

# THE CANADA FARMER

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## The Field.

### The Canadian Root Pulper.

Mr. Palmer, of Mount Vernon, has furnished the following detailed description of the machine he has constructed for the purpose of pulping roots. He gives his brother farmers the full benefit of his own thought and ingenuity, which have been successfully exercised in the production of a machine that the Canadian stock feeder will find it greatly to his advantage to introduce into his farm economy.

#### CONSTRUCTION OF FRAMEWORK.

The framework consists of four posts, two side rails, two side boards and two cross rails.

The posts are made of 3 x 4 inch stuff, and are each 3½ feet long; the side rails are of 2 x 9 inch stuff 3½ feet long; the side boards are of 1½ inch stuff 19 inches wide and 3 feet long; and the cross rails are 2 x 4 inch stuff 1½ feet long.

The above dimensions are given as outside measurement.

Measuring 19 inches from the top of the post, a mortice is cut to receive the tenon of the side rail. The mortices for the cross rails are cut just above, and, of course, at right angles to those for the side rails. A groove 1 inch wide and 1 inch deep is cut into each post, from the mortice for the side rail to the top. This groove is to receive the side boards, which are simply slipped in after the machine is made and put together. Feet of a suitable length are firmly fastened, by means of mortice and tenon, to the bottoms of the posts.

#### CONSTRUCTION OF THE CYLINDER.

The cylinder is twelve inches long and ten inches in diameter. It must be made of the best material, such as a good oak knot. The shaft which carries it is twenty-three inches long and two inches in diameter. Beginning at one end of the shaft, and dividing it into parts, we have two inches for boxing, twelve inches for cylinder, two inches for

boxing, two inches for balance wheel and five inches for pulley.

It is important that the pulley and balance wheel should be on the same side of the machine, since then the other side is clear to remove the pulp from.

The pulley may vary in diameter according to the amount of speed desired. The one on my machine is twenty inches in diameter.



FIG. 1.

The shape of the teeth for the cylinder can only be shown correctly by a drawing. (Fig. 1). Their dimensions are 2½ inches long, ¾ inch wide at the widest part, and 3-16 of an inch thick—not ¼, as stated in my former letter.

I must here acknowledge my indebtedness to Messrs. Maxwell & Whitelaw, of Paris, Ont., for the form and manufacture of the teeth.

The teeth are made of the best of steel. In putting them in great care is necessary in order to have them all project exactly the same distance above the cylinder. In setting, bore a hole slightly smaller than the shank of the tooth. Drive in the tooth the proper

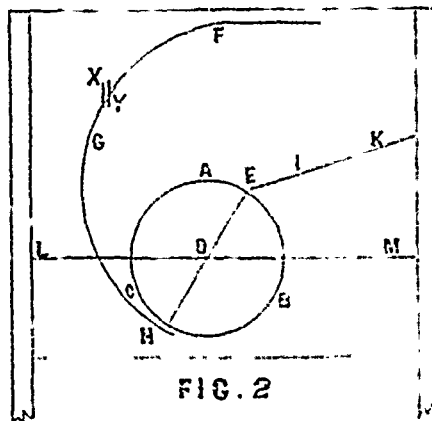


FIG. 2

distance, and, to hold it firmly, drive a large cut nail on one side of it. They should not

be set promiscuously over the cylinder, but in four distinct lots of twenty or twenty-five each.

#### CONSTRUCTION OF THE ARCH.

This is probably the most difficult part to describe clearly, as well as to make. Figure 2 exhibits to the eye the relative positions of the cylinder, arch, side boards and side rails.

In this diagram, *a b c* represents the cylinder, the centre of which is *d*, *g h f* the arch, of which *e* is the centre; *i k* the feed board, extending from the hopper to the top of the cylinder; *l m* the line between the side rail below and the side board above. The diameter of the arch is twice as great as that of the cylinder after the teeth have been inserted.

The position of the arch in this diagram is slightly different from that described in my former letter. The change, however, I consider an important improvement upon the original.

The arch is necessarily in two parts, the lesser of which is built, as can be seen in Fig. 2, in the side rails, and the remainder in the side boards. It is composed of small segments slipped into a groove cut into the side boards and side rails. The groove is one and a half inches wide and half an inch deep. If the segments be made of hard wood it is only necessary to fasten a small iron bar to the bottom of the arch at *h* to prevent the too rapid wear of the wood; this bar must be set as close to the teeth as possible. If, on the other hand, the segments be made of soft wood, the arch must then be lined with iron.

To guard against thoughtlessness on the part of the operator, a hole should be cut through the arch at *x y*. The object of the hole is to enable the operator to clear the machine without putting his hand under the arch, for sometimes the roots will get wedged together, and so stop feeding. When this occurs, all that has to be done is to put a small stick through the hole, and start the roots on in their order.