



FIG. 2158. THE TRIUMPH PEACH.

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THE TRIUMPH PEACH.

 VALUABLE commercial variety, to follow the Alexander, but not very popular on account of its heavy coat of down, its dull color, and its susceptibility to rot.

ORIGIN : Georgia, seed of Alexander.

TREE : vigorous, hardy, very productive, subject to twig blight and leaf curl.

FRUIT : 2 inches long by $2\frac{1}{2}$ broad, roundish, somewhat shouldered and flattened; color, yellow ground nearly covered with red and markings of very dark red; cavity, deep; apex, small, in a decided depression; suture distinct; pit, semi-cling.

FLESH : yellow; texture, fine, juicy; flavor, sweet, rich and excellent.

SEASON : August 15th to 20th.

QUALITY : good.

VALUE : home markets very good.

ADAPTATION : Michigan, Ontario, New York.

PEACHES IN 1901.

The season opened at Maplehurst on the 27th of July, with the SNEED, the earliest good peach, and one that well deserves to be planted freely. It is agreeable in flavor, very juicy, but a poor market peach, because it ripens too rapidly; but it is much more

desirable for dessert than such varieties as Alexander, Hale's Early, Early Purple, Rivers, etc. For shipping it must be picked while still quite firm. On the 1st of August we found many prematures already overripe and fallen.

The ALEXANDER succeeded this variety about the 5th of August, and kept up the shipments until about the 13th. Owing to the scarcity of the fruit the prices of these early varieties were better than usual.

The TRIUMPH peach was harvested between the 15th and 21st of August, and was the best market peach of its season at Maplehurst. It is a yellow fleshed peach, and not a close clingstone as most early peaches, so that it suits a demand in Canada for yellow fleshed peaches. The tree is vigorous and productive, but is inclined to blight as the fruit ripens if conditions favor, a disease which sometimes attacks both twigs and fruit. The fruit is dull in color and very thickly coated with down, which stands in the way of its popularity.

EARLY RIVERS is a white fleshed peach about the same in season as Triumph (August 15th to August 25th in 1901) and was at one time largely planted in Ontario. We

harvested about two or three hundred baskets in 1901 at Maplehurst, but found them the most unsatisfactory of any peaches for shipping, because they are so tender in flesh and ripen so rapidly. Besides every mark causes discoloration.

GREENSBORO, a new white flesh peach from North Carolina with red cheek, above medium size and rather attractive, is also of about the same season with the Triumph. It is also too tender in flesh to be a profitable market peach; still it is much superior to the Early Louise.

HYNES, is another white flesh early peach of the Alexander type, more agreeable for dessert, but averaging smaller in size. It ripens about the 20th of August, and we judge is not likely to be much planted for market, as it is much inclined to rot on the trees and seems to be quite subject to yellows.

The YELLOW ST. JOHN was the first really good yellow peach, and it colored up beautifully about the last week in August, when fine samples would almost pass for Early

Crawford. It is a valuable market peach, but when it was left to hang into September, there was a great waste from rot.

THE CHAMPION came in about the 1st of September, closely following the Yellow St. John and the last were gathered about the 7th with the first Crawfords. It is a beautiful white peach with red cheek, and of large size frequently measuring 2½ inches in diameter. The stone is free, the flesh is white, tender, juicy and the flavor is delicious. We consider it the best dessert peach of its season.

The EARLY CRAWFORD began ripening on the 6th of September, and, when it is going forward, really no other variety can compare with it either for size, beauty or general excellence. The crop was fairly good, and the price from 75c. to \$1.00 per basket. Where the trees were highly fertilized the increase in productiveness was very evident.

FITZGERALD came in about the same season as Crawford, and seemed to be similar in many respects.

THE FRUIT MARKS ACT.

Since our remarks on page 396, we have received from the Department of Agriculture some copies of the latest revision of this Act by the Senate of Canada, and find we have really got in this quite a different thing from what we asked. Indeed, instead of having too little, we have too much. We asked to have two fixed grades established with a definite name for each, and any one using these certain grades would be subject to inspection; this Act makes every closed package subject to inspection. We asked that the name of the packer be placed on such packages only; but this Act requires the name upon *every* package whether it be 1st or 2nd grade. We asked for certain fixed

grades to be so defined that there would be no confusion; this leaves it open for considerable dispute as to what grade is intended by the designation used.

Now in our home markets it is the constant custom to send No. 2 or second class under a number which identifies the shipper to the consignee. Such fruit may as well be sold in that way and we think many growers will strongly object to the change.

The Act is now so sweeping and so general that it will probably be difficult of operation.

The whole matter will be freely discussed at our annual meeting in Cobourg next December.

PAN-AMERICAN HORTICULTURE—IV.

 THE AMERICAN POMOLOGICAL SOCIETY held its biennial sessions at the Epworth Hotel, Buffalo, near the Exposition grounds, on the 12th and 13th of September, and our visit that month was timed for that occasion. Many prominent members of our Association were in attendance and thus came in touch with the leading American horticulturists. Through the instrumentality of Mr. A. W. Taylor, the secretary, who has also been made a government official, plans are being made by the United States Department of Agriculture for extended experiments in the export of tender fruits in cold storage, and therefore the writer was asked to give some account of the work done in Canada in this direction.

He was followed by Mr. Geo. T. Powell, of Briarcliff Manor, who emphasized the importance of sending forward only our very best. "The foreign markets," said he, "are no place on which to dump all kinds of stuff." He pointed out the importance of refrigeration, both at the packing house and in transportation, the importance of knowing just at what stage of ripeness fruit should be exported; the sizes that would qualify a fruit for the export trade; the quality of a fruit that would gain for it a permanent market, and the proper packages in which to put them up.

Senator Dunlap, Illinois, had just returned from England, and found not only the English but the French markets open for our best fruits; in winter time this latter market is comparatively bare of really fine apples, and he had seen them sold in March at thirty cents each, and peaches as high as \$1.40 each! As yet he had only heard of one cold storage house in France.

Mr. Charles Forster, New York, said the annual increase in the export of apples was very great, and during the past twenty

years the quantity exported had increased from 81,000 lbs. to 2,000,000 barrels per annum. In Liverpool they were sold most rapidly; in 1896 as many as 50,000 lbs. per day had been disposed of in the public auction room, two packages from each lot being brought in, one of which was dumped and one simply opened to show packing. In this way fraudulent packing was at once exposed. Last season 200,000 boxes of Newtown pippins were sent to Scotland from California, and netted the shipper \$1.00 per box, and this trade is constantly growing, and to encourage this kind of trade in the case we need small cold storage compartments to accommodate smaller consignments. The first real experimental shipment of Bartlett pears from the United States is now being forwarded from New York to London, the results of which will be made public.

Two years ago Mr. Forster had tried a private shipment at a loss, but two cars of Duchess netted him about \$1.43 per half bushel box.

Our foreign markets are unlimited—Germany wants our apples, China, Japan, Siberia, Phillipine Islands and other oriental countries want our fruits, and soon we will have them open to us.

Prof. Corbett, of Washington, commended the use of tobacco dust, strewn about the trees and over the roots to prevent attacks of aphids.

Prof. Craig, in treating of the University Extension course—horticulture and agriculture—pointed out that during the past twenty years the number of farm products had been multiplied by twenty; and the number of workers in proportion had been divided by two; wheat that once cost thirty hours a bushel now costs only about ten minutes; corn that once cost forty-one hours now costs only eleven and a half. This shows how important these branches are becoming, and

how useful the dissemination of advanced methods.

Prof. Bailey, of Cornell, explained why the Fruit Growers' Associations of California were more successful commercially than eastern organizations, because they were unions of men interested in one thing—as for example the Prune Growers' Association, the Celery Growers' Association. True the individual grower loses his identity in such a system, but unless a man has something remarkable and distinctive about his products he finds this system much to his advantage. We should study carefully the co-operative methods of California, for before we are aware of it these live organizations, with their systematic shipments of carlots, will capture our eastern markets.

Mr. Morill, President of the Michigan Horticultural Society, gave an emphatic testimony in favor of growing only fruits of the highest quality, and of giving the highest cultivation. The "Dust blanket mulch" and "Horseleg irrigation" might be vulgar expressions, but they were of weighty significance to American fruit growers.

Mr. W. C. Barry would favor introducing no fruit unless it had high quality. The Jonathan apple for example ought to bring double as much money as the Baldwin, and there are plenty of people who would pay prices for fruits according to quality.

Prof. Webster, of Ohio, said that fruit men have more to fear from the late brood Codling moth than from the early brood. Indeed this is now our most formidable insect enemy. Last year the experiment had been tried of covering a tree with lino after the first spraying, and all fallen apples were removed on the 29th of August. After about three weeks the fallen apples were gathered, and under the trees protected with netting there were only about 20 per cent. wormy, and under those not so protected 70 per cent. were found wormy. This shows what might be accomplished by complete protection.

Next year he proposes trying to protect the trees from various insect pests by using an adhesive insecticide, and if he can discover a combination such as will serve all purposes, he hopes every fruit grower will be willing to apply it without compulsion.

THE FRUIT EXHIBIT is now overflowing with fruit, and equal in quality to any shown in the Horticultural building, and the names of exhibitors are too numerous for mention here. Among the varieties we noticed fine samples of Old Mixon, Elberta, Crawford and Jacques Rareripe peaches; large Wickson and Paragon plums; fine Moyer, Diana, Delaware and Worden grapes, etc. A fine case of pears, packed for export, was shown by Messrs. Van Duzer and Griffith, of Grimsby.

A special table had to be provided for a large collection of over 160 varieties of apples which we sent forward from our Ontario Fruit Stations to compete for the Wilder medal, and we are pleased to report that it was awarded a silver medal; as was also Mr. M. Pettit, our experimenter in grapes at Winona, for his collection of over one hundred varieties of grapes. Medals were also awarded Mr. W. M. Orr, of Fruitland, and Mr. Albert Pay, of St. Catharines, for their excellent collections, so that, in all, Ontario was granted four of these medals by the American Pomological Society.

The Pan-American Everbearing Strawberry is still on exhibition in the New York State exhibit by S. Cooper, of Delavan, N. Y.; the finest Elberta peaches shown were sent in from Michigan, they were simply immense; and the largest Satsuma plums were exhibited by the State of Connecticut. We also noted in Mr. Orr's collection, the finest Souvenir pears, and in Mr. Pay's the finest Bosc. Mr. Pay, pointing out his Wickson and Paragon plums, said he preferred the latter as being more productive. He showed fine Campbells Early grape, but doubted whether it was just quite as early as the Moore.

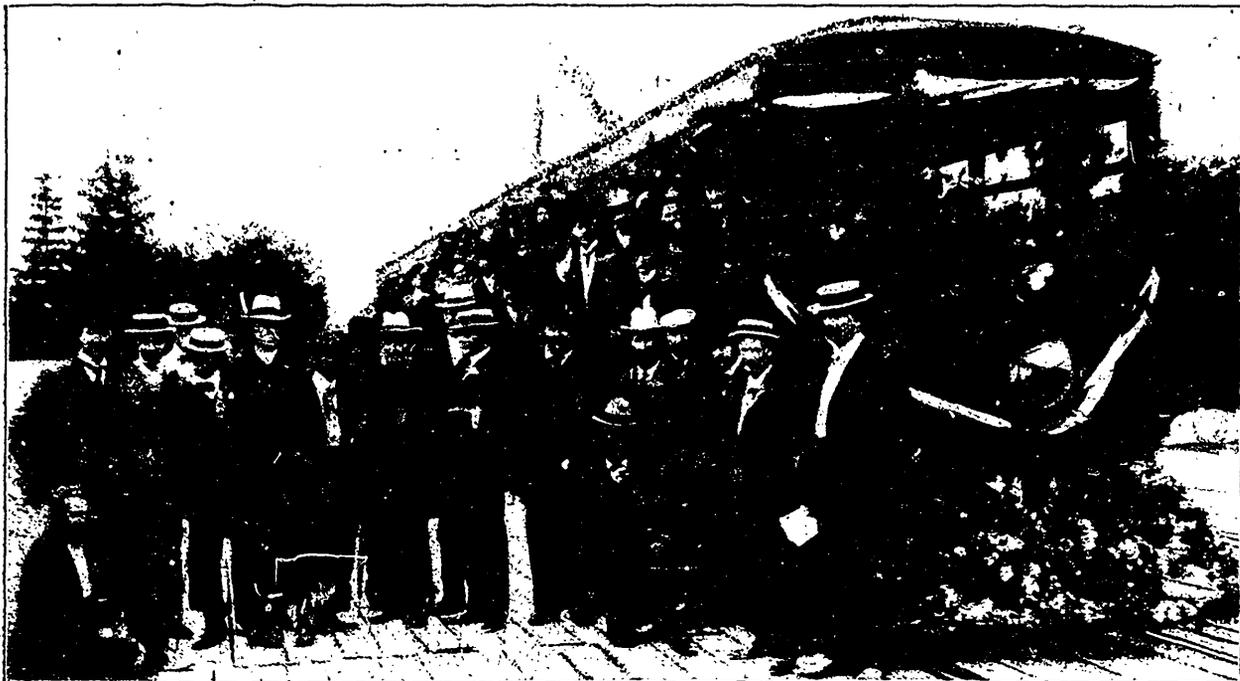


FIG. 2160. CANADIAN HORTICULTURAL ASSOCIATION.

CANADIAN HORTICULTURAL ASSOCIATION.

THE fourth annual convention of the Canadian Horticultural Association opened its first session in the City Hall, London, Ont., at 2.30 p.m., on Monday, August 5th, with a good representation from Montreal, Kingston, Toronto, Hamilton, Stratford, Chatham and other places. The mayor of the city, in a few well chosen words, welcomed the association. He was responded to by Thomas Manton, of Eglinton, in his characteristic manner. After this the president of the London Horticultural Society also spoke in words of welcome. Then routine business was taken up.

The secretary's report showed the association to be in a flourishing condition, each year gaining in membership and spreading its beneficial influence throughout the

Dominion. The treasurer's report showed the finances to be in excellent condition, with a neat surplus to the credit of the association. Trade exhibition judges were appointed and a considerable amount of miscellaneous business was gone through with.

After the adjournment, the members were invited by Gammage & Sons to visit their establishment. After the inspection of the greenhouses and grounds, light refreshments were served. Returning to the evening session Dr. Bethune gave a lucid and instructive lecture on insects, describing the different species and the several methods employed in their destruction. W. J. Lawrence, of Mimico, followed with an extemporaneous address on the advancement of horticulture.

