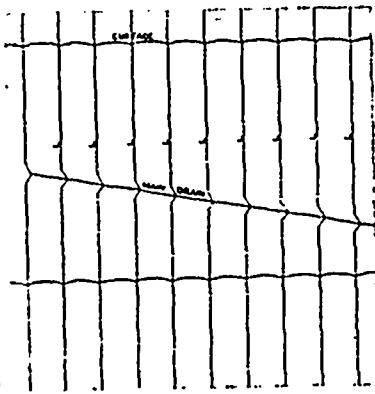


complicated; but making a map is much more agreeable work than digging over rods of ground searching for a drain of which no bearings can be traced.

There is a vast acreage of land in Canada comprised of strong, retentive clay, which many claim will not repay the expenditure of tile draining, for the reason that the subsoil is so impervious to water that drains will not draw as they do in the more porous soils, and as this clay land comprises a large proportion of many of the best counties any plan by which they can be permanently improved is of great importance. We find this land plowed in narrow ridges with numerous cross furrows, the whole depending upon surface drains, which not only require opening up each time the field is worked, but only partially do their work, while they are a constant source of annoyance to running machinery.

But tile draining and surface draining can be made to work admirably together on this land if the work is laid out as shown in the accompanying figure.



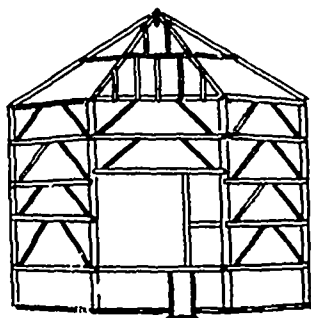
The preparation is best made when the field is in fallow. It should first be levelled, and all old dead furrows filled up and worked out. Then lay it out in lands four rods wide, at right angles to the way the field is generally plowed. Give these lands a slight crown, which may take more than one gathering. The work must be carefully performed so as to give a gentle decline from the crown to the dead furrows, where lateral drains are to be put in to carry the water, as in the figure. The advantage is apparent when the field has again been plowed across the lateral drains thus laid, as each furrow as it is plowed forms a drain, the outlet being the tile drain, while the track of each drill or harrow forms a surface drain. A field thus laid out will remain in this form for years while the slight depressions and crowns will not be found the least in the way, and the field can be plowed in much larger lands as the dead furrows will not be required for drainage.

### An Octagonal Barn.

By WM. RENDALL, A.O.A.C., Campden, Ont.

The following sketch and accompanying plans are descriptive of an octagonal barn that the writer erected upon a fifty-acre farm in the summer of 1893. The building proves satisfactory and convenient in every respect. For the foundation a trench was dug three feet deep and eighteen inches wide; this was filled with small stones, thrown in dry and pounded down with a heavy stone hammer. Upon this there is a wall of masonry two feet high and eighteen inches thick, on which plank sills 3x10 inches are bedded. The framework rests upon this wall, and consists of eight corner posts and other necessary timbers, as shown in the elevation plan.

**Dimensions.**—Length of each side, 18 feet; distance from ground to eaves, 32 feet; height of stable, 8 feet; each side is 18 feet long, and all the girts are of that length. The length of corner posts is 30 feet, and there is a row of girts every 6 feet. The corner posts are of round timber. They were cut in the winter, and the bark peeled off. The posts are framed by cutting gains into them to receive the girts. Round timber is as suitable for these posts as squared timber, as they are equally easy to frame, and the first cost is much less. The girts are 6x6 inches, and are framed by sizing them down



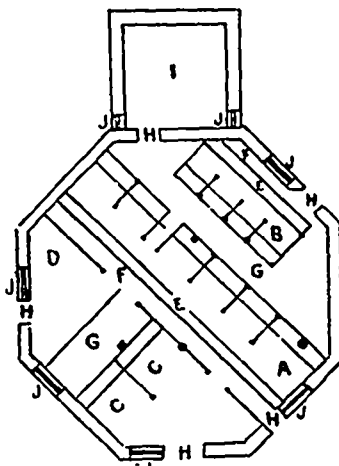
at the ends to 4x6 inches where they fit on the posts. They are fastened to the posts with 9x½-inch square wrought spikes, two spikes being driven into each end of the girt. The plates are 6x6 inches, and are halved into each other at the ends, and a ½-inch bolt passes through them and up through the corner rafter, holding all firmly together. There is a brace of 6x6-inch stuff fitted on the inside of the plates at the corner, and bolted on with ½-inch bolts. This makes the corners of the plate rim very strong. The corner rafters are 3x10 inches, and 28 feet long, and they all meet around an octagonal post at the peak. The purlin plates are 3x6 inches and 7 feet long, and are held in place by being tenoned into the corner rafters. The intermediate rafters are 2½x5 inches, and are placed 3 feet apart.

All braces are made of 3x4-inch scantling, cut with the proper angles at the toes, but not having any tenons. The girts are framed for the braces by boxing out seats one inch deep for the braces to rest in. The braces were cut ½ inch long, and were got in place by springing the girts. In this way every brace was tight and doing its work, and the strength of the girts was not reduced by having to cut mortises for the braces. A 4-inch wire nail was driven into the toes of all braces, so that they could not be displaced until the siding was put on, when each brace was nailed to it the same as the girts.

