

use in arriving at proper market values, and suppress, in a large measure at least, artificial manipulation of the grain markets by large operators, often to the great loss of the producer of the grain. Secondly, to compile at headquarters, at Rome, and distribute to the countries belonging to the Institute, all the latest information on agricultural reasearch work that may be conducted at the various stations in the countries represented.

The idea of the Institute was presented to the King of Italy, who was very strongly impressed with the value of the scheme, and invited representatives of the different nations interested to a conference, to be held at Rome, in 1905. This conference resulted in the drafting of a definite plan, somewhat as outlined above. The proposition was submitted to the various governments interested, and in 1907 about thirty countries had accepted the plan. Great Britain requested that invitations be sent to the self-governing colonies. This was done, and in the spring of 1908, Dr. J. G. Rutherford, Live-stock Commissioner for Canada, went to Rome to meet the committee for perfecting the organization. In November the general conference was called, and Hon. Mr. Fisher attended as a representative from Canada.

The maintenance of the Institute is provided for in two ways: The King of Italy has endowed it from his private estate, so that there will be an annual income of \$60,000. The first three years' income has been used in erecting suitable buildings and furnishing accommodation for the staff. In addition to this, each country is expected to contribute annually to the expenses. Canada's share will amount to about \$4,000 per year, and, in addition to this, there will be the expenses of the delegate to the conferences. The work is just getting under way, but great things are expected from it.

Silo Enquiries Answered.

Editor "The Farmer's Advocate":

In reply to D. R.'s queries in issue of Jan. 21st, I would say that the sill of the first door of silo is on the top of first ring, 2 1/2 feet from floor, and this door is 2 ft. 4 in. by 4 ft. 10 in. There are four doors above this one, 2 ft. 4 in. by 3 ft., about 5 feet apart, except the top one, which is closer. These doors are made of two thicknesses of 1-inch pine, with tar felt between. A recess is made in the cement to receive these doors, so that the inside is flush with the inside of silo. The doors are made in two pieces. The ladder is beside these doors, and is enclosed in the chute for putting down silage, which goes from the ceiling of feed-room to top of silo, and has a window in the gothic to furnish light. There is also a large window in feed room, and another window in granary.

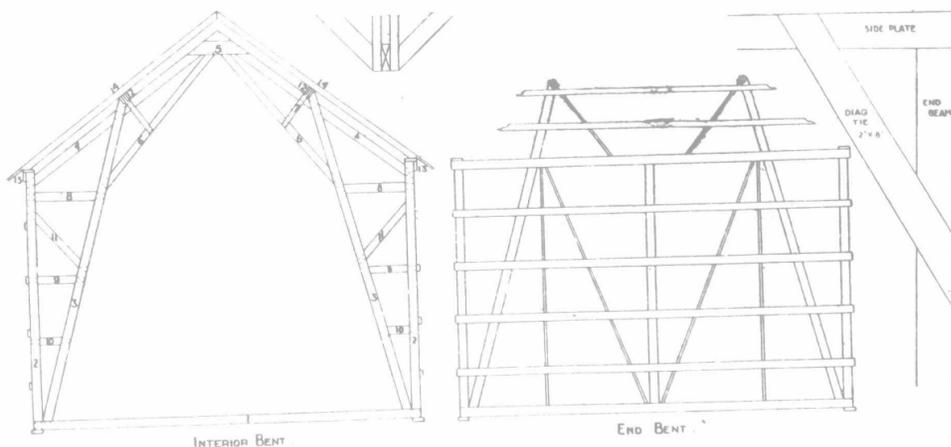
"D. R." asks why I did not start two or three feet below stable floor. I had to dig out about five or six feet to get to the level of stable floor, where the soil was a sort of limestone rock and gravel, and was not easy to dig, but which was very good for a foundation. We thought that a 14-foot silo was large enough for a 100-acre farm, and still think so. "D. R.'s" plan of having the taper on the inside of silo would not work out well in the settling of the silage, as it would tend to prevent or hinder the settling. I think I forgot to mention that four or five strands of No. 7 wire were twisted and put in the middle of wall below and on top of each door, and that stones were used in the wall for the lower 15 feet, care being taken not to let them reach either the outside or inside of wall. I think a silo 37 1/2 feet high is better than one only 30 feet, as it gives the silage a better chance to settle, and the blower seems to send it up 37 1/2 feet just as easily as it would 30 feet; at least, it goes up all right. D. L. Oxford Co., Ont.

Plank Frame for Barn, 30x60.

Editor "The Farmer's Advocate":

Could you furnish me with a plan and bill of material, through the columns of your valuable paper, for a plank-frame barn 30 x 60 ft., 20 ft. to plates, similar to the one published in your issue of January 7th, only with an ordinary roof, instead of the hip-roof. Mr. Gilmore seems to speak very highly of that style of barn, both from point of strength and economy.

SLUGGETT BROS.
Nantano, B. C.
Ans.—In answer to Sluggett Bros.' request for plans and quantities for above-size barn, to be furnished through the columns of "The Farmer's Advocate," I would respectfully submit the accompanying, and am confident that, if built strictly according to directions, they will have a barn proof against decay and windstorms, and for less money than the cost of framing the old-style structure, for work alone.



BILL OF MATERIAL.