On the second day, owing to the immense

crowds which were attending the London Old Boys' reunion, the local committee changed its plans and the trolley ride came in the morning instead of the afternoon. Luncheon was served at Springbank Park. The social feature was very much enjoyed by those present. R. W. Rennie, secretary of the London Horticultural Society, very ably acted as chairman at the banquet.

A short afternoon session was held at which a paper was read from Joseph Bennett, of Montreal, on what can be added to the present list of cut flowers to meet the demand of customers for something different. This brought up a lively discussion, but it was the general opinion that nothing of importance could be added to our present list that would be remunerative. W. Holt, of Hamilton, opened a discussion on the question of a uniform scale of prices in the plant trade and the subject was pretty thoroughly thrashed out, the conclusion arrived at being that the best man will always be at the top.

Hamilton was chosen as the next place of meeting.

President, Joseph Bennett, Montreal; 1st vice-president, C. Webster, Hamilton; 2nd vice-president, G. Robinson, Montreal; secretary, A. H. Ewing, Berlin; treasurer, H. Simmers, Toronto; executive committee for three years, Walter Munston, Toronto, O. G. Johnson, Kingston, W. J. Lawrence, Mimico.

In connection with the trade exhibit, only two were staged, Gammage & Sons, showing a good collection of palms, araucarias, ferns, begonia Gloire de Lorraine and others. A. H. Ewing, of Berlin, staged some very fine Boston ferns. The flower show of the London Horticultural Society did not contain as many exhibits as last year, owing to the fact that sweet peas in this section of the country are almost over. Notwithstanding these drawbacks, a very creditable display was made, containing upwards of 1,000 vases of flowers.

OUR EXHIBIT AT THE INDUSTRIAL.

 THE results of our experimental work in pomology is beginning to show itself in the increasing value of this annual exhibit. We had about 800 plates of fruits, of nearly as many varieties, on exhibition, a large number of them quite new, and exhibited in Ontario for the first time. Mr. John Mitchell, our plum experimenter, showed about 50 varieties of plums, all alphabetically arranged, a great convenience, for exhibitors in correcting nomenclature frequently came bringing their plates for comparison of varieties. Among his Japan plums, were the "Gold", which, on account of its golden color and red cheek, was much admired.

The Gold was certainly most attractive by reason of its rich golden yellow color, with tinge of red. It is said to be a remark-

able keeper and shipper, and has been introduced with great encomiums by Messrs. Stark Bros., of Louisiana. Probably this is the first time this variety has fruited in Ontario

Hale seems very productive; a tree $3\frac{1}{2}$ years planted bore $3\frac{1}{2}$ baskets of plums; ripe about end of August. An Abundance plum tree planted five years in clay soil, produced ten baskets of fruit.

On the whole Mr. Mitchell considers the Japans too low in quality to be of permanent value for the markets.

There were a large number of the Domes-tica class of plums, and among them a seedling which he called Drake's seedling, season 20th to 30th of August, of yellow flesh, and with skin colored dull red on sunny side. He

said it was a favorite cooking plum. It is grown in the orchard of George Drake of Clarksburg.

Mr. W. W. Hillborn made a fair showing of varieties of peaches, the most prominent variety being the Champion, an excellent white flesh peach ripening just in advance of Early Crawford.

Mr. Hillborn also showed a collection of Japan plums, the largest and finest of which was the Wickson, but unfortunately the tree lacks vigor. It seems to be related to Simons plum, judging by the foliage, and is probably short lived.

Mr. M. Pettit of Winona, showed fifty varieties of grapes, well colored for the beginning of September.

The most prominent varieties in the collection were Berckman, a remarkable fine bunch 8 inches long, that promises considerable value, and Campbell's Early, named after its originator, Mr. G. W. Campbell of Ohio. It is certainly large and handsome both in berry and bunch, and, ripening along with Moore's Early or slightly in advance, it should be very profitable. The bunch is close, the berries hold well to the stem, and promise to be good keepers. Mr. Pettit speaks highly of Woodruff Red also, as a market grape; the Lady lacking in vigor, and the Green Mountain being too small in berry.

Mr. W. H. Dempsey showed about 120 varieties of apples, and among them very fine Duchess, Alexander, Kentish Fillbasket and Trenton. He has increasing confidence in the Trenton as a valuable early fall desert apple. It was a seedling raised by the late P. C. Dempsey, his father, who was so long on our Board of Directors. It is of good

size, covered with deep red, apparently of the Fameuse type, but a cross between Spy and Russet. Its season is October 1st. He has planted an orchard of fifty trees of this variety.

Mr. H. Jones of Maitland showed 33 varieties of apples, and among them the Brockville Beauty, a seedling of that section. It is a fine large red apple, of about the season of the Astracan, and he prefers it to that variety. He also showed the Scarlet Pippin, a rival of the McIntosh Red. It is certainly a beautiful dessert apple, and deserves to be universally grown as a fancy export apple.

Mr. Huggard showed a fine collection from his fruit station at Whitby, and Mr. G. C. Caston from his in Simcoe County. The latter showed in all seventy varieties of fruit.

This exhibit by our fruit stations was really the most interesting exhibit in the fruit building, and every year it increases in interest. Next year we shall require two long tables instead of one, and have made application for them already.

The first prize for forty varieties of apples, went to Prince Edward Co., as indeed we might expect, for apples there are not the failure that they are with us in the western sections. For 20 varieties of pears, both the first prize and the silver medal were taken by Hamilton exhibitors, this fruit being an excellent crop all about that part of the Province.

With the advice of the Dept. of Agriculture we have forwarded the whole collection to the Pan American, to compete for the Wilder Medal.

THE FIRST NATIONAL EXPOSITION OF MODERN DECORATIVE ART will be held at Turin, Italy, from April to November 1902; comprising the artistic and industrial productions which concern the æsthetics of

the street, and of the house and room. The American Park and Outdoor Association will probably exhibit designs for completed parks, home grounds and gardens, and photographs of the same.

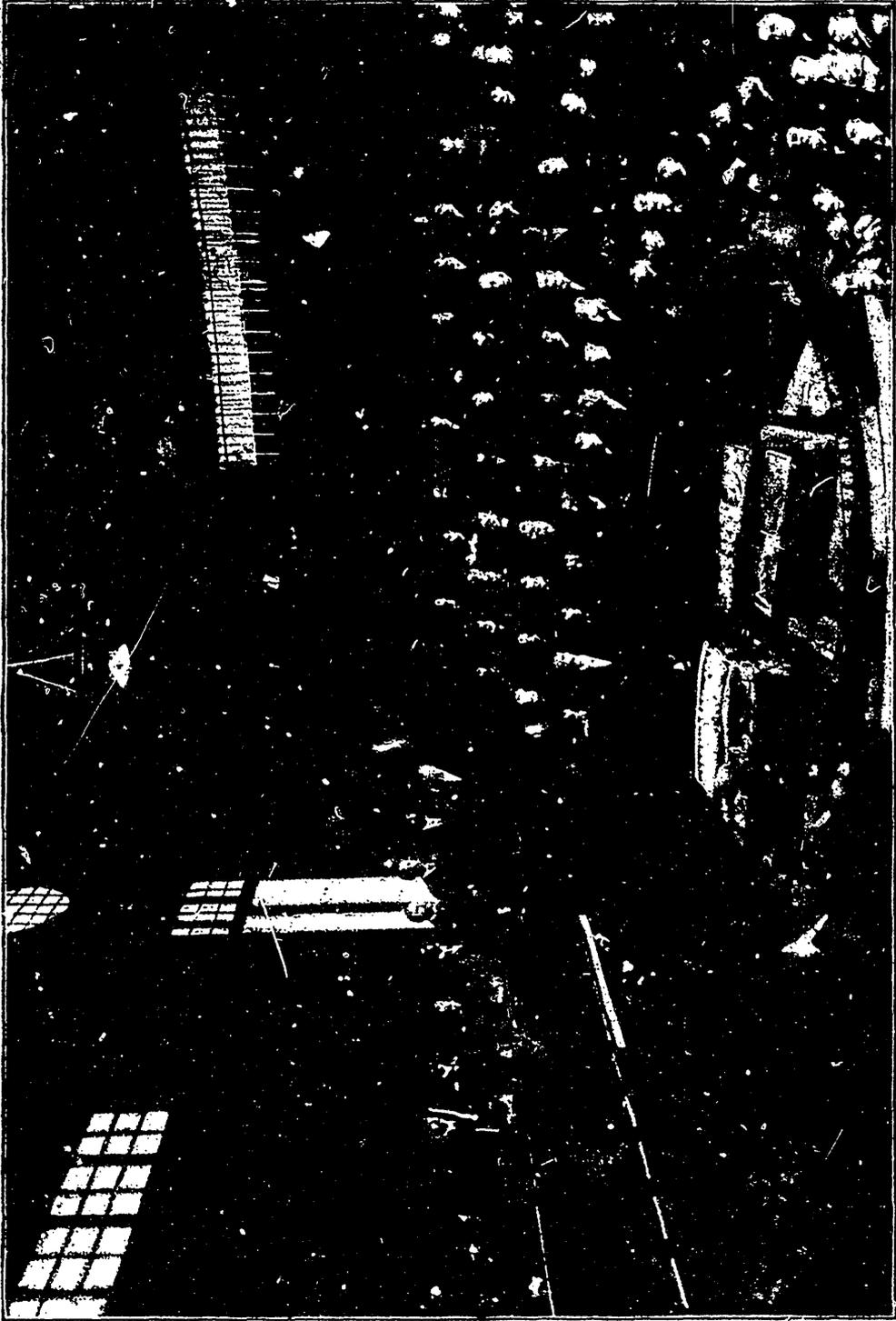


FIG. 2159. LIVERPOOL BROKERS' AND FRUIT BUYERS' ASSOCIATION.

LIVERPOOL BROKERS AND FRUIT BUYERS' ASSOCIATION.

THE frontispiece of this article shows the Auction Room of the Liverpool Fruit Brokers and Buyers' Association. The gentleman in the centre of the gallery is Mr. Woodall, of the well-known firm of Woodall & Co.

From small beginnings the Fruit Auction has now become the hub of the Liverpool fruit trade. Five years ago, when the apples imported into Great Britain aggregated 2,937,000 bbls., 1,598,294 were received at Liverpool and practically all handled through the medium of this association. The illustration only shows a small number of buyers, as on a busy day not only will the pit but also the galleries be crowded to the utmost capacity.

Not only the fruit kings of Britain, but down to the lowest barrow hucksters are there, each bidding on the class of fruit suitable to their trade. No place in England or perhaps in the world is there such a large congregation of buyers of such a varied class. Apples, of course, are only one of the fruits sold through this medium, as every kind of imported fruit is sold there; samples are exposed on these hydraulic hoists and in many cases tipped out for the scrutiny of the buyers, whose eagerness often causes an uproar like unto a stock exchange.

The total sales in this room some days are enormous; the beauty of this system is that it brings all classes of dealers together into competition.

There are six brokers who control this Auction, but other receivers who are not brokers sell their receipts through one of

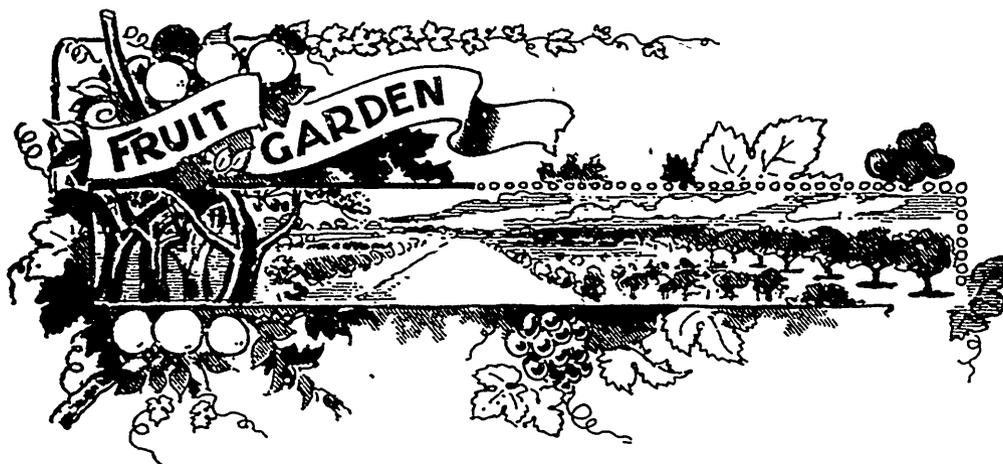
these six, who are Messrs. Woodall & Co., J. C. Houghton & Co., James Adam Son & Co., McGeorge & Jardine, L. Connolly & Co., Rogers Wray & Co., each taking their turn of 40 minutes and then 20, and sometimes selling till late in the evening.

The principal sales are held three days in the week, Mondays, Wednesdays and Fridays, and the large dealers from all the leading towns in England and Scotland come in to purchase. Stringent rules are in force, binding on buyer and seller, and the bid of any buyer is refused who does not fulfill the requirements. The Auction Room is strictly public, and catalogues of sales are issued by the brokers on the day following showing prices obtained.

This system of consolidating the buyer and seller has proved most successful in Liverpool, and Glasgow has for some years attempted to copy it, but so far it has been impossible to get all the receivers together; and in London this method has clearly proved its superiority over other systems, where different firms hold their sales at same time in different places.

Mr. Eben James, of Toronto, to whom we are indebted for this cut, represents the firm of Woodall & Co., who claim to be the first receivers of American apples on consignment to Liverpool, dating back as far as 1847, when Mr. Underwood, of Croton Point, N. Y., made a trial shipment in casks, and the original account sales is framed and hanging in the Underwood mansion, of which the firm is justly proud.





PICKING, PACKING AND MARKETING APPLES.

THE big end of labor and expense that goes into an apple crop is incurred in the picking, storing and marketing. Picking apples is, or should be, a "hurry-up" job. Every tree in the orchard of the same variety is ready to pick at the same moment, and should be picked the moment it is ready. Every hour that the picking of an apple is delayed after its clock has struck brings deterioration. In an orchard of one tree it is easy to accommodate the harvest to the requirements of the crop. But where apple people have several hundreds or thousands of barrels of one variety it is both difficult and unprofitable to practice such dispatch. For even if we assume, like a political economist, that labor is a sort of fluid to be turned off or on at will, the equipment for apple picking, the ladders, picking sacks, baskets, sorting tables, barrel presses, and all that, become an intolerable expense where they are provided in such abundance that a day or two's use in a year is all that is required of them. Most apple growers allow from two to four weeks for the apple picking. It has been reported that in 1897 the yield of one of the large orchards of Missouri was 120 carloads of apples, and that they were all gathered and either shipped or put in store in ten days.

