

**Tomatoes from Cuttings.**

I am very much in favor of propagating tomatoes by cuttings. If a gardener has a good variety, and is not certain that it will come perfectly true from seed, the best plan is to keep up the stock by cuttings. The earliest fruits in spring are readily secured from plants rooted as cuttings in the autumn, and grown during the winter as store plants. At the present time, tomatoes that are about to cease bearing are producing numerous shoots, and if these are taken off and inserted at the rate of from four to six in a 4 inch or 5

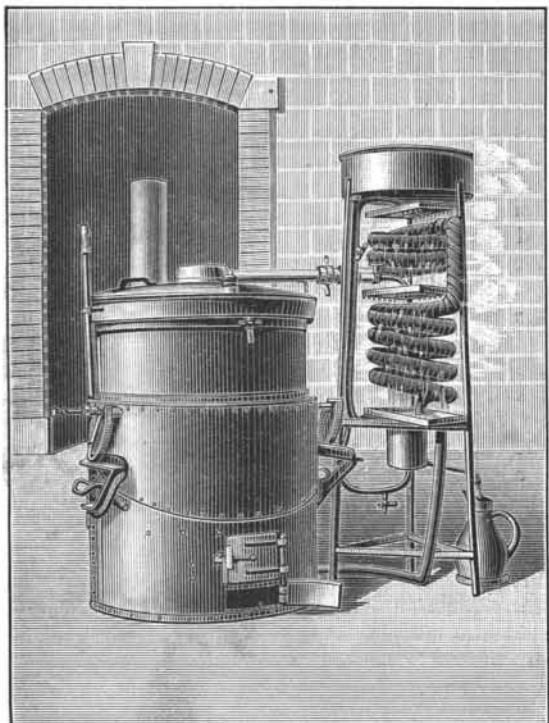


Fig. 1.—EGROT'S DISTILLING APPARATUS.

inch pot, they will turn out well during the early spring months. The pots should be plunged in a little bottom heat until the cuttings are rooted, then harden them off a little, and keep them afterward with pelargoniums or plants of this sort. They winter better in a cool place, away from frost, than in much heat; but they may be potted singly and started into growth very early in spring, and it is then the cuttings have the advantage over seedlings. The latter are always inclined to make very long stems; but cuttings are always dwarf, and I have proved them over and over again to be earlier and produce more fruit than seedlings. All will admit that it is an advantage to have strong tomato plants early in spring, and autumn propagation by cuttings is a certain way of securing them.—*J. Muir, in Field.*

**AN AUTOMATICALLY WORKING RAILROAD GATE.**

A gate which is designed to be self-opening and self-closing with the movement of the cars on and off the track at stations, and which is more especially designed for use on elevated railroads, is shown in the accompanying illustration, and forms the subject of two patents recently issued to Mr. John B. Carey, a stenographer, of No. 109 Livingston Street, Brooklyn, N. Y. On the platform supports are secured a number of guides, which extend up to the outer edge of the platform, a vertically sliding gate being held between each two succeeding guides, the gates being connected at each end by a link with a weighted lever fulcrumed on a post or on a bracket secured either to the track posts or to the platform supports. From the fulcrum of each weighted lever extends an arm pivotally connected with a rod arranged horizontally along the platform, the outer end of the rod being pivotally connected with one arm of a bell crank lever pivoted on one of the track posts, and connected at its other arm by a link with the free end of a rail lever held alongside of one of the rails of the track. This rail lever is arranged in position covering the usual locomotive stopping places, and is so formed as to be acted upon only by the larger treads of the locomotive wheels, and not by those of the car wheels. Each gate link may be connected to a separate

weighted lever, or the links of two adjoining gate ends may both be connected to one lever. The weights of the levers are so arranged that the levers hold the gates in a closed position and also hold the rail lever slightly extending above the rails of the track. When a train moves up to the station, the treads of the front locomotive wheels press the rail lever downward, swinging the bell crank lever, and drawing the horizontal rod forward, so that the weighted levers are swung to draw down the gates until the top edge of each is flush with the top of the platform, thus permitting passengers to pass from the platform into the cars, or *vice versa*, in the usual manner. As soon as the train starts to leave the station, and the treads of the locomotive wheels move off the rail lever, the gates move upward vertically again by the action of the weights of the levers, and the station platform is closed on its track side. Levers also extend from the horizontal bar to the track rails in such way that the passage of the train, before the locomotive reaches the rail lever, will cause the gates to move alternately up and down for a distance of about six inches, as a warning for those near them to keep out of possible danger. As a still further protection, a rod-like hand rail is held slightly out from and just below the top of the gate, being bent down at its ends and inclined inward. It is hinged on the gate at the platform edge, and is drawn down with it, but is extended in position by a spring as the gate rises, acting as a guard to keep people from crowding too closely up to the gate. Instead of operating the rail lever by the locomotive wheels, a special device located in the locomotive or in one of the cars may be employed, under the control of the engineer or a train hand, but the whole construction is designed to be simple and durable and to operate automatically.