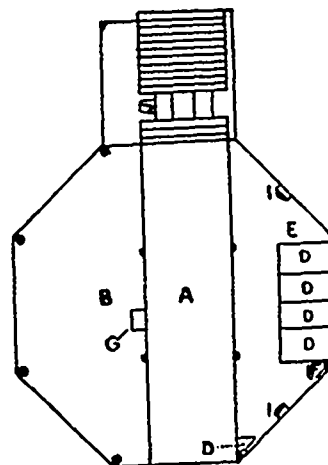
The siding is of inch lumber, fastened on with 3-inch wire nails. To the height of 6 feet all around and of 14 feet on the three sides next the granary it is double boarded, with a thickness of tarred building paper between. This is for the purpose of keeping the stable warm, and keeping the snow from blowing into the granary. The roof is sheathed with inch lumber, and covered with cedar shingles laid 4 inches to the weather. The roof is over one-third pitch.

**Arrangement.**—The ground plan shows how the stable is arranged; *aaa* are stalls for 12 head of cattle; *bbb* are smaller stalls for yearlings, and will hold 8 head; *cc* are double stalls for horses; *d*, box stall; *ee*, gutters, 4 inches deep and 18 inches wide; *f*, passage behind cattle; *gg*, feed rooms; *hhh*, doors; *i*, root house; *jjj*, windows. The stalls are divided, as shown in plan, by

posts being set in the ground 2½ feet deep. Rabbits are chiselled into the posts, into which the ends of the stall planks fit. The stall divisions are 4 feet high, and are neat and strong. The stable is laid out to economize space and be convenient, any part of it is easily and quickly reached from any other point, and the feed rooms and root house are so located that the food can be given to the stock with a minimum amount of labor. Light is admitted into the stable through five windows, each having four lights of 12x16-inch glass. The walls of the stable are two feet stone wall and six feet double boarded, with tarred paper between.



**Barn floor.**—The plan of the first floor shows how the interior of the barn proper is arranged. The barn floor *A* being placed nearer the granary side leaves a larger mow on the other side, and the floor over the granary side is so much smaller, thus leaving more room for the storage of crops than if the floor had been placed in the centre of the barn. *B* is a mow, having a floor area of 620 square feet. The mow over the granary has a floor area of 425 square feet. There is also a large space over the drive floor, which can be scaffolded, and used for storing crops; there being a height of twelve feet from the scaffold beams to the top of the plates. There is an open space between the bins and drive floor. It is a convenient place to set the fanning-mill when cleaning grain, and when drawing in the team is brought back past the load along



this space to work the horse fork. This is a great convenience, as in many barns, an extra horse must be kept for unloading, or else much valuable time is wasted singling out the team to get past the load. *DDD* are bins each of which will hold 110 bushels. *E* is a space that can be used for a temporary bin at time of threshing, or as occasion may

require. *F* is a shute to the feed room of cattle. *G* is a shute to the feed room in front of horses. *D* is a shute for bedding, and leads to the horse stable. *I* windows. *J* is a shute in roof of root house.

The walls of the root house are built of stone laid in mortar. The roof is covered with mica roofing, which admits of a very flat pitch. There is a driveway of planks over the roof, as shown in the plan. Some of the planks are removed to show the shute *J*, and the joists that the planks rest upon. When roots are being drawn to the root house, these planks are slid two feet to the right, so as to leave the shute uncovered. The wagons can then be drawn alongside, and the roots unloaded. The shoot being near the centre of the root house, the labor of levelling back the roots is reduced to a minimum.

**Advantages of octagonal barns.**—Great saving of materials used in construction, there being no inside timber required to strengthen the octagon. Less outside wall is required to enclose the same area. The larger the building, the greater the gain. (To build a square barn equal capacity to an octagonal one, with of 22-foot sides, there would be required about 15 per cent. more material.) A roof that is very ridged, self-supporting, and not liable to be damaged by heavy gales; greater strength of building to resist pressure from the crops within and from the wind without; greater concentration, accompanied by a reduction of labor in feeding stock, and in other ways; reduction in length of timber required for building; a more attractive style of architecture.

### Ashes.

*Editor Canadian Live Stock and Farm Journal:*

SIR,—The article on ashes in the last issue is timely. I am amazed at the density of the Canadian farmer in this regard. Some years ago I spent the night at a farm house, and, after breakfast the next morning, a visitor was announced in the shape of the ashman. He came in to warn his hands, which were hard and caloused from his work. The good woman expressed her fear that he might not get any out of the ash-house, as the winter had been severe. He managed to dig out some two bushels, and paid in cash at the rate of fifteen cents a bushel. He drove a team, and went from house to house, and generally made up a load by the afternoon, so he told me.

Boston firms have standing ads. of "Nature's own fertilizer"—sifted, hardwood Canadian ashes—analysis guaranteed, etc.

Is there not need of THE JOURNAL to extend all along the line of these farmers who throw away their own precious substance? We give good incomes to middlemen and to enrich the farmers on the other side, who pay a pretty stiff price for what they get and must have to keep their farms in good order.

"Man is a bundle of habits," as I have proved in my own neighborhood, where I have counselled great care in saving ashes. Had I been a doctor or lawyer, and had charged a substantial fee, they might have obeyed or followed my advice, but they have not, and, as my example is refused, I seek wider fields and pastures new, and give your readers my experience in this matter.

We use one good cook stove and a lux stove in the "keeping room," that is all. Every morning I draw out all the ashes into an old pan and set it in the woodshed to cool. I have a rotation of three or four. I take the coolest one and sift the ashes into a barrel, reserving my charcoal and burnt bones for my hens and hogs, which they get periodically. I have now (April 1st) four barrels packed down hard, and ready to be sown on my onion and cabbage beds, which, with a little dried blood, and perhaps a trifle of nitrate of soda, would make you, Mr. Editor, astonished at your own amazement, if by chance you came my way.

BARNACLE MINIMUS.

### Exorbitant Rates.

*Editor Canadian Live Stock and Farm Journal:*

SIR,—When will the farmer cease to pay exorbitant rates? When will he avail himself of advantages within his reach by the exercise of a little ingenuity?