

the pulverizer, which consists of a cylinder of brushes revolving on fine sieves, through which the milk powder is passed, dropping into a wooden receptacle, from which it is filled into barrels, or whatever packages it may be desired to put it into.

GARDEN AND ORCHARD.

British Columbia Fruit Packing.

Geo. S. B. Perry.

Modern methods of fruit-packing have certainly made an art of the operation. Conscientious effort on the part of painstaking officials of the Dominion and Provincial Governments, and of the Fruit-growers' Associations, has been tending to make an exact science of the art. To acquire any practical knowledge of it even superficially, let alone with scientific accuracy, say these experts, is utterly impossible by mere description. What is wanted is demonstration, the fruit handled by an expert, whose deft motions are accompanied by plain and practical observations. That followed by practice, under the careful eye of the trained packer, is the course necessary to attain a degree of proficiency in this new and useful art.

Western methods of packing and Western styles of packages have been the result of experiment and gradual selection of the fittest. To California belongs the credit, undoubtedly, of initiating the modern fruit package. But there is no "California package" now. British Columbia, Washington, Oregon and Idaho have for years been working towards uniformity of method and package, and to some extent have achieved more than California. For, in the latter State, it is yet true that every district has its own package, so far as exact dimensions are concerned.

To describe the packages in use may best be done by taking separately that for each variety of fruit. In general, it may be said that the aim has been to get in each instance the package best suited to the size, shape and character of the fruit. In this process of selection, many experiments have been tried, and many styles of package have been discarded. With all, or nearly all, the cardinal condition must be kept in view, that sorting and selection of the fruit, wherein comes the art of expert packing, is absolutely necessary in using the packages now generally adopted.

THE APPLE BOX.

Perhaps the longest history of development attaches to the apple box. The package which has now been made standard for the apple box throughout the Dominion has been adopted as that of the B. C. Fruit-growers' Association for the past four or five years. In Washington, Oregon and Idaho almost the same standard size is recognized, but not legalized. The apple box has been the subject of discussion in the joint association of fruit-growers from this Province and the three States named for a number of years. The Northwest Fruit-growers' Association, as it is called, at its annual convention held in Spokane, Wash., in February, 1899, adopted a standard and a special apple box. Since that time the B. C. Fruit-growers' Association, aided by the B. C. Government's Board of Horticulture, has striven to secure the general adoption in the Province of but one size, uniform throughout. That may now be said to have been accomplished, for the annual convention of the Provincial Association has, for the last four years, confirmed the selection of the size now made standard. More than that, the Fruit-growers' Association of every fruit-growing province in the Dominion in 1903 passed resolutions adopting the B. C. box as standard for apple boxes. The Dominion Government has, by Act of Parliament, also made it standard for the Dominion. The dimensions of this standard apple box for the Dominion are: Inside measurements—Length, 20 in.; width, 11 in.; depth, 10 in. Thickness of material recommended—Ends, $\frac{1}{2}$ in.; sides, $\frac{1}{2}$ in.; top and bottom, $\frac{1}{2}$ in.

It is to be particularly noted that the side pieces are to be 10 inches wide exactly; that is, just flush with top and bottom of end pieces, not overlapping the bottom, as in a packing case. Similarly, the top and bottom are exactly 11 inches wide, and do not overlap the sides. The timber to be used is, preferably, clear spruce, or other similar wood. The dimensions as to thickness will not be suitable if knotty, cross-grained or inferior wood is used. Another point as to material, is that in all cases apple-box lumber should be sawn, not cut with a veneering machine, as experience has shown that the latter cannot be kept from warping.

The top and bottom are made of $\frac{1}{2}$ -inch clear lumber, because it is desirable in packing to have them of lumber thin enough to be slightly sprung in the packing press when filled with fruit. The rows of apples are placed in the box so that the top row rises slightly over the edge of the box before the cover is put on. As the box stands in the press, it is supported only at the ends. When the cover is put on the pressure is again only at the extreme ends, so that both top and bottom spring slightly in the middle, and, of course, about the same amount. As apples are bound somewhat, this method has been found to provide for that shrinkage, and the spring in the top and bottom keeps the apples held firmly in the box.

