

The Field.

Improved Pan for Boiling Maple Sugar.

MR. HARVEY FARRINGTON, of Norwich, who is not only an experienced cheese-maker, but a skillful manufacturer of maple sugar, has called our attention to the merits of a new boiling pan, respecting which he remarks, "too much cannot be said in its praise." It was originally invented for evaporating sorghum syrup, but has been found equally useful in making sugar from the sap of the maple. Having seen this evaporator in operation at some of the State Fairs, where the whole process is exhibited from the crushing of the sorghum cane to the crystallization of the sugar, we sought among our notes and papers, and found a full account of the affair, together with an engraving which our artist has reproduced, and with the help of which the whole thing will be readily understood. Under Mr. Farrington's direction, Mr. L. F. Bungay, tin and iron worker, of Norwich, made one of these evaporators last season, for Mr. Farrington's own use, and it is after actual trial of its merits in the sugar-bush that the emphatic recommendation above quoted has been given. We have received from Mr. Bungay a small model of the pan or Evaporator, which has materially assisted our artist in making the annexed engraving. The entire arrangement as shown in the engraving, consists of a brick chamber, which encases a fire-box; a brick chimney to carry off the smoke; a raised barrel to supply sap to the pan; the pan itself, made of tin, sheet iron, or copper, and crossed by raised ledges with open spaces at alternate ends to produce a lessened flow of the liquid to the outlet; and finally a tub or vessel to receive the syrup when the boiling process is finished.

The philosophy of this Evaporator is embodied in the following principles:—

1. To evaporate with the utmost rapidity. Too long boiling darkens the syrup and injures the crystals.
2. To heat intensely and cool quickly for skimming purposes. This operation secures a more perfect clarification than by the use of chemicals.
3. To remove the syrup from the evaporator upon the instant it has attained the point of crystallization, and yet in such a manner that there is no danger of the syrup scorching after it is deposited in the coolers, as it is liable to do when removed in large batches.

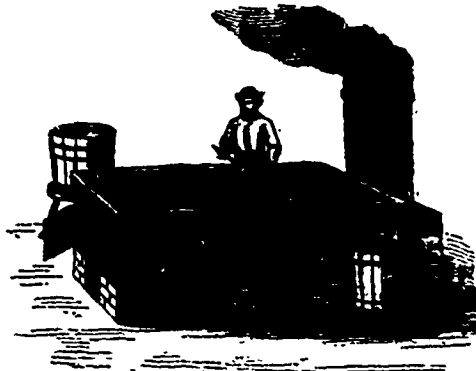
To secure rapidity of evaporation, a very shallow body of juice is used; and, as this shallow body would be liable to burn if not in continual motion, a running stream of juice is introduced. But this would be of little avail were no means provided for increasing or retarding its speed to correspond with the heat, so that it shall always reach the outlet just

as it has attained the right thickness. For this purpose gates are used. By means of these it is easy to change the motion, and thus increase or retard the speed of the current.

Cool surfaces are afforded at the sides, to which the scum will retire, and thus prevent remingling with the sap and injuring the sugar, as is the case in common pans.

The ledges are introduced:—1. To lead the juice back and forth, first, over the heated centre of the pan, then to the cool sides, where the scum is collected. 2. These ledges serve as arrests to prevent the scum passing down the pan into the finished syrup. 3. A great advantage in the use of a transverse current is that the syrup may be safely brought to a sudden and much higher heat than in the common pan, for it is immediately led to the cool side, the scum deposited, and all danger of scorching obviated.

The Evaporating Pan is constructed of sheet metal, copper or iron, with wooden sides, and so divided by ledges as to form a continuous transverse channel.



From the foregoing description any competent tinsmith can make the pan in question, but we have Mr. Bungay's authority for stating that he is prepared to furnish them at the following prices:—

No. 1. Iron, 40 in. by 10½	\$20
No. 2. Iron, 40 in. by 12½	25
No. 3. Iron, 40 in. by 14½	30
No. 4. Iron, 40 in. by 16½	35

We add the following directions for using this Evaporating Pan:—

1. Place the pan upon the arch, perfectly level, and close the outlet with a cloth-covered plug; cover the bottom of the pan with juice. As the juice becomes reduced, draw off some from the lower channels, and return to the upper, until the syrup, in the last channel has become of the right thickness, when the plug may be opened sufficiently to allow of the escape, into coolers, of a small stream.
2. Use good wood, about three feet in length.
3. IMPORTANT TO REMEMBER! The supply of sap should be fully equal to the evaporation, but no greater.

4. KEEP THE FIRE AS HOT AS POSSIBLE. There is no danger of scorching, if the third Rule be carefully observed.

5. So regulate the rapidity of the stream through the pan, by means of the gates, that the syrup will reach the outlet just as it has attained a waxy consistency, when it should be allowed to flow out in a continuous stream. Be careful, in drawing the plug, to open far enough to allow the escape of the syrup just as fast as it is made.

6. Loosen the substance deposited on the bottom of the pan, occasionally, with a stiff broom, that it may rise with the scum, and be removed.

7. SKIM FAITHFULLY. Impurities must not be permitted to remain in the syrup.

8. Do not allow the arch, back of the grate, to become choked with coals or ashes.

9. Do not change the level of the pan suddenly; a slight change makes a great difference in the speed of the current. Persons often imagine they have burned their pan, when they have only burned the deposit from the syrup, with which the bottom is coated. Upon exploration, they will find the pan all right below. This deposit ought never to be allowed to collect or harden, but should be removed with a stiff broom, according to directions. Should it, however, once harden on the pan, it may be removed by a little vitriol, or by greasing it and warming it gently, when it will readily scale off.

The syrup should be most carefully skimmed, and reduced to about 225 to 228 degrees Fahrenheit, or until the steam escapes in little puffs from the syrup in the last channels.

The St. Augustine (Fla.) papers are dilating upon the oranges now hanging in rich clusters on the trees in that delectable climate.

A Connecticut paper states that a farmer that in State built a barn thirty-two years ago, and put a crop of hay into it the same year. Last spring was the first time the last of it was disturbed, the call being so loud that it had to come out. It was as sweet and bright as any ever brought to market.

SORGHUM TARTARICUM SEED.—Major Bruce being desirous of distributing the seed of *Sorghum Tartaricum* as widely as possible, and to encourage the trial of this new source of food supply among the farmers of Canada, will reserve what seed he can spare for free distribution to any who may apply to him. He has authorized us to say that he will send a small quantity of seed to parties who will forward him a stamped envelope with their address written thereon. Applications should be sent before the end of March, so as to enable Major Bruce to calculate the quantity he can spare to each. He proposes sending off the seed during the first week in April. We trust his liberal and disinterested offer will be freely responded to, so as fairly to test the value of this plant. His address is Annan Cottage, London, Ontario.