Such expedition can only come with fine generalship and a perfect system of procedure.

There are different systems of picking, and there is much picking without system. The system followed grows in interest and importance as the number of people engaged is increased. When the "old man" works alone it is no great matter how he proceeds, but when the force is 100 or even a dozen hands the question of profit or loss may hinge upon whether that force works with the precision of an army or the discursiveness of a mob.

Some careful operators pick into baskets, and in turn hand the baskets thus filled to the packing-house or place of storage. But in the main apples are picked into seamless grain sacks prepared for the purpose, with a heavy wire sewn in the sack mouth for the purpose of holding it always open. Before this wire is put into place in the mouth of the sack, a ring an inch or so in diameter is bent into it. This ring is for the purpose of engaging a harness snap attached to a short rope or strap, the same being tied to one corner of the closed end of the sack, the purpose of it all being to provide a thing by which the picking sack can be suspended from the shoulder and expeditiously unslung

for emptying. The workmen will adjust the length of this tackle to correspond to his own length, and should be forbidden to throw the sack over his head. In apple picking, time is too precious for unnecessary movements.

When apples are barreled in the orchard, the packing gang, with portable sorting table keeps even pace with the pickers, the latter emptying their sacks as fast as filled directly upon the table. The sorting table is constructed with a slat bottom, slats half round, one inch by two inches, set one inch apart. A good size for the table is three feet by six feet. Sometimes they are made even longer, up to twelve feet in length. The sides of the table are six inches high. Its outlet is provided with an apron, which enables the packer to let the apples drop into the barrel without bruising. A piece of plank for the barrel to stand on while being filled and on which it may be frequently jarred, is an essential part of the equipment. The great advantage in this method of packing lies in the fact that it involves less handling than any other possible device. Its advantages, as compared with a permanent or temporary packing-house, are serious. With a packing-house the barrels are kept dry; the work of barreling is not interrupted by a slight shower; the culls are brought to one place, and, most important of all, the grade of the stock can be made to run much more evenly than with the orchard pack.

It is more and more apparent that where any considerable quantity of apples is raised there should be a permanent structure for receiving the apples, if not for storing a portion of them. A common form of apple house intended for storage is two storied—one story above ground and one partially below. The underground story will, of course, be frost proof; the upper story must be made practically so by hollow walls, sawdust packing, air spaces, or whatever method is used. In both stories bins are arranged on each side of a central alley. If the bins

are single decked, the apples are often piled up four feet deep by six to ten or twelve feet wide, according to the width of the bin. Such houses are often constructed double or triple decked. In such cases two and one-half feet is a common depth for the apples in the bins. Such a building must be fully equipped with ventilators and double sashed windows. If the ventilators are carefully kept open at night and shut by day, the temperature can be surprisingly controlled, and in ordinary seasons apples are often carried through to January 1 or even to March 1 without extraordinary loss.

Where apples are placed in farm storage the gathering is much simplified. Supposing the picking to be done in sacks, the hauling is done in barrels having but one head, on wagons fitted with barrel bottoms. The barrel bottom is made of two-inch planks bolted to crosspieces. It has no sides, but instead poles are secured to the top rings of the wagon stakes, in such wise as to be instantly detached, if desirable to have the pole out of the way for unloading. The ends of this rig are secured by ropes. If the "barrel bottom" is fourteen feet long it will hold sixteen barrels, which is enough for a load.

To make the apple harvest "go" with economy, each picking gang should consist of sixteen men and a boss. They will take four rows of trees at a time, and at each remove will take four trees in each row—sixteen trees, with a man for each tree. The wagon will keep along with the pickers, taking its stand every time in the center of the sixteen trees. The boss and driver will receive the apples from the pickers and carefully pour them in barrels. There should be wagons enough so that the work may not be interrupted for want of transportation. The boss may take charge of the wagon while it is loading and turn it over to the driver when loaded. In that way one team can be run without a driver. The manner

of unloading will depend upon the construction of the storage house.

When there comes a hot fall, like that just passed, when it hardly froze at all in November, the anxious orchardist longs for cold storage. And where fruit is perfect and intended for the late market and the cold storage complete, then it ought to be satisfactory. The charge for cold storage is commonly forty to fifty cents per barrel for the season to May 1. Freight, switch charges, shrinkage and unpacking will commonly make the cost about seventy-five cents per barrel.

Thrice and four-times happy is the apple man whose fruit is near enough to a good market so that he can sell it in person, or by proxy, from his own wagon. Then everything goes at some price—culls, windfalls, seconds, and firsts. He pays neither freight nor commission. Most orchardists have harder ways of making sales. Some are harder than others, but the hardest of all is where the buyer is furnished the apples in piles for him to paw over at his leisure and

select or reject according to his fancy. Apple buyers of that variety should be shown the door that the lightning-rod peddlers go out. Before negotiations for a crop of apples are concluded, a perfect understanding should be reduced to writing, specifying what is to go and what is to be thrown out.

As a final word, many orchardists practice a false economy in saving their fruit at a loss. Whenever cider apples or evaporated apples are going at less than they can be delivered for with hired labor, the rot process of disposition should be introduced, except that where the farmer himself or his minor children have no other gainful employment, then the farmer and his kids will find even half wages the same as something found. But when people have paying jobs, their cider apples at twelve cents per hundred delivered on the cars or their evaporator apples delivered at the factory for ten cents per bushel will bring them nothing for their fruit and less than cost for their labors.

EDWIN TAYLOR,

Before Kansas Agricultural Society.

THE APPLE MARKET.

The Manchester Fruit Brokers write as follows :

Contrary to the expectation of many people the English apple crop now promises to turn out a fair yield in quantity and very good in quality. Advices from the continent of Europe are mostly to the effect that there is not likely to be a very large surplus there for export, but we consider that even here the estimates are likely to be exceeded because the weather prevailing on this side now is very favorable to the growth of the winter varieties. It is at any rate certain that for the next two months home and continental growers will be able to send in to

market very considerable quantities of apples, and, as other fruits are likely to be both plentiful and cheap, we do not consider that prices within the period named will run above last year's values.

Advices from Spain indicate that the crop of oranges this year will be an enormous one and, as this fruit will compete strongly with the sale of apples from the early part of November, we warn packers and shippers in Canada not to pay extreme prices. It must be remembered that the consumption of apples here falls off greatly when prices run beyond a reasonable limit.

THE APPLE BUSINESS.—II.

FRAUD EVEN IN LIVERPOOL.

Mr. Pritchard went on to show, although this was not perhaps just the sort of impression he intended to leave, that queer practices are not confined to this side of the ocean—that they extend to the innocent, dull-headed receiver in Liverpool.

“Dealers in Liverpool,” said Mr. Pritchard, “would sooner have a faced barrel than one running even all the way through. They are not deceived, because any barrel can be turned out on demand, and dealers see just what they are getting.”

M. H. Peterson said that, while this style of packing did not injure us in Liverpool, it would injure us in markets where buyers were not on to it.

Mr. James showed very clearly, however, that while Liverpool dealers may not complain of such packing, Canadian producers are very much injured by such a system even in apples sent to Liverpool. “The complaint does not come from the dealers,” said the latter. They are not deceived by the facing, and are probably able to sell a little above actual value a barrel packed in that way. It is the consumer, the man who buys for his own use a barrel in which the centre does not agree with the top, who kicks.”

THE AUCTION SYSTEM IN FRUIT-SELLING.

F. D. Cummings, of Portland, Me., gave a new turn to the discussion. He read a paper, in which he advocated the substitution of the auction for the commission system in disposing of fruit on this continent. “It is not,” he said, “considered exactly safe to leave uncounted money with a stranger, he knowing it to uncounted, and expect him to make returns of every penny and the profit earned by the money. But that is just what we do when we send fruit to a commission house for sale on commission. The unsatis-

factory nature of the present system is shown by the sort of laws it has been thought necessary to introduce for its regulation. In one State the law provides that a commission man may be called upon to show cause why he did not obtain the highest market price on the day of sale ; in another the producer of the fruit is given the right to go through the books of the commission merchant for the purpose of seeing what his fruit really sold for ; and in New York an attempt is being made to pass a law obliging the commission man to include in his return the name of the retailer to whom he has sold. How much better and less cumbersome the auction system, with its straight, clear-cut transactions.”

REJECTIONS IN LIVERPOOL AFTER AUCTION.

But Mr. Cummings' chief grievance was with the manner in which American apples are handled in Liverpool. “They have the auction system there,” he said, “but they have also the right of rejection for practically 36 hours after purchase. There should be no right of rejection. Prospective buyers have the right of examination on arrival ; they can, and do, use their hatchets to open any barrel they wish ; they can demand the dumping out of the contents of any barrel when the auction is on ; and still, after all this right of examination, they can reject practically 36 hours after purchase. This gives buyers an unfair avenue of escape, if the market goes wrong in the meantime. Once a sale is made there should be no right of rejection afterwards.”

A LIVERPOOL VIEW OF IT.

“We must remember,” said Mr. James, “that Liverpool is the greatest apple market in the world. We must remember, too, that the buyers have their views, and we as sellers cannot hope to dictate to them just

how their business shall be conducted. If a buyer purchases a lot of barrels, as 'tight' he should have the right to reject if when delivery is made they are found to be 'slack.' Remember this, too, that competition is too keen in Liverpool to render anything but fair dealing impossible."

"I have," said Mr. Pritchard, "known a lot of barrels to be 'tight' on Tuesday night on arrival, and 'slack' next day. The rolling about on the dock and the difference in atmospheric conditions caused the change."

"That sort of thing," said Mr. Dawson, "is a possibility, but a remote probability."

"The Canadian Government," Mr. James continued, "has maintained at great expense an agent in Liverpool for the purpose of seeing the manner in which Canadian produce is handled there. This agent has informed me that the only serious objection he had to make was the rough handling to which the fruit was subjected on arriving in Liverpool, but I told him if he had to handle 170-pound barrels all day, at 20c per hour, he perhaps would not be more gentle than the dock hands."

THE NEW YORK SYSTEM.

Mr. Forster, of New York, said that California oranges were sold by auction in New York without the right of rejection, and what was possible with oranges in New York should be possible with apples in Liverpool. "Grapes are sold in the same way," he added, "and that is the greatest gamble of the lot. The section from which the sample is taken may be worth \$6, and the rest not worth more than \$3, but we have got to take them."

"We are only wasting time in discussing this matter," said Mr. Peterson, "as the Liverpool buyers will do as they like anyhow."

CO-OPERATIVE SELLING SUGGESTED.

"I do not see why," responded Mayor Graham, warmly, "if those who really act

as our agents in Liverpool will not conduct the business as we want it done, we cannot send a man of our own over to handle the business for us. There are enough of us to do it. (Applause). When we buy lemons in Montreal we have no right of rejection. Why should such right exist in Liverpool, where there is unlimited freedom of inspection before purchase?"

"It must not be forgotten," said Mr. Pritchard, "that Liverpool is not the end of it. The apples landed there are largely forwarded to other centers. A buyer, 48 hours after buying, may have an order to send on to Dumfries or Edinburgh. That man does not want them to be forced to take melted apples which he bought on the basis of tight. If you remove the right of rejection you introduce the speculative element; you force buyers to guard against the loss that will follow being forced to take 'slacks' when 'tights' have been paid for, and the result will be that barrels that would bring a guinea under the present system will not bring over 15s. under the one you propose to exchange for it. Neither is it practical to have your own representative in Liverpool. Apples form a sort of surplus trade, and if the Liverpool buyers determine to freeze your representative out of business he will find apples collecting on his hands to such an extent that the Dock Board will have them thrown in the river. Besides, buyers, under the present system, have not the absolute right of rejection. They cannot refuse a barrel simply on their own statement that it is 'slack.' They must prove that it is so."

Mr. Cummings, in response to the implied threat as to what might happen if the association sent its own agent to sell in Liverpool, said it might be necessary to go still further and seek the co-operation of the grocers in towns beyond Liverpool, the men who sell direct to the consumer—thus bringing consumer and producer more nearly together.

A committee was, by unanimous vote, at a subsequent session, appointed for the purpose of endeavoring to have Mr. Cummings' views, demanding the withdrawal of the power of rejection after auction, given effect to.

ILLINOIS' SYSTEM OF SELLING.

Senator Dunlap, of Savoy, Ill., also spoke on marketing, but from the home market standpoint. "Some men," said he, "know all about production, but go lame on marketing. The selling of apples is different from the selling of wheat. There is a standard value for grain which everyone is familiar with. There is no such standard for apples. In Illinois different plans have been tried in the disposal of orchard crops, but the pretty general custom now is to sell by the barrel in the orchard, the buyer doing the picking and barrelling." Speaking of other systems of selling—of the sending of fruit to cities for sale—Mr. Dunlap expressed the opinion that the day is not far distant when the commission men as such will be eliminated and their places taken by fruit dealers, men who will buy the fruit outright.

BAD EFFECTS OF SELLING IN BULK.

Later on, too, an informal discussion arose on this general subject of marketing. Mr. Williamson said one of the greatest evils in connection with the fruit business was the buying of orchards in bulk. "That is," he declared, "a direct incentive to bad packing. If a man buys an orchard that way, and something happens to the apples on the trees after purchase, he is going to get the number of barrels counted on no matter how it is done. His No. 1 will be a little off. His No. 2 will be still more off; and his No. 3 will be the Lord knows what. This year the danger from this system will be particularly great, because, while the crop is perhaps the smallest on record, the amount of apples put up for sale may be very large. It is not nature which regulates the volume of apples

marketed; it is packers who by their grading fix the limit of the quantity which will be put on the market."

Another member of the convention said that in New York dealers prefer, when possible, to buy in the original package. "Apple producers should," he said, "so pack their apples in the fall that the fruit can stay in the package thus used until it reaches the consumer. The handling in repacking causes serious damage."

PROFESSOR ROBERTSON ON THE ENGLISH MARKET.

Prof. Robertson, fresh from Liverpool, added a valuable contribution to the discussion on marketing. "The Englishman is, said he, the best commercial man in the world—for England. He can present an account of sales which, while perfectly honest, will show the largest possible amount of charges for himself and the smallest possible amount of profit for you; and he will do all this with the blandest smile in the world. At the same time the market of London is the best market in the world for really gilt-edged products. A case in point: A Canadian apple-grower, for four consecutive years, sent the pick of his orchard to London, on consignment, a dangerous thing to do, and yet his apples netted him an average of \$3.51 in the orchard. That shows what can be done in London by discarding all small and inferior apples and sending the best only.