Cleats on the ends, top and bottom, are necessary, as they materially help in keeping tops and bottoms from splitting. The nails used should be the special

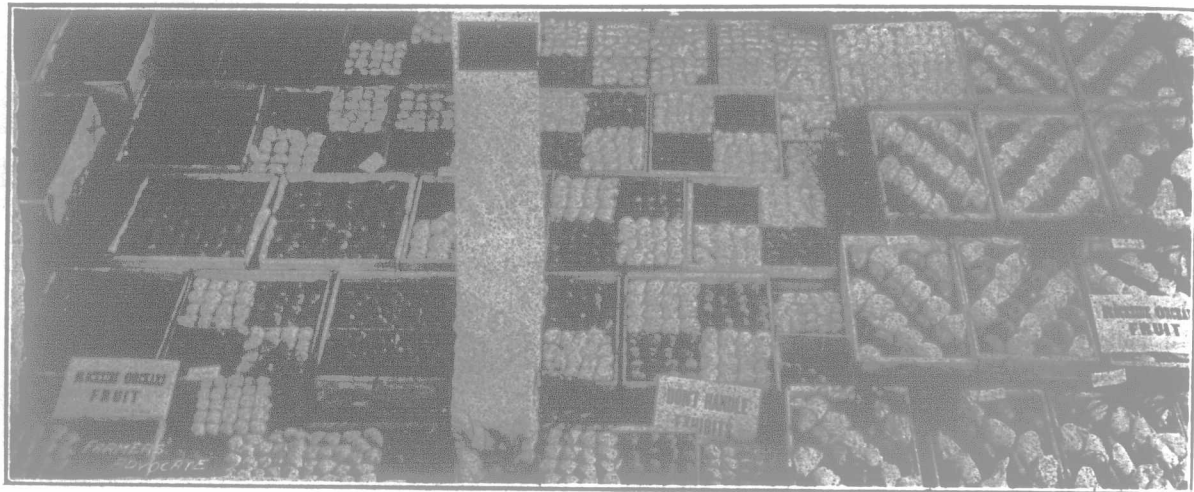
box nails in common use in California and in this Province. A good variety is the cement-coated nail. It seems to hold in the wood every time. Another variety in common use is roughed along the sides its whole length. Whatever style is used, the nail is always to be very thin, so that the boards will not split in nailing.

Whether the top shall be of one or two pieces is a point on which experts differ somewhat. All agree that two pieces can be used quite effectively. Some hold, however, that the one-piece cover is much superior, while there are others, equally reliable, who hold that

of pears is much the same as that of apples, with the exception that more delicate qualities, and, therefore, choicer packing is accompanied by the wrapping of the fruit in fruit paper; not tissue, such as is used for oranges, but a paper very similar to common newspaper, of very light weight.

STRAWBERRY CRATES AND BOXES.

There is practical uniformity in the strawberry crate used in British Columbia, Oregon and Washington. The Hallock shipping crate is used exclusively. This crate



A Mixed Collection of British Columbia Fruit.

the two-piece cover has merits which recommend it above the one-piece top. Again, all come together in agreeing that the two pieces, if used, shall be laid on close together.

Packing the fruit, as previously stated, must be done only after careful selection, sizing as well as grading the apples. According to size, the apples are packed in 3, 3 $\frac{1}{2}$, 4, 4 $\frac{1}{2}$ and 5 tiers. To get in a half tier, the tiers are laid with a space between the rows in the tier, and then the next tier nests down between the first. Sometimes the half-tier is described as 4 tiers wide and 5 tiers deep (for the 4 $\frac{1}{2}$ tier), and 3 tiers wide and 4 tiers deep (for the 3 $\frac{1}{2}$ tier). But the limitation set in the first sentences of this article steps in to say again, and, emphatically, that the art of packing must be acquired through observation and experience.

In shipping, the apple boxes should be laid and carried on their sides, as the slight swell to top and bottom, sought in packing, is not suitable for setting the boxes top upright.

holds 24 one-pound veneer baskets, and varies in dimensions, there being two styles of pound basket, the deep and the shallow; the former being, perhaps, more used for smaller sorts of berries, and the shallow for the larger varieties. The crate is thus made deep or shallow, to conform to the shape of the basket used. Invariably, there is a middle partition of same thickness of lumber as the two end pieces of the crate. This center partition and the two ends have a saw kerf taken off half the depth. This forms a ledge on which are laid two light pieces of board, after the bottom layer of pound baskets has been laid in the crate. On these strips the top layer of baskets is laid, and the cover then nailed on. In the strawberry crate, cleats across the ends of the cover are preferable in nailing down.