**THE DISTILLATION OF FRUITS AND MANUFACTURE OF BRANDY.**

Among the fruits given us by nature some figure with advantage on our tables and others serve for the manufacture of brandy, preserves, marmalades, etc. Those of inferior quality and less pleasing aspect, and those that cannot be utilized in such a way, because of their abundance, are employed in the manufacture of fruit liquors. Through great carelessness, the larger part of such fruit is lost, thus depriving the land owner of a resource that is of no small consequence.

The distillation of fruits is an operation that is so much the more lucrative in that the law of December 14, 1875, relative to the privileges of distillers of wine and fruits, dispenses with affidavits and frees the farmer who distills the results of his harvest from inspection, and consequently exempts him from tax. The grower, then, has the best of reasons for utilizing the products of his land, since he can cheaply obtain an excellent liquor that he knows to be natural and healthful.

All fruits do not render the same proportional quantity of spirit, the proportion of the latter being greater or less according as they are more or less saccharine.

In Bohemia and Moravia, plums give a liquor called *slivowitz*. The spirit obtained in France has a great analogy with kirsch, which is more especially produced by a small, black, very sweet cherry.

The method employed in the manufacture of spirits is just about the same, whether it concerns fruit with or without stones, and, moreover, it is very simple. As soon as the fruit has been collected in sufficient quantity, it is put upon an osier frame placed over a tub, and is crushed so as to make it give up all its juice, which, along with the pulp, passes into the tub. With plums, cherries, and other fruits whose stones are held back by the frame, care must be taken to throw these stones into the tub, as this is what gives the liquor that peculiar bouquet to which it owes its value.

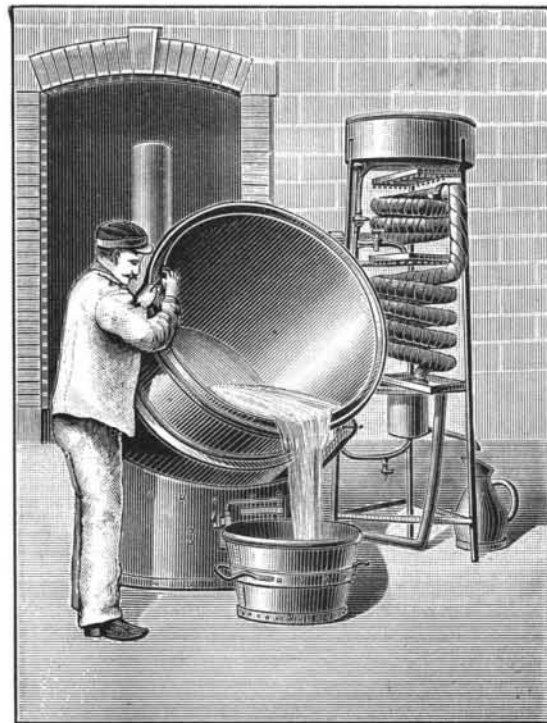


Fig. 2.—MODE OF EMPTYING THE STILL.