"There are two commandments lying at the very threshold of commercial success. The first is 'Thou shalt deliver goods as they are represented to be,' and the second 'Thou shalt not deliver goods in poor condition.' Observe these and success is assured in any line."

FAVORS STRAIGHT SELLING.

Prof. Robertson also touched upon the methods of late in England. "We are,"

said he, "sending nearly \$20,000,000 worth of cheese to Great Britain, and not two boxes to 100 are sent on consignment. The rest is practically the property of the party to whom it is sent in England before it leaves this side of the Atlantic. And that is the proper system; that is the system which should be adopted in the apple trade. The party to whom the goods are sent will then take much better care of the products than he otherwise would. A case in point: A lot of butter was sent on consignment to Glasgow during the time I was there. This, after having been carried to Glasgow under a system of cold storage provided for by the Dominion Government at a considerable expense, was left exposed for 48 hours during the hottest weather on the dock at Glasgow. Other like goods, sent at the same time, but but not on consignment—goods which had been sold before leaving this country—were hurried at once into cold storage."

"Yes," said Prof. Robertson, in answer to a question, "the party to whom the goods were consigned knew the butter had arrived, because he had taken samples from it for the purpose of making sales. Why did he leave it exposed? Because he was not obliged to take up his draft in payment for the butter before delivery was accepted. If he could sell it by sample, before actually accepting delivery, he would, possibly, save the use of two or three thousand pounds in the bank for two or three days. It is because of things like this I am going to start a campaign in this country against sending goods to England on consignment."

Speaking particularly in regard to the matter of apples Prof. Robertson said: "Something more than sorting as to size is necessary. There must be sorting, also, in regard to the condition of ripeness. This is particularly necessary in the matter of early fruit, as otherwise the over-ripe fruit will be apt to spoil that not so far advanced."

IMPROVED TRANSPORT FOR APPLES.

Dealing with the matter of accommodation for shipping apples, the speaker said: "Apples should not be sent by a vessel which is without facilities for ventilating the chambers in which the fruit is stored. We have just succeeded in making arrangements with all the lines leaving Montreal by which provision will be made for this ventilation. Three lines have agreed, in addition, to provide mechanical refrigeration, by which air will be reduced to 50 degrees before being driven through the hold in which the apples are held. The advantage of this is apparent when it is remembered that in passing through the St. Lawrence the temperature may be up to 70 or 80 degrees. Ten steamships have provided this mechanical refrigeration, and twenty-five will have a fan equipment for ventilation."

"We have also asked for ventilated cars, but the trouble is that the freight traffic of this country is developing in such a remarkable way that it is utterly impossible for the railways to keep up with the demands even for ordinary traffic. The best we can do is to whitewash the cars with a spray pump and leave the doors open for about three inches, thus providing for a partial system of ventilation."

AMERICANS INVITED TO SHARE A GOOD THING.

Speaking to the representatives of the United States apple industry present, Prof. Robertson, on behalf of the Dominion Government, offered to them the benefit of the facilities provided for the Canadian shipper. "We will be glad," said he, "to see your apples going by way of Montreal, because we believe the more apples that go that way the greater will be the disposition on the part of the steamship people to furnish an efficient system of ventilation, etc."

"We have," Prof. Robertson went on again, "gone further than this. We have

made arrangements under which the name of every ship on which fruit is roughly or improperly handled will be published by the department all over Canada. Some steamship owners say they will sue us for libel if we attempt this, but we are ready to stand a suit in order to effect the reform necessary." (Applause).

WHAT TASMANIA IS DOING.

Mr. Powell also referred, in the course of his address, to the question of transportation. "Tasmania does not," he said, "produce anything like as good a quality of apples as is produced in New York State. And yet Tasmania, by her improved system of transportation, can send apples 14,000 miles, largely over tropical seas, land them in London in better condition than we can, and get a better price." Mr. Powell congratulated Canada on the fact that the Canadian Government had done so much towards securing improved facilities for transport of Canadian apples by sea.

YIELD AND DEVELOPMENT—GUESSES AT THE CROP—PROBABILITIES OF DEVELOPMENT.

There was no point on which the members of the convention differed more widely than in their estimates of the apple crop of America. The president estimated the value of the crop in the United States alone at something like three hundred million dollars. This would be equivalent to two hundred million barrels at \$2.50 each. Mr. E. N. Loomis, of New York, said the Fruitman's Guide placed the merchantable product of the United States at forty million barrels, with the amount actually barreled and marketed at twenty-five million barrels. Mr. Powell, of New York, estimated the crop at 100,000,000 barrels. The Year Book of the American Agriculturist, an excellent authority, placed the bumper crop of '96 at seventy million barrels. As Mr. Loomis said, it is largely a matter of guesswork anyway, but the figures given by the Agriculturist would

seem nearest the mark. It does not seem possible that the United States, in any one year, has produced more than seventy million barrels of marketable fruit. Even this would allow very close to one barrel per head for every man, woman and child in the United States, after allowing for the export trade, and it is fairly certain that is the outside limit for the quantity of apples consumed in the Union. But even at this figure the industry is an important one; and, one point on which all agreed, and on which all seemed justified in agreeing, is that the industry is growing by leaps and bounds, and has before it almost unlimited possibilities of expansion.

POSSIBILITIES OF FUTURE DEVELOPMENT.

But what has been accomplished is but the beginning. It remained for George T. Powell, of New York, to point out the possibilities of the future.

"People predict the coming of a period of over production," he said. "That same prediction has been made every year for the last forty years, and yet not once in all that period have we had too many apples to meet the demand. We can increase the consumption at home by 100 per cent.; Germany has just got a taste of our good apples, and an enormous market in consequence is opening up in the German Empire; it is only a question of time until a demand comes from Japan and China, and when that time does come, even if our production is double and treble what it is now, we shall not produce enough to furnish our customers in the East with one apple apiece. It is merely a question of producing the right quality of fruit and arranging for proper distribution and marketing. Solve that problem and we shall not produce too much even when all our possible apple area is producing to its fullest extent.

"And to what extent may production not be developed? Just see what has been

accomplished under the crude methods employed in the past. I made a special investigation in 1898 as to the profit then being realized from apple production in that State. One authority from which I obtained a report estimated the average value of the return per acre from apple-growing in the State at \$100. On twenty adjoining farms in one county, the average return for five successive years (two of these years being failures), was put at \$85, or equal to 6 per cent. on a valuation of \$1,400 per acre. On some farms, in single years, the return per acre ran up as high as \$550, and in one case to \$700. When, added Mr. Powell enthusiastically, "we think of what has been accomplished under the conditions existing in the past, we find it impossible to compute the possibilities of the future. One thing certain is that no occupation offers greater security to a young man than fruit growing, and there is no safer investment for capital than is offered by a good fruit farm."

CARE OF ORCHARD. NO ONE ESSENTIAL IS SUFFICIENT IN ITSELF.

Senator Dunlap, in an address on Commercial Orcharding, said one thing which, although a sort of commonplace, illustrates in a striking way why orchard work must necessarily be confined to a comparatively few.

"You cannot," said he, "plant an orchard to-day and reap your reward to-morrow. Moreover, owing to the peculiar difficulties encountered in this business, fruit growing is really the work of specialists.

There are not many specialists, and not many in a position to wait; therefore fruit production is not a business for the masses.

Mr. Dunlap emphasized the point in regard to the necessity of special knowledge by mentioning something which had occurred in his State—something which has, in a measure, its counterpart in our own Niagara district, with peaches substituted in the latter case for apples in the former.

"Southern Illinois is," said Mr. Dunlap, an almost ideal place for the production of apples, and ten years ago, when the industry was at its beginning there, some record-breaking crops were produced. Business men, their imaginations fired by the big profits that were apparently to be so easily made, invested largely in trees and land. There are thousands of acres of apple orchards planted by these men that have never returned a cent, and never will do so. Why? Conditions have changed. The introduction of fungus diseases and insect enemies have rendered production more difficult, and these men have not the knowledge or the patience to grapple with the difficulties that have arisen."—*The Weekly Sun*.

NEW FRUITS.

STEELE PEACH.—"SIR,—I am sending you by this mail a few peaches. These have been produced on a tree which I have had in my garden for 14 years. They are a seedling and I have named them the 'Steele.' These samples are only about $\frac{2}{3}$ of the usual size and are not of as good flavor as usual. This is due I presume to the age of the tree and to the season and also to the fact that there are a great many

on the tree this year, about 2 bushel. The tree has borne well every year since it commenced with the exception of last year and one previous year when we had a severe June frost. It has never been injured in the least by the winter, although we have occasionally had a temperature of 20° or more below zero. The fruit ripens at end of August usually, but is a little later this year.

"As this is not in the peach growing dis-

tricts I thought this might be of interest to you.—M. STEELE, M.D., Tavistock, Perth County.”

The hardness of this peach may make it very valuable for sections outside the peach belt. Coming in with Yellow St. John and Champion it would not be of any great value where these succeed. The peach is attractive, skin cream with red cheek, flesh white, tender and juicy, of the flavor of the natural fruit which is excellent eaten with cream and sugar.

THE RUSSELL is a new apple shown us on the 3rd of September at the Industrial by Mr. J. P. Cockburn, of Gravenhurst. It originated, he said, near Ottawa, in the County of Russell. It is another of the Fameuse type, $2\frac{1}{4} \times 3$ inches in size, a bright red color, and white tender flesh, very agreeable. Its season is September.

THE MAMMOTH DEWBERRY is shown in the Rural New Yorker, of Sept. 7th.

THE MCPIKE GRAPE, a seedling of Worden, was on exhibition in Buffalo. It seemed to be similar in appearance and season to Campbell's Early. It is being introduced by the Silas Wilson Co., of Atlantic, Iowa, and was originated by H. G. McPike, of Alton, Ill. The introducers speak of it as follows:—

We have in this new wonderful grape great size, superior quality, hardy wood and bud, very large leathery leaves. Fruit ripens same season as Worden, which is one week earlier than Concord. This new grape ripens evenly, and only has one and two seeds; skin tender and pulp melting. Mr. J. P. Jones, a member of the Alton Horticultural Society of Alton, Ill., one of the oldest horticultural societies in the great Mississippi valley, reported to the Alton Horticultural Society that he made a trip to England in the fall of 1898 and took with him a basket of this wonderful fruit, and after being on the road 13 days the fruit opened up in Liverpool in fine condition and was pronounced worth 60 cents per pound in Liverpool market. This grape has taken all premiums at all the great state fairs in the fall of 1898 and 1899 wherever exhibited, over all competitors, including Campbell's Early. Many testimonials could be printed if space would permit regarding the success of this wonderful grape.

PRACTICAL SUGGESTIONS FOR MARKETING FRUIT.

*F. A. WAUGH, VERMONT.

IF it seems necessary to ship to two or three markets, stick to a single commission house in each city, but, as far as possible, ship to a single market. The man who is conducting business on a very large scale, like J. H. Hale or Roland Morrill, and who can keep his hand on the commission men, can afford to transgress this rule. Such men are superior to all rules. Most of us are not. For the ordinary fruit grower and shipper this rule of dealing always with one commission firm is of the utmost consequence.

Ship the same varieties year after year, and make the grade just as uniform as pos-

*From advance sheets of Prof. F. A. Waugh's book entitled "Fruit Harvesting, Storing, Marketing." Published by Orange Judd Co. Price, postpaid, \$1.

sible. Even if something short of the best fruit is shipped, uniformity of grade is highly advantageous. The commission house knows what to expect, and customers get used to the brand and the grade. There are hundreds of shippers growing all classes of fruits whose products are commonly already sold when they arrive in the market. Uniform and honest packing does it.

Select a brand which is neat, catchy, and not too large, and see that it goes on every package. Some men have made reputations and money out of their brands.

Grade and pack with the most rigid honesty. Don't try to cheat a commission man. It can't be done. The commission man has the last turn, and he is absolutely sure to protect himself, whatever happens to the

shipper. Moreover, any evidence of dishonesty immediately destroys the dealer's confidence in that consignor, and selling is seriously interfered with. Thereafter packages must be opened and examined before they are sold, and they are not offered to the best customers.

Follow the advice of the commission man

as far as possible when you have settled on a good one. Ship fruit when he wants it. Send the varieties and grades that he wants and in every other feasible way conform to the requirements of his business. His business is the fruit grower's business. He is the fruit grower's agent. He should be treated as such.

UNDER-PLANTING IN ORCHARDS.

CHAS. A. KEEFER.

THE fruit grower is often at a loss to know how to treat the orchard until the trees come into full bearing. The most common practice is to grow corn in the orchard a few years, and then, about the time the first crop sets, to seed down.

The grower should keep in mind all the time that the fruit trees are to bear the crop to which the land has been devoted, and always their welfare should be the first consideration. While this is true, the land should not be left idle until the trees come into fruit, not only because the expense of maintaining clean cultivation between the widely spaced trees would be too great, but because the soil, especially on sloping sites, would actually deteriorate under clear tillage.

Low growing crops are better than high growing crops for orchards, because they shade the soil almost equally well, and do not shade the trees. When corn is planted among young orchard trees, the lower branches of the trees are often so shaded as to greatly interfere with the work of their leaves. It must be remembered that leaves are at once the lungs and the stomach of trees, and that they can only do their work of assimilation in full sunshine. In a densely headed tree one may see that there are comparatively few leaves toward the center—there the branches are bare, while the outermost branches have the most vigorous foliage. Nothing should be planted in a

young orchard, then, that will shade the limbs of the trees.

The crop to be used in the orchard depends principally upon the condition of the land. If it is newly cleared land almost any hoed crop may be used—potatoes being one of the best. If the land is old, and especially if the soil is thin, an effort should be made to enrich and deepen it by planting to cowpeas which should be plowed under as they approach maturity, and be followed by a winter cover of rye. It is a too common practice to sow cowpeas and cut the crop for hay, the grower thinking that the roots of the peas are sufficient to enrich the land. While the roots of the pod-bearing plants are the gatherers of nitrogen, by far the greater part of the plant food gathered by the roots is stored in the leaves and seeds. The man who cuts the cowpea crop and in turning under the aftermath imagines he is doing the best for his land is like the man who would sell his oats and feed the straw to his stock, thinking this the best possible treatment for the cattle. Not only will the available nitrogen be greatly increased by turning under the cowpeas, but the mass of vegetable matter thus added to the soil will improve its character, making it looser if too compact and more firm if too sandy. Green manures are peculiar in being a corrective for both sandy and clayey soils.