The crate used in California very largely is the "chest," as it is called, holding 75 one-pound baskets. This is similar to the Wilson crate very commonly used in Ontario. For long distance shipment, California berries are often packed in a crate holding but ten of the one-pound baskets.

PLUM CRATE.

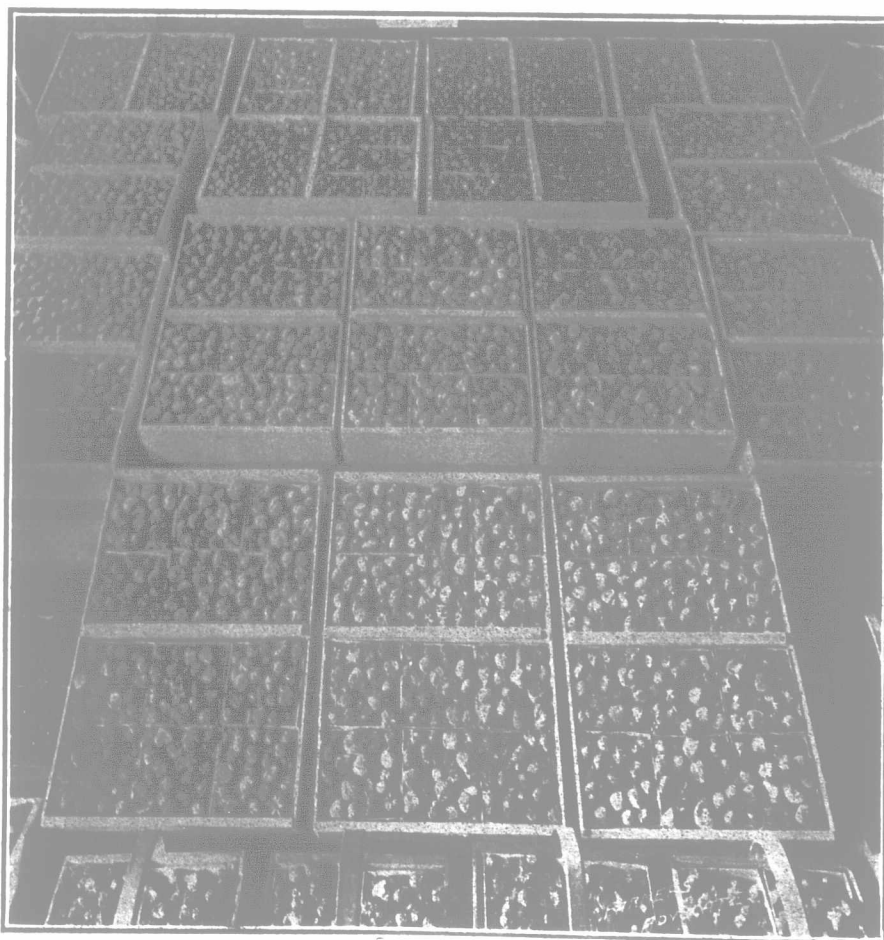
Plums are packed in British Columbia exactly as they are in California. A crate holding four square veneer baskets, slightly flaring at the top, is used. These crates hold a total of 20 to 25 lbs., according to the size of fruit. Again, the cleat is used in nailing on the cover. These plum crate tops are always in two pieces, and close together. Sometimes a cleat is put under the top on the edge of the end piece, to keep the fruit from being squeezed. The fruit is packed with a long strip of paper laid between the layers. This paper is very thin, being similar to that used for wrapping pears. It is in a continuous strip for each basket, and is turned back and forth over the layers as they are placed in the basket.

CHERRY BOXES.

It is in boxes cherries are packed as a rule, not in crates. Of recent years these boxes have become very shallow, both California and the other Coast States, as well as British Columbia, having been doing some

experimenting to find the most suitable. From California have come some boxes in which but one layer of cherries was packed, so shallow were they.

The ordinary box, however, has three layers of fruit. The firmness of the Coast cherries makes it possible to pack them in firmly, and very closely and evenly, like apples. A very solid appearance is given the well-packed box, making it extremely attractive. This shal-



British Columbia Berries.

PEAR BOX.

There is but little to add, or vary, in describing the package for shipping pears from the description at tempted of the apple box. The dimensions are slightly different, but the inside measurements are the same.

This package is the same as the canfor package, the size being uniform in that State, differing from the apple package in that respect.