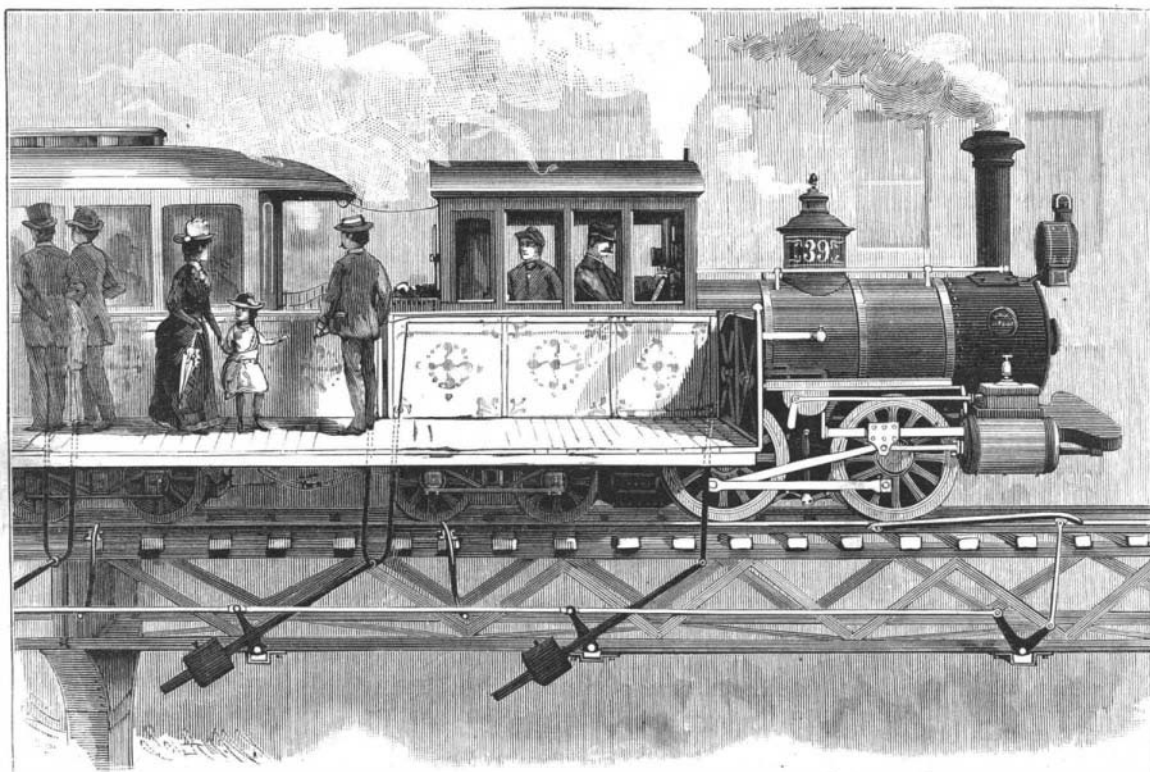
The whole is then thrown into a fermenting tub, which is generally a cask with one head removed. Care is taken to pour in a small quantity of tepid water, in order to start fermentation, and then the cask is covered. A room must be selected that has a nearly equal temperature of between 18 and 25 degrees. The temperature of 25 degrees should never be exceeded, for, were it to be, fermentation would be arrested and the yield in alcohol would be diminished very largely. On the contrary, if the temperature were too low, the fermentation would proceed more slowly.

When the fruits to be fermented are dry ones, such as figs and raisins, they must be placed in tepid water and allowed to macerate. It is preferable to chop figs up, so that they may be reduced to a pulp. The water in which the fruit is macerated enters into fermentation in the same manner that the juice does.

The duration of the fermentation depends on the fruit. It may be eight days, and sometimes a month. Plums and cherries require from twelve to fifteen days. The cessation of fermentation is shown by the settling of the cap, which consists of grains and pelli-

cles carried to the surface of the liquid by the disengagement of carbonic acid gas. It is likewise shown by the vinous odor that is emitted. When the fermentation is over, the liquid is drawn off and the marc is pressed in order to extract from it all the juice, and the latter is added to the liquid. In this state the juice is ready to be distilled. It contains not only the alcohol of the fruit, but also the latter's characteristic bouquet. Many routine distillers do not take the trouble to separate the solid and liquid material, but distill the whole in a pasty mass. But the spirit obtained has a peculiar, more or less pronounced empyreumatic taste, due to the boiling of the solid substances, which, despite all care, adhere to the side of the still and are burned.

The marc of the grape alone does not have to be fermented, since it is due to the fermentation of the



CAREY'S RAILROAD GATE, ESPECIALLY DESIGNED FOR PLATFORMS OF ELEVATED RAILROADS.

Kirsch is manufactured principally in Switzerland, in the Black Forest, and in France in Franche-Comte, the Vosges, and Meurthe-et-Moselle.

In Algeria, dates, sweet figs, and Indian figs yield an excellent liquor. Huckleberries and raspberries also are sometimes distilled, although rarely.

fruit, contains alcohol all formed, and can be distilled at once, or be allowed to macerate in water, in order that it may give up its alcohol thereto. This latter method gives a better product, and one that has not the characteristic taste of marc spirits.

In the distillation of fine fruit alcohols, the liquid to