Cowpeas should not be used in land that is very fertile, as the added nitrogen returned

to the soil will stimulate the growth of the fruit trees too much, and thus induce a great growth of wood at the expense of fruit. There are few old fields, however, in which this danger need be feared, and hillside orchards, where the washing of the soil is a principal cause of loss of fertility, may well be planted to this soil-improving crop.

In using such crops as cowpeas and rye, which are drilled or sown broadcast, the ground immediately about the trees should be well tilled, either by cultivating a strip on either side of the trees, or by hoeing a wide space around them.

The constant cultivation demanded by hoed crops is the best treatment that can be given orchard land. It prevents the tree roots from growing too close to the surface, as they are apt to do in grass land, keeps the soil well aerated, thus improving its

chemical condition, and by maintaining a loose surface cover saves the moisture in dry times for the use of the cultivated plants. The trees share these advantages with the plants that may be planted among them. In young orchards, by good judgment in the selection of such crops, they will frequently more than repay the expense of cultivation, and thus one may establish a vigorous orchard at comparatively little outlay.

In the bearing orchard no cover crops should be grown except to prevent soil washing, or as green manure. One of the most impressive things in the vast orchards of California is the wonderful thoroughness of their cultivation. The owners must have discovered what few eastern orchardists seem to realize, that the fruit tree repays high tillage as well as any other plant.

COLD WATER REFRIGERATOR.

FOR the last two years I have used a homemade water refrigerator in the farmhouse which has some advantages over ice. It saves the expense of putting up ice; saves labor of getting it out and putting it into the refrigerator. It is purer than ice and furnishes drinking water of guaranteed quality, which is better for the health than ice water. Director Sage, of this state, makes a strong point against putting ice into a refrigerator and then breaking off a little to put into drinking water—this on the score of health.

The windmill sends the water from a drilled well to the tank in the top of the refrigerator through the short pipe indicated by dotted lines, the over-flow runs back

through the other pipe and goes to the stock water tank. The water is needed for stock so none of it is wasted. It is also needed at the house, and faucets permit its being taken out at the house as desired. Shelves in the lower part hold the milk, butter, fruit and whatever else is desired to be kept cold, and the wife does not have to go down cellar after butter, nor to the well for water, nor the man of the house have to get ice for which he has no need.

The tank I use is four feet high, three feet wide and one foot thick, and made of galvanized steel. A cupboard-like structure without shelves in the upper portion affords a good place to locate this tank, and the windmill will do the rest. The pipes run underground from well to house, in a trench six feet deep, so to be free from frost. A stopcock at the pump allows the water to be sent to the house when desired, or direct to the stock tank without first passing through the house tank.—*Am. Agriculturist*

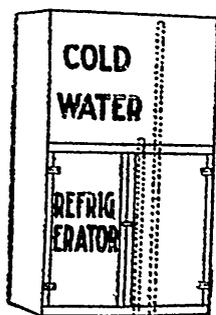


FIG. 2161.

OUR CANADIAN FRUIT AT BUFFALO.

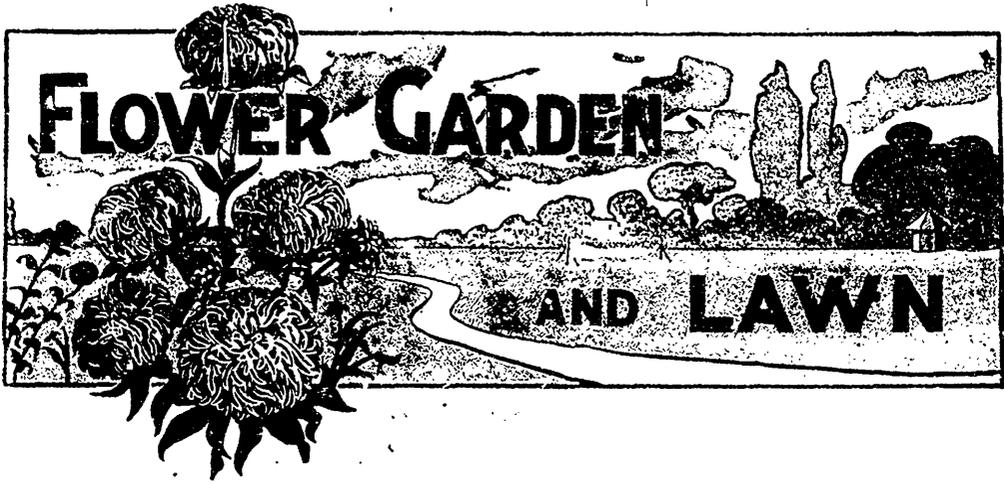
SIR,—Since your visit here in connection with the very successful meeting of the American Pomological Society, I desire to report, through the columns of the Horticulturist, to our many Canadian friends that our Ontario Fruit Exhibit here at the Pan-American Exposition has not abated in interest, but rather from day to day has been growing in value and popularity. The very large supplies of grapes, peaches, plums, pears and apples, which have come forward from all parts of the Province, have so fully taxed the capacity of our large section, that we have been obliged to resort to quite a number of expedients in order to find room for properly displaying the beautiful samples which have been sent to us. In this short letter it would be impossible for me to mention the names of the many exhibitors who have been forwarding samples. Their names will, however, appear in my report, which I shall have the honor of preparing at the close of the Exposition. I may say that it has been a matter of surprise to me that in what is generally considered to be an off season for fruit in our Province that it has been possible to send me such fine samples and so many of them, of our best fruits, and time and time again as the days pass by, we have been complimented upon the appearance and quality of our fruits by visitors, who are entirely disinterested and who are fully competent to judge horticultural exhibits. In a few days the preliminary list of awards for

our entries in connection with permanent displays will be made, and I have every reason to believe that they will be quite satisfactory to the Province and to all those who are more particularly interested.

The Michigan exhibit of peaches, in which state, I understand, they are harvesting a full crop this season, has been a close competitor with us during the past two weeks, and I have felt extremely pleased that our friends have enabled me to keep so fully up with them as we have done. As far as grapes are concerned up to the present time we have, I might say, entirely exceeded my expectations and have, without doubt, put up the best display to be found here. From the many assurances that I have had, from those who have visited us from time to time, I have no doubt that we will be able to round up the season in a way eminently satisfactory to all concerned.

The attendance on the grounds, while not so large as was hoped for, still is running from 60,000 to 70,000 per day, and seems to be comprised of a class of people who are deeply interested in horticultural matters and who have given very close attention to the exhibits from the Province of Ontario. I have not the slightest doubt but that our exhibits here under different departments, Horticulture, Mines, Forestry and Ethnology will prove of lasting value to the Province at large.

Buffalo Sept. 26, 1901. W. H. BUNTING.



WINDOW GARDENING IN WINTER.



WINDOW facing the south, or some intermediate point between an east or west aspect, as near due south as possible and exposed fully to the sun, is the best position to grow and flower window plants in during the winter. Partial success with some flowering plants can be attained in a less favorable position, and in one having a more northern aspect than those mentioned, but the results as a rule are not at all satisfactory. Light and sunshine are elements that cannot be dispensed with in plant culture, more especially if the best flowering properties of the plants are to be brought out. In growing or selecting plants therefore, that are to occupy the window in winter, care should be taken to select only those that are best suited for the position they are to occupy.

For a window having a north aspect it would be useless to think of growing and flowering successfully even the commonest window plants, such as geraniums, oxalis, callas, etc. Even bulbous rooted plants, such as hyacinths, daffodils, amaryllis and many other winter and early spring flowering plants are not a success in a window not fully, or at least partially exposed to the rays of the sun in winter. Much can how-

ever, be done toward brightening up even a north window by using bright-colored and graceful growing foliage plants. Amongst the latter may be mentioned palms, dracenas, *Cyperus alternifolia*, *Asparagus plumosus*, *aspidistra*, *Ficus elastica* and the variegated type of the cyperus, *Cyperus variegata*. *Begonia manicata aurea* makes an ideal window plant, and succeeds well in almost any window, whether in a shaded or sunny position, the beautifully blotched, ivory white and green coloring of its leaves giving it a decidedly bright and attractive appearance amongst a collection of window plants. The thick, fleshy nature of the leaves of this begonia also serve to increase its value as a window plant. The plain leaved type of this begonia, *B. manicata*, is also a fine window plant, but its foliage is less robust and is more sensitive to a low temperature, excessive moisture, etc., than the variegated type, the latter being the hardier of the two. *Begonia sanguinea* is also a good begonia for a shaded position in winter. The variegated anthericums and agaves can also be used very effectively in brightening up a group of window plants in a window having a north aspect.

The spotted *Farfugium* (Leopard plant),

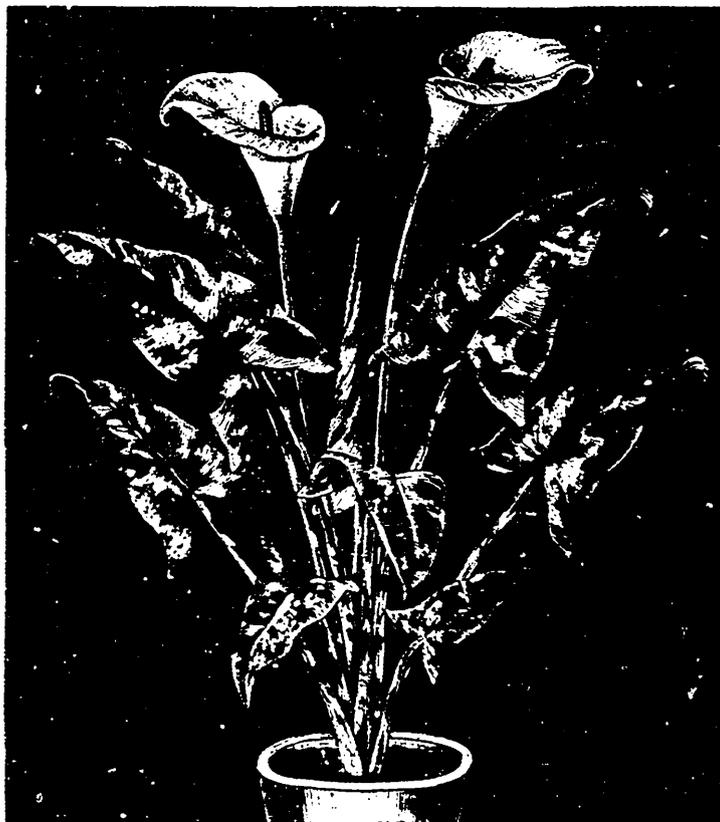


FIG. 2162. RICHARDIA ALBA.

is also a good house and window plant, in fact, like the *Sanseveria Zeylandica* it seems to thrive in a window or dwelling house much better than in a greenhouse or conservatory. It is a well-known fact that better specimens of the two last named plants can be seen in cottage windows than can usually be found in the best equipped greenhouses or conservatories. Both of these are ideal plants for the house or window, whether in a sunny or shaded position. The *Farfugium*, however likes a liberal supply of water, whilst the *Sanseveria* should be given water very seldom, only once in every two or three weeks will suffice, unless the atmosphere of the room is very dry, when a more frequent application can be given it. The *Sel-*

aginella emeliana is also a pretty little dwarf growing plant for the window, succeeding best in a position not fully exposed to the sun.

The spotted calla (*Richardia alba*) will succeed well in a window where very little sunshine comes, its long arrow-like leaves, with numerous short stripes and spots of pure white on its otherwise deep green foliage, makes it a plant deserving of special notice for the window. Dry bulbs of this spotted calla secured now and planted in a 4 or 5 inch pot will make nice plants before spring. These, like the common calla or *Richardia Ethiopica*, do not like their roots to become dry when in a growing state.

Very few geraniums succeed in a window

facing the north, a plant or two of the dwarf growing silver variety *Madame Saleroy* being perhaps the only partial exception to this rule. For trailing and hanging plants *tradescantias*, *vincas*, and German ivy will be found effective for a north window.

For a window facing the south a much wider range of plants is open to select suitable varieties from. All of the varieties mentioned for windows having a north aspect will succeed in a window facing the south, to which may be added double and single flowering geraniums, fuchsias, begonias in variety, *B. incarnata*, *B. rubra*, *B. fuchsiaoides*, *B. semperflorens*, *B. gigantea rosea*, and *B. Ingrama* being among the best for winter flowering varieties, whilst *begonias diadema*, *metallica*, *sanguinea*, *manicata* and *manicata aurca* will be found useful for the beauty of their foliage during the dark winter months. To this list can be added winter flowering bulbs of all kinds, not forgetting a few hanging pots of *oxalis lutea* (Bermuda butterfly). A plant or two of *epiphyllum* (lobster cactus) will also make a desirable addition to the collection. The variegated and flowering ivy leaved geraniums and the hybrid variety, *P. Crozy*, as well as many of the silver and gold tricolors as well as bronze foliated varieties will be found to succeed well in a sunny window in winter. The pretty little plant that may be fairly termed a window-shrub (*Linum trigynum*) is one of the most remunerative of winter flowering plants, producing its large bright yellow flowers in great profusion during winter and early spring. A pot or two each of primulas—more especially of *primula obconica*—cyclamen, *freesia*, with a pot or two of climbing *asparagus*, (*A. tenuissimus*.) or of the perennial varieties of *tropeolums* or *smilax*, will complete a list from which a selection of plants can be made that will make a bright and attractive appearance during the winter, when all the recent beauty of out-

door plant life has been marred or destroyed by the keen biting frosts and winds of winter.

CARE OF WINDOW PLANTS IN WINTER—Watering window plants is one of the features of winter window gardening that requires great care and close observance of the requirements of the plants, so that they may not suffer from drought, or on the other hand—as is often the case—become stagnated and the soil made sour and consequently dangerous to the life of the plants from too much water being given them. Tapping the pots with the knuckles will in most cases be a sufficient guide to the inexperienced plant grower to ascertain whether it is necessary to give the plant water or not. If the pot emits a ringing or hollow sound when struck, give the plant a good watering, sufficient to moisten all the soil in the pot. If on the contrary there is only a dull heavy sound in response to the tapping, very little if any water is required. When plants require water at the roots, the soil on the top of the pot assumes a somewhat lighter appearance in color and feels dry and crumbles when touched. When this is the case it is safe to give the plants water. On the other hand if the soil is sticky and pasty when touched, in all probability no water is required. When water is required give it liberally so as to soak the soil to the bottom of the pot. Use tepid water if possible, at about a temperature of 45° to 50°, or just luke warm. Water the plants early in the day, and on fine warm days if possible.

