when the wagon is empty. Fasten a stake 3 ft. long in each corner of the rack and load the corn crosswise, beginning at each end of the rack and finishing the load in the middle. By so doing the corn will not become tangled and hard to unload. If the rack floor rests on the bolsters the corn will sag in the center a little and ride much better than on a level platform. The corn should be loaded with the butts towards the steps and the wagon driven with the tops towards the cutter. If the cutter is set outside the barn it will not be necessary to take the steps off at all, but if set in the barn they can be quickly removed by lifting the hook and drawing them out of the stirrups. These steps are the proper height for lumberwagons that have been cut down, so that for a high wagon they would have to be changed a little. When the cutting is done outside the barn, instead of the stirrups, etc., I would use four hooks (made as Fig. O) to hook over the edge of the sill and pass through the scantling, with a nut on the under side. This would hold the steps firmer and reduce the blacksmith's bill.

JOHN BONIS.

Perth Co., Ont.

[NOTE.—See page 334 for plan of corn rack.—ED.]

In England the artificial coloring of margarine so as to resemble or imitate butter is absolutely prohibited in the new regulations, but no attempt is made to compel the adoption of any particular color, such as pink, green, or red. The mixing for sale of margarine with butter is also prohibited.