- Two end bents:
 - Four sills, 2 x 8 x 30 feet, or eight 2 x 8 x 15 feet.
 - Twenty nailers, 2 x 6 x 15 feet.
 - Four beams, 2 x 8 x 30 feet, or eight 2 x 8 x 15 feet.
 - Twelve posts, 2 x 8 x 20 feet.
 - Two post fillers, 2 x 4 x 20 feet.
 - Four braces, 2 x 6 x 21 feet.
 - Eight purline posts, 2 x 8 x 27 feet.
 - Eight purline braces, 2 x 4 x 9 feet.
 - Two stiffeners, 3 x 6 x 20 feet.
 - Four uprights, 2 x 8 x 20 feet.
- Four interior bents:
 - Eight sills, 2 x 8 x 30 feet, or sixteen 2 x 8 x 15 feet.
 - Eight sills, 2 x 8 x 2 feet.
 - Sixteen posts, 2 x 8 x 20 feet.
 - Sixteen purline posts, 2 x 8 x 27 feet.
 - Eight sub-supports, 2 x 6 x 16 feet.
 - Eight collar ties, 2 x 12 x 6 feet.
 - Sixteen stays, 2 x 4 x 4 feet.
 - Eight ties, 2 x 8 x 7 feet.
 - Eight ties, 2 x 6 x 5 feet.
 - Eight ties, 2 x 6 x 4 feet.
 - Eight braces, 2 x 6 x 8 feet.
- Side timber:
 - Eight sills, 3 x 10 x 17 feet.
 - Thirty-six nailers, 2 x 6 x 13 feet.
 - Ten plates, 2 x 8 x 13 feet.
 - Ten plates, 2 x 10 x 13 feet.
 - Twenty purline plates, 2 x 8 x 13 feet.
 - Sixteen couplings, 2 x 8 x 8 feet.
 - Four couplings, 2 x 8 x 4 feet.
 - Four purline braces, 2 x 4 x 8 feet.
 - Sixteen purline braces, 2 x 4 x 6 feet.
 - Eight uprights, 2 x 6 x 20 feet.
 - Two uprights, 2 x 6 x 8 feet.
 - Sixteen braces, 2 x 6 x 21 feet.
 - Four braces, 2 x 6 x 10 feet.

KEY TO ELEVATION NUMBERS.

- 1—Sill, 2 planks, 2 x 8.
- 2—Posts, 2 planks, 2 x 8.
- 3—Purline posts, 2 planks, 2 x 8.
- 4—Roof supports, 1 plank, 2 x 8.
- 5—Collar tie, 2 planks, 2 x 12.
- 6—Sub-supports, 1 plank, 2 x 6.
- 7—Stays, 2 planks, 2 x 4.
- 8—Main ties, 1 plank, 2 x 8.
- 9 and 10—Ties, 1 plank, 2 x 6.
- 11—Brace, 1 plank, 2 x 6.
- 12—Purline plates, 2 planks, 2 x 8.
- 13—Main plates, 1 piece 2 x 10, and 1 piece 2 x 8.
- 14—Rafters.

The small quantity of material used in the frame requires it to be sound, and of the given dimensions. The sills are of 3 x 10 material, laid in soft mortar, and bedded by repeated blows of a heavy hammer. All splices must lap 18 in., and be carefully spiked. On these I first lay off the positions of the bents, and set the two joists to be used as ties about 6 1/2 inches apart, thus forming a sort of pocket, into which the ends of the posts settle as the bent is raised. When all of these are placed, the joists are placed between

the spans and the floor nailed in place, leaving ample room for all posts on end and side to go into place.

We are now ready for the bents, and commence by building the end bent foot of posts to end of building, and outer end resting on trestles. The way I do this is by laying planks from foundation to trestles, and on these planks the nailers are spaced, and, upon the posts and other vertical timbers being laid in place, it is not so very difficult to spike up through from below.

My reason for not raising, as Mr. McIntyre suggests, is that I cannot get the upper ends of my purline posts to clear the sub-support and stays. The remainder of the bents are built in the usual way, foot toward opposite end to which we commenced, and so proceeding to other end bent is completed, and, being now ready to raise, I have all girths or nailers carried to the proper span, and spikes started, ready to place when bents are raised. Plates are put in same shape, and, on the arrival of twenty to thirty men, we proceed to raise and stay-lath the end bent, care being taken to have it plumb before securing. Then bent after bent is quickly raised, those of the interior being kept from spreading at the bottom, while being raised, by safety blocks, which are removed as soon as posts are spiked to tie sills. When we arrive at last, or end, bent, which is resting on trestles, I have a tackle block attached to each purline of the last bent raised, and carried out and secured to end beam at purline post. By this method the bent is easily raised after the men start in with the "pikes."

Now plates are hustled into place, and rafters are carried and set ready for the younger men to run up over the purlines into position and spike; and in something like three hours the frame is all up, when the carpenters commence placing the uprights, which stand vertically between each post in the sides, and the braces which fill in alongside them. These must be set edgewise, to resist the outward thrust of fodder, and, on the nailers being spiked to them, the frame is completed by inserting the purline braces, and the frame is safe from wind.

Each plate is built of two planks, the main being a 2 x 10, laid on top of posts, and a 2 x 8 lapping down over sides of posts, and the purline built of two planks, 2 x 8, with 2-inch space between.

I would draw attention to the end center post, and advise that it be constructed as shown. To support the end from inside pressure, and to resist wind pressure on outside, the simplest and best method I have ever seen is by the use of the diagonal tie. This laps over main plate and runs diagonally across the corner, and is spiked to the end beam.

The elevations explain themselves. The roof is given a rise of 9 inches to a run of 12 inches. Hoping that the readers may profit by these drawings and explanations, I must say that, to hear of the possibility of a plank-frame being built in British Columbia is indeed encouragement.

ALF. A. GILMORE.
Huntingdon, Que.