INSECT PESTS.—There are four or five insect pests that are a source of annoyance and often of destruction to plant life, more especially to window or house plants, the usually dry atmosphere of the house presenting just the conditions suitable for the introduction and subsequent increase in numbers of most of these pests. Green fly or aphid, red spider, mealy bug and scale, are the principal enemies to plant life in windows in winter.

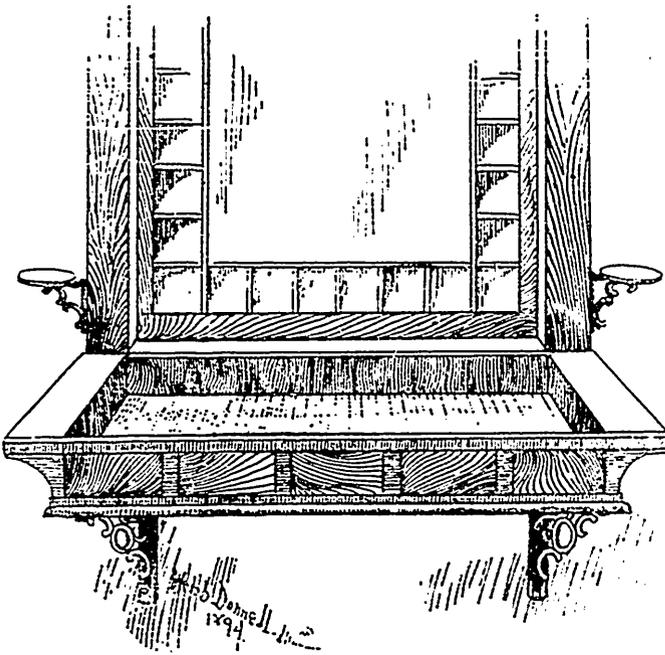


FIG. 2163. WINDOW BOX.

The mealy bug is easily seen and found by the white flowery or mealy appearance this insect presents when fully developed. Picking out the bugs with a small pointed piece of stick is about the best and safest method of keeping down these white, but objectionable and undesirable pests. The scale is not as easily detected as the mealy bug, as it is—except when quite young—scarcely discernible oftentimes from the bark of the plant from which it is slowly but surely sucking the life blood from. Its appearance when mature can perhaps be best described by terming it a miniature tortoise of very wee proportions, it being in most cases scarcely $\frac{1}{8}$ of an inch in measurement and almost oval in form. When near maturity the scale does very little harm to plants, but from the time that it is about the size of a small pin's head until it is near maturity is when it gets in its work of destruction. It is also at this period very hard to be seen on some plants, as it will if left unmolested entirely cover the bark of the plant on which

it is feeding, and is easily mistaken as being part of the bark of the plant itself. Roses, hydrangeas, fuchsias, ficus, dracenas and similar hardwooded plants are specially liable to scale. The best remedy is to wash off the scale with a weak solution of whale oil soap and water. It used to be a common saying amongst gardeners in my apprenticeship days that "to move the scale was to kill it," so that friction sufficient to move the scale is desirable, as well as the application of the solution mentioned. Ordinary soap suds, if not too strong, will answer just as well as whale oil soap and is safer to use. Both should be syringed or washed off the plants before it has time to dry on, as unless this is done the plants will look dirty and unpleasing in appearance.

Keeping the atmosphere where the plants are growing as moist as possible, not allowing the temperature of the room to go beyond 70° or 75° at the most, will prevent the appearance to a great extent of both the other pests mentioned, viz.: green fly and red spider. Constant washings and syringing with clean water will materially assist to prevent the intrusion of these pests. All house and window plants, except a few, such as coleus, begonias—especially the Rex and rough-leaved varieties—should be syringed or sponged once every week or two, as neither of these insects mentioned appreciate the application of water to the foliage of plants. A very weak solution of whale oil soap applied once or twice during the winter will help to prevent attacks of these pests, but be sure not to use the solution too strong, or the remedy will prove more injurious to the plants than the insects. Weak tobacco water will kill and keep down the green fly or aphid. If these applica-

tions of water and insecticides as described are commenced with early in the season, and applied occasionally during the winter, it will prevent the appearance of these enemies to house and window plants. Too often the application of preventives and remedies is neglected until the plants are infested with insects, when severe measures have to be taken, and strong solutions used, that will perhaps kill the plant before it removes the pest. "An ounce of prevention is better than a pound of cure." This old adage certainly commends itself to plant lovers, who wish to have the plants in their windows looking bright and fresh during the cold dreary days of winter.

In conclusion I would say to those who take an interest in window gardening that they should at all times endeavor to make the surroundings of their plants in the house as nearly as possible similar to the natural

conditions and surroundings as found by the plants in their native haunts. If a little study and application is devoted to these important points and conditions of plant life, success will be sure to crown the efforts of those interested in the delightful and pleasing occupation of winter window gardening. If, on the other hand, no attempt is made to give the plants the surroundings they have when growing naturally, failure and disappointment will be sure to be the result. It is surprising how easy it is to succeed in window gardening, as many of our readers can testify, if plants are only given even a small modicum of natural treatment amidst the certainly unnatural and trying surroundings that plants in windows have usually to contend with during severe winters.

W. HUNT.

Hamilton.

WINTER FRUITS AND BERRIES.



ANOTHER bright fruit is the high cranberry, *Viburnum oxycoccus*, a relative of the European snowball or guelder rose. It is a good shrub in foliage and flowers, and the berries are eatable, of a keen acid flavor. The black berries of the sloe, so-called, *Viburnum prunifolium*, are also conspicuous in winter. They are sweet, and with a little more pulp in proportion to their skins and seeds would be quite a successful fruit.

We must not forget the red hips of the sweet-brier rose, which are so highly polished that you can see yourself in them as you come near, and the evergreen habit of the bush for the first weeks of winter helps the effect.

The exotic barberry covers itself with the brightest red. Its fruit is eatable if one likes its keen sourness.

Here in the woods are knolls and mounds

—formed of the earth that has fallen from the roots of great trees uprooted by prehistoric tempests—of all sizes and forms. The dry summits of many of them are covered with a thick mat of evergreen vines beautifully mingled with verdant ferns and mosses, the gray or green cups or the red caps of the *Cladonia* lichens, while even the stones are decorated—it is the partridge berry, squaw, or tea berry, *Mitchella repens*, with its scarlet berries. The last extremity of cold and mild sunny days, of bare and frostless earth, are all the same to this hardy plant. Its sweet and eatable fruits keep their form and tint until spring is nearly here, while the dark evergreen foliage enhances their effect. Each berry has borne two white tubular, fragrant flowers. Filled with down they came forth in midsummer under the heavy shade of forest foliage.—*Vick's Magazine for November.*

SOME ATTRACTIVE CACTI - I.



GREAT many people deprecate the entire cactus family because, they say, "they are such ugly-looking things." Many of these speak only from having seen a few specimens of those varieties commonly met with, such as some of the *Opuntias*, or prickly pear family; or *Echinopsis*, which goes by numerous names, from "policeman's club" to "devil's pin-cushion." Admitting that, when not in bloom, these varieties are not specially attractive, yet that is not enough to support the sweeping assertion that all cacti are ugly. First, taking the *Opuntia* class, we find some particularly attractive plants among them, and a bed, having a large variety of different members of the species grouped together, makes a splendid show. The variation in form is very great, from the slender, much-branched stem of *O. frutescens* to the large oval joints of *O. monacantha*. A few of the specially attractive *Opuntias* are the very slender-growing varieties, *O. frutescens*, *O. fulvispina* and *O. arolescens*. *O. fulvispina* grows rapidly, and the matured growth is covered with long, bright yellow spines, each of the spines having a sheath of the same color that can be drawn off quite easily. *O. vaganta*, *O. tessellata* and *O. tessellata* var *denudata*, have stems one grade larger than those first mentioned, and are also very pretty plants when well grown. A most beautiful and odd sort is a cristate form of *O. tessellata*, which grows in fan shaped branches of very many different styles. Among the larger cylindrical forms of *Opuntias*, there are many fine looking varieties. *O. Bicolor* has long variegated spines and sheaths, and makes a good contrast amongst others. *O. Fulgida* is a many branched plant with long white spines, and glistening white sheaths which show

well on the green branches, while *O. bernardino*, has long yellow sheathed spines to make still another shade in the collection. Some of the large round-jointed varieties are really beautiful, the palm being taken by *O. monacantha* variegata, whose joints are irregularly mottled with white, and the new growth is usually white with a pink shade. The different *Basilaris* classes are all fine, and show many shades of color. *A. basilaris* grows in cabbage form and the joints are purple; *O. basilaris cordata* has joints of a beautiful light green with a purple cast over it; *O. basilaris coerulescens* has fine blue colored joints and *O. basilaris alba* flora has a pea green color. These are only a very few of the most attractive *Opuntias*, and only their appearance as a plant not in bloom has been mentioned, but when covered with their splendid flowers, they are able to take their place amongst the best decorative plants. The flowers are of different colors, white, all shades of yellow, rose and crimson. Some of the yellow flowers have crimson centers and are very showy. The flowers of *O. lurida* or candle cactus are a fine crimson and as double as a rose.

When a collection of cacti is being made, most fanciers prefer the globular sorts, with the long, heavy, horn-like spines, that have so many fine variations of form and color. This is the *Echino-cactus* class, and it includes some real gems that do not need flowers to make them extremely ornamental. Perhaps the finest of all, and a very rare sort, is *E. grusoni* or Golden cactus, which is so completely covered with its bright, clear yellow, almost transparent spines, as to deserve the name Golden cactus. In Mr. McDowell's exhibit at the Pan-American there are a number of these in very large

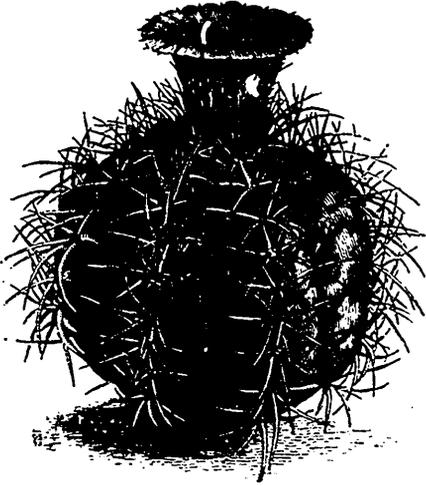


FIG. 2164. ECHINOCACTUS HORIZONTALONIA.

specimens, which are held at long prices. Another that rivals the above is the Lizard cactus, or *E. cornigerus*. This gets its name from the large central spine, which is flat and curved sharply at the end, and so strong that they will support a weight of twenty pounds. There are two varieties of the Lizard cactus, the difference being in the color of the spines, which on one are deep purple, and on the other a clear yellow. The yellow spined sort is much the rarest. *E. cylindraceus*, bears very long curved spines (4 to 5 inches) that interlace over the plant and are of all shades from white to red and very stout. *E. dugens* always attracts attention, its gray color and rigid, pearl-gray spines, giving it an individuality in contrast with others. Another gray colored plant with nice even ridges and regular spines, that needs to be seen to be appreciated, is *E. horizontalonius*. Another beauty that should not be passed over is *E. ornatus mirabelle*. The plant is a fine shape, with prominent, sharp-edged ribs; color is green, but it is so closely covered with little white woolly spots as to almost look white. The spines are yellow and very strong. This rivals in beauty the Golden cactus. A very rare and odd plant of this

family is *E. turbiniformis*, which is so wonderfully made that it looks as though laid out by a compass, and carved by a skilled mechanic from a round block of green stone. Still another Echinocactus of great merit is *E. wislizenii* or Fish-hook cactus. This grows to a large size, and its chief attraction is the stout central spines which are hooked like a veritable fish-hook, and sometimes four inches long. The above class is by many considered the handsomest of all cacti and the writer confesses to being of that opinion himself. The great difficulties encountered in procuring them, coming as most of them do from the interior of Mexico, where they have sometimes to be carried out on men's backs for days, over the mountains, makes the price usually high on most of them, and this prohibits their being more generally found in collections. The Echinocereus family does not contain so many attractive plants in regard to spines, but they make up for it in the profusion of their magnificent blooms. *E. candicans*

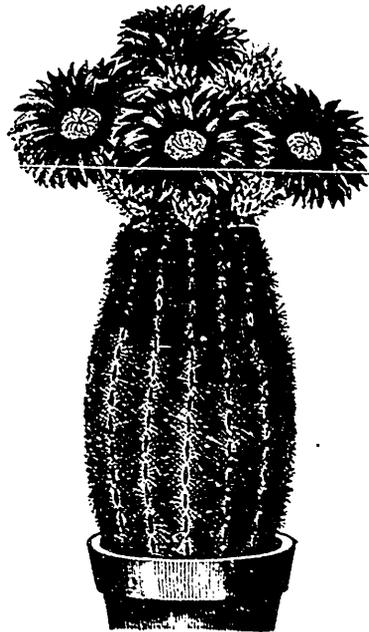


FIG. 2165. ECHINOCEERUS.

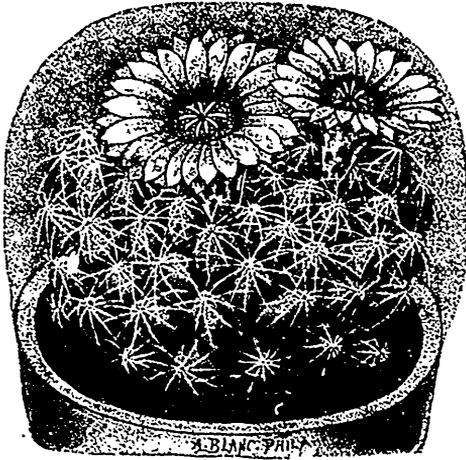


FIG. 2166. CACTUS MAMILLARIA.

or Rainbow cactus, is indeed when in good condition quite pretty, with its alternate rings of different colored spines, giving it the appearance from which its name is derived. The three varieties of *E. engelmanni*, must be mentioned amongst the attractive cacti, as their long, heavy spines are beautifully variegated from white, yellow and all shades of red and purple to black. They are bound to attract attention when seen in a collection.

