fruit was placed on shelves or racks, to the depth of two or three feet. I have had tomatoes preserved for three months in the house in Chicago, which came out in perfect condition. The Chicago house, however, did not pay, and it was soon, I believe, abandoned.

The elements, therefore, of a complete preserving atmosphere are a uniform temparature, just above the freezing point, dryness, purity, and the exclusion as far as possible of the great agent of the decomposition—the oxygen of the atmospere. Whoever can secure these conditions most cheaply will best succeed in keeping apples, pears, and grapes, and, with plenty of these fruits out of their natural season, there is a fortune to whomsoever succeeds in its accomplishment.

I think the best place for keeping fruits in their natural state is in fruit-houses with double walls, secure at the same time from frost and the constant changes of the atmosphere; for, however cheap dried or canned fruits are in the market, first-class natural fruits will always command a remunerative price. A curious fact in connection with seasons of extreme plenty like the one just passed, is, that being plenty, so much fruit is wasted that a scarcity almost always follows.

Where the soil is perfectly dry to a sufficient depth, or capable of perfect drainage, a fruit-house may be readily built under a barn or carriage-house, provided no stock is kept in the barn. The walls should be seven feet high, and if three sides are under the ground, the other side may be exposed to the weather if the ventilators and windows are double.

To prevent frost entering through the open floor, it will only be necessary to have the beams one foot deep, the floor to be made of common two-inch plank, the joists or beams to be covered with matched boards for the ceiling; if the inter-spaces are filled with sawdust, or some material of like nature, frost will not enter. A trap-door should be provided for taking out fruit or entering the cellar in cold weather. If the whole cellar is not wanted for fruit, it can be partitioned off, and a part used for storing vegetables. If the fruit in a cellar of this description be kept in tight packages, the temperature may run down to twenty-eight degrees for several days together, next the walls, without injury to the fruit, provided the packages are tight; and as an index to the temperature, a sufficient number of thermometers should be kept, at top and bottom, to indicate the degree of cold, so that when the frost once gets in to the room, means may be taken to obviate it.

One of the principal reasons of failure in keeping fruit is that care is not taken to keep it uniformly cool from the time of picking, and as near the freezing point as possible. This may be measurably attained by admitting the air at night, and closing it in the day-time until hard weather comes on. It is the true secret of greatest success.

Before leaving this branch of the subject, I would say that all plans for the preservation of fruits in their natural state aim at keeping them just above freezing point, as Nyce's, Schooley's, &c., are founded upon principles only differing in the details. One other plan that may receive a passing notice is Smith's method of driving out the atmospheric air from the packages containing the fruit, by means of the introduction of carbonic acid and nitrogen through a tube; this is effected by first passing a current of common air through a vessel of burning charcoal; and, although the plan is feasible, it has not resulted in profit.

We now come to preservation of fruits by drying. This plan has been practiced from remote times by simple exposure to the air; but the fruit becomes so black from oxygenation and dust, that its market value is slight. In order to be saleable it must be dried by the application of heat. This is performed in a variety of ways by the simple radiation of heat, and by currents of hot air forced either up through the prepared fruit, or down from above. The last is, we believe the Ruttan system, and is used principally for drying grain.

Mr. Dunlap, a member of the committee, spoke of the liquid products of fruits, cider and cider-vinegar. He claimed to know how to make cider and cider-vinegar, and what he should say upon the subject had been gathered from his own experience and practice.

When your apples begin to drop from the tree, then is the time to begin to gather them. You assort the perfect specimens for market, and the remainder, which is sometimes the half of the crop, are to be made into cider or cider vinegar. The best cider is made from sound winter fruit. Some varieties of apples often ripen their fruit prematurely, and you must be prepared to utilize the product by putting the same into cider or vinegar. Ordinarily one half of the summer apples must go into cider-vinegar, which will, under proper treatment, be ready for the market a year after.

I was in an orchard this summer, where there were not less than seven hundred bushels of apples that were allowed to drop from the trees, because the owner said it would not pay to ship them, and these were fine, beautiful red-cheeked apples as any could wish, and would have made two thousand five hundred to two thousand eight hundred gallons of the best cider, that could have been sold for twenty-five cents per gallon.

The orchardist must be prepared to avail himself of every advantage in his situation. He must be independent of the apple market. I say to my customers, when you can pay me fifty cents per bushel for my apples you can have them. When the price falls below that I press them. I have cider made on the thirteenth day of August, that is sweet and good. I know that if I can't make the apples pay, I can make the cider pay, and the refuse, not fit for market at any time, is put into vinegar.

Some say rotten apples won't make good vinegar. This is a mistake. The Shaker vinegar, so much sought after and praised, is made of rotten apples, exposed to the summer sun, and summer rains. Cider made in this way has sold for seventy-five cents and a dollar per gallon. Rotten apples make good vinegar, but to make good cider we use sound apples.

I am told that some make vinegar and can't sell it, and why can't they sell it? Because they do not have a clear, good article. Instead of racking the vinegar off, before stirring the barrel from its place, they perhaps roll it into the wagon, and stir it all up, and then it is impossible to settle it, and the grocery man will not have it.

There is another thing. I like to have my cider-vinegar high colored, and for this purpose, I let it stand in the vat twelve hours. We can ordinarily get about four gallons of juice out of a bushel of apples, in the method we adopt. We press out about three gallons of cider from the bushel, and in making vinegar we re-press this promace, and get another gallon, so that from a hundred bushels of apples we get four hundred gallons of juice.

It is necessary to put into the grocers' hands *strong* vinegar, because, among other reasons, the grocer finds it very convenient sometimes, to put in four or five gallons of water. But if a customer comes and says, "Here, I want vinegar for pickles," the honest (?) grocer will be careful and not give him the watered vinegar.

To make good cider and vinegar there is needed care, skill, experience, and—if done on a large scale—capital, so that it may be questioned whether the man with a small orchard should attempt to be both producer and manufacturer. Might it not be better for him to sell to the manufacturer? It is not always that the small farmer can afford to lie out of his money, even if he had the tact and business ability to carry on a manufacturing establishment.

Another thing, to sell a manufactured article requires a previously earned reputation. A man who is not known in the market, might not be able to sell to advantage, but when a man has worked up a trade, and it is known that he makes a good article, he has no trouble in selling. There are gentlemen in this house who have thousands upon thousands of gallons