This article has gone too far already in speaking of attractive cacti, without mentioning that most wonderful plant of all, *Pilocereus senilis*, or Old Man cactus. This form of plant is the greatest curiosity in nature. The plant itself grows upright, of stout growth, and is covered with a remarkable coat of long, snow-white hair, which is trained down over the plant from what is apparently the crown of an old man's head at the top of the plant. The hair is quite soft, and is sometimes six inches long and so thick as to completely hide the body of the plant itself. There are quite a number of *Pilocereus*, but none of such distinctive attractiveness as the Old Man. Amongst the *Mamillarias* are some real little gems, that can be used with good effect in carpet

bedding, the spines of each variety being so distinct as to make fine contrasts. A few pretty ones are *M. lasiacantha*, which is covered with soft feathery spines so closely as to look like a ball of snow; *M. micromeris*, or Button cactus, a miniature plant covered with tiny rosettes of spines that are so soft as to have the resemblance of velvet to the touch; *M. sanguinea* is so closely covered with bristly red spines as to resemble a brush; *M. nickelsonii*, of very regular form; *M. waltone* and *M. nivea* with snow-white spines, and *M. pfeifferi* with clear yellow spines are also very pretty. The effect of carpet-bedding of cacti can be seen in a fine large bed in the grounds of the Pan-American Exposition, where several thousand cacti are grouped together in a splendid design. As there are between one and two thousand varieties of cacti known, it will be readily seen that only a very small number could be mentioned in an article like this. Some classes I have not even touched. The *Cereus*, which grow in all styles, from the slender *Cer. grandiflorus*, that climbs over a trellis, to the tall massive varieties, such as *Cer. peruvianus* and *Cer. giganteus*, the latter attaining enormous proportions.

The *Phyllocactus* family, which was treat-

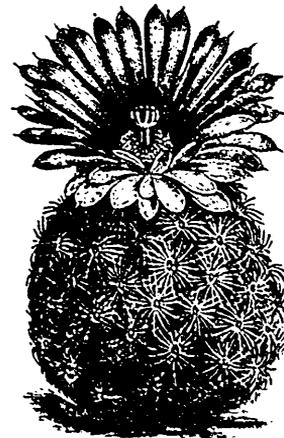


FIG. 2167. MAMILLARIA PECTINATE.

ed in a late number of the Horticulturist, and whose chief beauty consists in their wonderful flowers. The Euphorbias, which are of a fleshy, thorny growth in all colors and shapes, and which add greatly to a collection; and also the Aloes with their spotted leaves; the Gasterias and Haworthias

and all the other succulents. Then there is the Agave family or Century plants, of which there are a great many varieties, and many of which are quite attractive, but these and many others cannot be mentioned here, as this article is already too long.

Woodstock Ont. J. H. CALLANDER.

SPIRAEAS FOR PLANTING.

THE woody Spiraeas are among the most desirable shrubs for the lawn, the garden, or the hardy border of shrubbery. Their time of blooming extends over several months, beginning in the early spring and lasting through the summer. By a proper selection of species and varieties continuous bloom may be secured. They are easily cultivated, will grow in almost any soil, are perfectly hardy, and most of them are profuse bloomers.

There are many sorts differing in size, in foliage, in manner of growth and of bloom. The name spiraea was used by Theophrastus and is supposed to be from the Greek *speiras*, to wind, alluding to the fitness of the plants for forming its garlands, but many of the species now cultivated have a stiff, erect manner of growth.

The foliage of the spiraeas is exceedingly diversified and many species are named from peculiarities of the leaves, or from their resemblance to those of other plants. There is *callosa*, the callous-leaved; *cana*, the hoary-leaved; *ceanothifolia*, the ceanothus-leaved; *ulmifolia*, elm-leaved; *prunifolia*, the prunus or plum-leaved; *salicifolia*, the willow-leaved; *sorbifolia*, the sorbus-leaved; and many others too numerous to mention. In the color of the foliage there is also a great variety; some species have yellowish-green leaves, some bright, vivid green; *apifolia* var. *aurean* has golden yellow tinted foliage, and

to some species the autumn brings bright tints which last a long time.

The manner of blooming is also much diversified. Some species have long, drooping sprays of leaf and bloom, two feet or more in length; in others the flowers in clusters thickly scattered over the bushes. Some bear tiny blossoms in stiff, upright spikes and panicles, others in flat corymbs, and still others in soft and feathery plumes. Some species have single flowers, others have blossoms as double as miniature roses.

In color the blossoms of the spiraeas are usually white, or pink of various shades deepening into rose, carmine and crimson.

Spiraeas sometimes require a year or two after planting to develop their characteristics, and they should not be condemned if they do not quite meet one's expectations the first time they bloom; the yellow foliage varieties, especially, are much more satisfactory after becoming well-established.

The white-flowered species of spiraeas are particularly effective when planted among shrubs which bear bright-colored blossoms, or near dark-foliaged plants like the purple-leaved barberry. Planted in masses, with an eye to the best intermingling of colors and species they present a beautiful appearance, and they also make elegant low, ornamental hedges. Single specimens on the lawn or in the garden, with plenty of room for development make a magnificent showing in a few

years, particularly species with long, willowy branches so heavy that when in bloom that they sweep the ground.

For cutting the spiraeas are eminently desirable; a few graceful sprays in bouquets of bright-colored flowers soften and harmonize the whole, adding the exquisiteness and delicacy to the general effect, and the long, graceful flower-wreathed branches of the drooping sorts are effective for decorating.

The spring flowering species of spiraeas have an opulence of bloom that makes the bushes a mass of white, like drifts of snow. As a whole, white-flowered, early-blooming species are ones most admired and most generally planted, but many of the summer-blooming kinds are valuable as furnishing variety and color in the hardy border, and because they successfully withstand the heat and drouth.

A large collection of spiraeas would necessitate extensive grounds, but a dozen species would give variety and afford continuous bloom, and half a dozen choice ones would make a very good assortment. If you have only room for one, two, or three, it may

be hard to make a selection, but you can scarcely fail to obtain some satisfactory kinds, for all are beautiful, desirable and highly ornamental.

One feature which makes the spiraeas particularly desirable for general planting is the moderate price at which they can be procured. Many a one whose taste is not at all proportioned to the length of her purse looks with longing, if not with envy, at the beautiful shrubs which adorn the grounds of her more wealthy neighbor, knowing that she cannot even hope to have similar ones, but spiraeas are not at all expensive. The price varies from fifteen to fifty cents, some of the most beautiful species being obtainable at the minimum price.

In the fall, after the year's growth has been hardened by light frosts and the leaves have fallen, is the best time for transplanting spiraeas. New plants may be propagated, if desired, by making cuttings of soft wood during the summer, rooting them in sand, or by separating from the main plant some of the numerous shoots which spring from the root.—*Vick's Magazine*.

A LOVE AFFAIR IN THE GARDEN.

With whom did he fall in love? Rose Geranium.
 Was she handsome? An American Beauty.
 Did she have many admirers? Phlox.
 What was his name? Basil.
 How did he propose? Aster.
 What time of day was their first meeting? Morning Glory.
 What was the color of her eyes? Violet.
 What was the color of her cheeks? Pink.
 What did he wear upon his hands? Fox Gloves.
 What fastened his coat? Bachelors' buttons.
 What had she upon her feet? Lady slippers.
 Her parents were worldly and what had she been told to do? Marigold.
 What did her lover offer her? Tulips.
 What was the result? Love in a Tangle.
 Faithful to her parents' commands, what did she say? Touch me not.
 What did he say, pleading with her? Honeydew.
 What did she hope would efface their love? Thyme.

He fell down upon his knees before her and what did she say to him? Johnny jump up.
 What did he do? Rose.
 What did they both have when they parted? Bleeding hearts.
 What did he think of adopting? Monkshoods.
 What did she think of becoming? Veiled nun.
 When, after many months the parents relented, what did the lovers find? Sweet peas.
 What hour was set for the wedding? Four o'clock.
 Who were her bridesmaids? Violet, Lily, Marguerite and Daisy.
 Who was the best man? Sweet William.
 What did the mother say to the bride? Forget-me-not.
 Where did they make their home? Cape Jessamine.
 What did they find in married life? Heartsease.
 —*Designer*.

OUR VILLAGE IMPROVEMENT SOCIETY.

BY EBEN E. REXFORD.

A HINT FOR OUR HORTICULTURAL SOCIETIES.



OUR village is pleasantly located. It has river frontage and some very fine trees and quite a number of attractive residences.

It also has a two-acre lot which had long been known as "the park," because it was public property. It was bought years ago, when the town had a "boom," as a site for a court house. But a rival town got the court house, the boom collapsed and our "park" became village cow pasture.

Its fine elms made it a shady, pleasant place, and many of us saw great possibilities in it, if as we used to say to each other, "the town ever improved any." But, like the rest of the village, as a village, the two-acre lot was neglected. We took no pride in it, and the question of cutting it up for residence purposes finally came before the village Council.

It was this suggestion on the part of some members of the Council which gave birth to our Village Improvement Society, for, when the matter came up for serious consideration, one Councilman opposed the measure vigorously. In conversation with his friends, outside the Council room, he had some severe things to say about our lack of public spirit, which he asserted had resulted in the general air of "gone-to-seedness" which characterized the place.

"Why," said he, "we might have one of the most charming little villages in this part of the country if we had more pride and interest in it. But we don't seem to have any. Every season I hear people from the city remarking about our shiftlessness and neglect of the place. 'It might be made delightful, if ——.' And that 'if' of theirs is equal to a volume in its unspoken criticism on our

lack of enterprise and improvement. In my opinion, it would be a shame to sell off the park. We may not need it now, but if we ever wake up and do something we'll see the mistake we made, but we'll find it out when it's too late to help matters, for there's no chance to get another piece of land like it. I wish I could stir up some enthusiasm among the people, and get them to go in for a reform all along the line. I read of Village Improvement Societies in other places. One would be a good thing for us, I think."

"Why not have one then?" suggested one of the group.

"Why not, indeed?" said another. "I'd be glad to join such a society and do what I could to help it along, and I think the rest of our neighbors would. We all see the need of improvement."

So it came about that in less than an hour the village improvement idea was enthusiastically received. It seemed as if it was just what everybody had been waiting for. A public meeting was decided on, and a notice was posted up, asking all who were interested in the improvement of the village to meet at one of the churches on Wednesday evening.

Wednesday evening came, and the church was filled with men and women. The man who had objected to selling off the park was made chairman of the meeting, and he briefly stated its object to the audience. Then two or three of the leading citizens spoke heartily in favor of the project, and an informal discussion ensued. The result was that we had no difficulty in effecting an organization, and our Village Improvement Society came into existence with a membership of over fifty.

In discussing the method of management we decided to have everything about it as simple as possible, for some of us recognized the fact that success in undertakings of this nature is largely dependent on simplicity and directness. In order to avoid friction and "running expenses," it is wise to have but little machinery in a society of this kind, and that of the simplest character consistent with effectiveness. We dispensed with a formal and elaborate "constitution" and "code of by-laws," for we did not think either was needed. We simply drew up a paper setting forth the object of the society and the few rules we thought necessary to formulate for its operation, and when we had subscribed our names to it we were full-fledged, active members.

In this paper it was stated that membership was conditional on an agreement on our part to devote at least one day's work, spring and fall, to the improvement of home grounds, and to give one day's work, spring and fall, to the improvement of public grounds and vacant places belonging to non-residents, if called on to do so.

Each member pledged himself to the payment of one dollar semi-annually, the money thus secured to constitute a general fund to be drawn on in meeting the expenses attendant on the improvement of public places. We had but three officers, a president, secretary and treasurer. It was understood that the president was to have supervision of all work on public places, with the power of appointing such committees as might be deemed necessary whenever they were needed.

At first we had not proposed to take women into membership, but it was suggested that they had as much right in the society as men had, and would, no doubt, take as much interest in it,—and quite likely a good deal more. Accordingly, it was unanimously voted to admit them.

Let me say right here, for the benefit of

those who may decide on having an Improvement Society, that in my opinion it will not be what it ought to be unless it admits women to membership. Let this be honorary membership, if thought best,—by that I mean exemption from the payment of dues and the performance of manual labor—but by all means let women come into the society. Their opinions will be found valuable and helpful, and they will do much by their enthusiasm to encourage good work.

As was stated in the paper to which we subscribed our names, the work of improvement was to begin at home. We began it at once. It was surprising to note what a change was made in the general appearance of the place by one day's work about home. It seemed incredible that so much could be accomplished in so short a time. We began to realize, then, as never before, the importance of concerted action.

Our first day's work was a valuable object lesson to us. But many of our members were not satisfied with one day's work. They felt that entire satisfaction could only come from thoroughness, and accordingly they kept at it until everything about their places was in apple pie order. Their efforts proved contagious. Those who were not members of the society caught the enthusiasm of improvement, and the good work went forward on every hand. It lasted long enough to enable us to accomplish really remarkable results—not remarkable, perhaps, when individually considered, but quite so when looked at in the aggregate. Old lawns were renovated and new ones were made; trees, shrubs and vines were planted and beds planned for flowers; old fences were mended and painted, some were removed; we cleaned away the rubbish which had accumulated everywhere because of the careless, slovenly habits we had fallen into;—in short, we did a hundred and one things which I need not make special mention of here, but which each member of a society

for general improvement will find waiting to be done when an aggressive campaign is begun. In going about the village shortly after the era of reform had set in we were delighted at the evidence of neatness which met us on every hand, and we congratulated ourselves on what had already been effected by combined effort expended along the same line.

We began public improvement at the church. The grounds about it were cleaned up thoroughly, and some trees and vines set out; old hitching posts were removed and neat new ones provided; the sheds at the rear were reboarded and painted a quiet, neutral color. Then we went to work on the school grounds, and we did not leave them until they were as tidy in appearance as the grounds about our homes were. We set out a good many trees there, some of them evergreens, made provision for beds to be filled with flowers by the children, and arranged trellises of lathwork, to be covered with vines, as screens for the outbuildings.

Then "the park" was taken in hand. Thistles, mulleins, nettles, and other weeds of an aggressive character had taken full possession, and the cows which had been allowed to feed there had not interfered with them. These we cleared away and sowed the places where they had grown with lawn grass seed. We built seats here and there under the trees and erected a rustic band stand in the centre of the lot, about which we planted ampelopsis and bittersweet and wild clematis. These vines have since grown to such size that they completely hide the wood of which the stand is built, and make it really "a thing of beauty" in summer. In some of the open places we set out native plants—golden rods and asters. In others we planted perennial phlox, hollyhocks and clumps of "golden-glow" rudbeckia. Here and there, where they would show to good advantage, we made groups of hydrangeas and wild roses and the white-

flowered elder of the roadsides and fence corners. In this way we secured considerable variety without the expenditure of a dollar, as all the cultivated plants we used were given us by those who had more than they had use for, and the native plants were to be had for the taking in the fields and pastures. The result of our work here was most gratifying. When we got through with "the park" it was something we were all proud of. We speak of it nowadays in a respectful and appreciative way, and we are justified in the pride we take in it, for it is a park that would be a credit to any village.

Every pleasant evening in summer the young people congregate in it, and once or twice a week the band practices there, and we all turn out to listen to it and visit with our neighbors and congratulate ourselves on the new order of things. It is natural that we should feel a sort of partnership pride in what we have done, because it has been the outgrowth of co-operation.

Each summer affords us fresh proof of the wisdom of our undertaking. Visitors from the city compliment us on the spirit of progress visible on every hand. "It doesn't look like the same place," they tell us. "You have made a model village of it, so far as outside appearances go. Your sidewalks put our city pavements to shame because of their trustworthiness. Your homes show thrift. Your public places are kept in as tidy a condition as your homes are, and that's something that can't be said of many villages. We like it here, and we're coming again." And they kept their word, and our village is becoming quite a summer resort. So we have found that what we have done with very little inconvenience to ourselves has proved a good advertisement for the place and its people, and the present prospect is that we shall get back many times the value of the labor and money expended in improvement, for several sales of property

have been made at much better figures than prevailed before we began our work. The increase in the value of real estate is directly attributable to the improvements which have been made by our society.

What we have done others may do. We have proved to our satisfaction that a large amount of money is not needed in an undertaking of this kind. Organized effort is the important thing. Of course some money will be needed, but the sums coming in from dues will generally be found sufficient to meet all demands, unless improvements far more elaborate than ours are undertaken. If more is needed, it will be forthcoming, I am confident, for everyone will feel a personal interest and responsibility in the accomplishment of what has been undertaken, and they will not be willing to let failure result from lack of means to carry it forward to satisfactory completion.

In almost any village the young people could be enlisted in the work, and they could give entertainments for the benefit of the society and thus realize a good sum, since everybody would feel in duty bound to patronize them.

We have not been ambitious to make

costly experiments. Instead, we have been satisfied to make the most of possibilities in a practical way. We have let competent men, having good taste and good judgment, plan the public work for us, and we have been sensible enough not to interfere with them or hamper them with unwise and uncalled for suggestions which we have insisted on having adopted. Wherever and whenever this is done there will be friction. We have performed the work assigned us by those whom we have chosen to take the lead in an honest, hearty fashion, glad to do it, because we felt that it was of general as well as personal benefit. It has stimulated and strengthened our pride in the place we live in. It has made us feel, as never before, the mutuality of our interests.

But we are not so satisfied with what we have done that we feel content to fold our hands and rest on our laurels. We have other improvements in view. Our society seems to have become a permanent thing. One improvement naturally leads to another, and the work of a live Village Improvement Society like ours is a process of general evolution which may go on indefinitely.—*Vick's Monthly*.

PROPER LOCATIONS FOR LILAC BUSHES.—The suckering character of common lilacs should be borne in mind when deciding on their location. A slender, neat little plant this year will be a large clump five years hence, with a diameter at the base of perhaps four feet, and with abundant capabilities of future increase.

Lilacs make effective screens—and especially in hedge form. Outbuildings are rendered more sightly by their use, while, at

the same time, the wealth of bloom furnishes additional beauty to the scene and the very best kind of cut flowers for house decorations. This cutting of the flowers, by the way, likewise acts as a desirable pruning.

The "improved" named varieties of lilacs are frequently grafted on privet roots, in which case suckering does not occur unless roots are finally sent out above the graft.—*Meehan's Monthly*.



The Canadian Horticulturist

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LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

NOTES AND COMMENTS.

APPLE PACKING will be exemplified at our Cobourg meeting by some of the Brighton apple packers.

MR. C. C. JAMES, Deputy Minister of Agriculture, has kindly promised to give an address at our Annual Meeting at Cobourg.

"ROSE GROWING BY AMATEURS" will be introduced for discussion at our Cobourg meeting by Mr. J. G. Jackson, gardener at Port Hope.

THE CANADIAN HORTICULTURAL ASSOCIATION met in the city hall, London, on the 5th of August. Delegates were present from Montreal, Kingston, Toronto, Hamilton, Stratford, Chatham and other places.

THE ANNUAL MEETING at Cobourg has been fixed for Wednesday, Thursday and Friday, the 18th, 19th and 20th of Decem-

ber. We are securing excellent talent, and expect to have a live program. Members of the association everywhere, are invited to send in suggestions for our program.

THE FIRST CAR LOAD OF BARTLETT PEAPS left Grimsby on September 9th, 1901, consisting of 1,120 cases, and the second on September 16th, containing about 600.

HORTICULTURAL SOCIETIES are invited each to send a delegate to represent their society at our Annual Meeting, and Mr. Creelman proposes that we give one session to the discussion of subjects of especial interest to the societies.

THE BARRY MEDAL has been awarded by the Western New York Horticultural Society to C. C. Hooper, Rochester, for his new red currant "Perfection," a cross between Fay and White Grape. It is said to combine the

mild rich flavor of the latter with the size and appearance of the former, with larger bunches and more of them than the Fay. This medal is offered for a new fruit, ornamental shrub, tree, flowering plant or vegetable which, after three years' test, shall be considered worthy.

MR. H. E. VAN DEMAN, the most expert pomologist in the United States, is to be with us at our Annual Meeting in Cobourg next December. He is late U.S. pomologist, and now employed as expert judge in fruit at the Pan-American.

GROFF'S HYBRID GLADIOLI certainly make a magnificent showing at the Pan-American Exposition, and deserves special notice. For fifteen years Mr. Groff has made the hybridization of these flowers a special study and offers thousands of new and distinct types to his patrons under the general name of Groff's hybrids. He has on exhibition continually about 10,000 spikes of bloom, the product of 150,000 bulbs set especially for this purpose.

BEST GRAFTING WAX.—One pound tallow or raw linseed oil, two pounds beeswax, four pounds rosin. Slowly melt all together, stir well and when partially cooled pour into pans which have been moistened or oiled to keep the wax from clinging too tightly to them. When thoroughly cold break into convenient pieces.

For use it should be melted and applied carefully over all exposed cuts and open cracks around the grafts. A small paint brush is the most convenient for this purpose. It can be applied safely much warmer than can be borne by the hand, but care

should be used not to have it very closely approaching the boiling point of water.—*L. Burbank.*

WILDER MEDALS FOR ONTARIO.—At the Biennial Convention of the American Pomological Society a few silver and bronze medals are conferred upon meritorious exhibits, in memory of that eminent horticulturist, the late M. P. Wilder. Acting under instruction from the Department of Agriculture, we forwarded our fruit experiment station exhibit from the Industrial to Buffalo where this convention was to meet, and we are gratified that it has been awarded a silver medal. It was certainly a most interesting collection, containing about 150 varieties of apples, besides grapes, pears and plums.

In addition to this a silver medal was conferred upon M. Pettit, Winona, our experimenter in grapes, for his excellent collection of varieties; a silver medal upon Albert Pay, St. Catharines, for his collection of fruit, and a bronze medal upon Mr. Orr, President of the Ontario Fruit Growers' Association, for his excellent exhibit.

PEACH CULTURE is a specialty with Mr. R. Morill, of Michigan. He applies annually to his trees 100 lbs. wood ashes per acre and 400 lbs. of bone meal. He plows the ground about 2½ inches deep, just after blooming season, and then cultivates continually, going over his whole orchard of one hundred acres every day. He does not try to cultivate close to the trees, but thinks that by cultivating the middle of the rows each way he gets the result aimed at, viz., the retention of the moisture. This is what he calls "horse leg irrigation."

QUESTION DRAWER.

Seedling Plum.

1246. SIR,—To day I send you a sample of a seedling plum, first time of bearing. They have been picked several days (they grow on my farm near Belmont), they should have remained on the tree awhile longer; I like them cooked. The tree is a rapid grower, and stands strong and erect. What is your opinion of it? I am thinking of starting a fruit growing association here. Could we affiliate with the O. F. G. A.? Kindly give me particulars so we can start right.

Yours, etc., S. T. PETTIT, Aylmer.

The plum has excellent quality, but it is too small, and, too lacking in color to be profitable.

You can start a local horticultural society at Aylmer, and devote your attention to both fruits and flowers. Such a society would be allowed a Government grant, and would be allowed to affiliate with us. Better correspond with Mr. Thos. Beall, Lindsay, our organising director.

Langstroth's Seedling Crab.

1247. SIR,—By this mail I send to you a specimen crab apple grown on a seedling by myself; this is the first year it has fruited. There was only four crabs on, they were all in one cluster. Kindly give your opinion of it in Horticulturist at an early date. Note the blossom end, as it is just as picked; it is perfectly clean.

ISAAC LANGSTROTH, Seaforth.

This is certainly a very interesting little seedling of a waxen yellow color, with a tint of red, and without a calyx. The flesh is tender, very mild acid, and rather pleasant flavor. About the size of Montreal Beauty.

New Peach.

1248. SIR,—I send you under another cover a peach which was grown here in Gar village, the most northerly part of the County of Waterloo. Not being able to name same, or any one else I could find, and being desirous of knowing the name, kindly let me know it.

R. JACKSON, Elmira.

Sample came to hand September 10th in condition for eating; form round, with apex prominent, $2\frac{1}{2}$ inches in diameter, green

with red cheek; flesh white, tender, juicy, free from stone, flavor excellent; fine dessert peach.

So far as we know this peach is not one of our named varieties.

Apple Inspection.

1249. SIR,—Being a constant reader of your paper, I would like to know if it is imperative to have all apples inspected before they leave Montreal. I have been shipping apples to England for the last 16 years with good results and I am satisfied if my apples have justice done to them on the steamship there is no need of inspection. I think the government should see after the apples, how they are loaded on board the steamship; that would be more to the interest of the shipper than it is to inspect the barrels for if the apples are ever so good and are cooked on the steamship they are done for. I am yours,

Mount Brydges.

T. R. VEALE.

No, it is not necessary to have the apples inspected, and probably not one barrel in five hundred will be actually inspected, but all are subject to inspection, and the inspector has the privilege of opening as many as he pleases.

Thrip on Virginia Creeper.

1250. SIR,—Will you kindly give me some advice upon what to do with my Virginia Creeper. I enclose you a leaf. Those little insects you see on the back of the leaf, mature into a little white and brown winged fly which rise from the vines like a mist when you touch it. I have noticed nearly all the vines in East Toronto are affected the same way.

I have searched through all the Horticulturists, but can find nothing touching upon this matter.

Your valuable advice would greatly oblige.

Mrs. H. C. MOORE.

This hopper is often very troublesome and difficult to destroy. Three years ago it was very bad on our Virginia Creeper at Maplehurst, and the only remedy we tried was an exceedingly fine spray of petroleum. This was fairly effective, but had to be used with extreme care. We applied it with a tin atomizer, which can be purchased for about \$1.

Plum for Name.

1251. SIR.—Enclosed you will find a branch of plums, and I would like you to give them a name if you can, we have nothing like it here. I grafted a very large plum, but do not know the name, into a shoot from a Moores' Arctic plum, since dead. This is the first year it has borne any, and it is loaded, and the prettiest one ever I saw. St. Thomas, Ont.

B. DIXON.

This plum considerably resembles Glass Seedling.

Borer in Spruce Trees.

1252. SIR.—A Buffalo friend of mine, who has a summer home at Ridgeway, very much fears that he is going to lose some handsome spruce trees, by the ravages of a black insect, about an inch long, much resembling a beetle. The creature bores into the tree, making a deep hole, as clean cut as though with an auger, the hole measures about one-sixteenth of an inch in diameter. It is obvious that his trees are failing. Can you tell me what this insect is and how to eradicate it, or what to do to preserve the Spruce? A reply at your earliest convenience will be greatly valued.

E. P. BLACHFORD & Co., Toronto.

It is somewhat difficult to identify the borer which is destroying the Spruce trees at Ridgeway, without seeing the trees, or specimens of the insect.

However, from the description of the hole, I will at least make a venture and say that it is the work of the Longicorn Borer (*Monohammus confusor*), but the color of this insect is not black as you say the insect in question is. This insect bores a deep hole quite round and regular into the wood of sound trees. Frequently the hole made by the emerging beetle is one-half an inch in diameter. The adult insect is grayish brown in color, a little over an inch and a quarter in length, and has very long antennae, by means of which it may be readily recognized.

I know of no practical remedy against

these insects. Usually the trees which are beginning to decay are most liable to attack, so that possibly in this case it would be unwise to spend time in treating the trees, even if practicable measures could be devised.

Will you kindly send me specimens of the borer. Very truly yours,

O. A. C., Guelph. W. LOCHHEED.

Canadian Apples Wanted.

1253. DEAR SIR.—A friend of mine, Mr. Ralph Richardson, Probate Registrar, of 10 Maydale Terrace, Edinburgh, Scotland, has written me thrice in reference to our Canadian apple, which he had seen in the Glasgow Exhibition, and he asks me why the finest Canadian varieties are not sent to the Scottish market. He says he ate a capital Canadian apple at the Glasgow Exhibition in July while no such apples had been for sale for months, though the cold storage system should enable us to send them to Scotland all the year round.

Our mutual friend, Professor Baker, suggested to me that I should write you as a person who took great interest in the matter. If you will kindly answer Mr. Richardson's enquiries I shall forward your letter to him. Yours truly,

GEORGE R. R. COCKBURN, Toronto, Ont.

The possibilities of cold storage were not realized before, but have been well proved by the storage of those magnificent apples for the Glasgow Exhibition. We forwarded them in November to Montreal, where they were held until the following May, and then forwarded to Glasgow to be brought on the tables from time to time. The result proves what can be done, and we would take advantage of the opportunity at once were it not for the apple failure of this season. Another season no doubt such apples will be placed on the Glasgow market in July.

Open Letters.**Gooseberry Notes 1901.**

SIR.—I have to report another season's fight with mildew upon the gooseberry with only partial success. The early part of the season was not favorable for spraying, we had so many showers. The first two sprayings were made before the leaves

came out, with blue stone water, two pounds to twenty-five gallons of water. Afterwards liver of sulphur was used, one ounce to two gallons of water. Sprayings were made after every shower. The Imperial nozzle was used, which throws the finest spray, and by holding the nozzle and direct-

ing the spray upwards as well as from above and laterally all parts of the bush was reached.

Our bushes were pruned severely last fall but in addition to this all suckers and over half of the new wood has been cut away this spring. This was done to let in the air.

Mildew made its appearance on the 6th of June upon the fruit. The foliage has been but little affected during the season and went ahead rapidly for six days by which time half the fruit was affected.

I am satisfied that the persistent spraying not only checked the spread of the disease at this time but killed that upon the berries as their growth was not checked. The pure English varieties again were less affected than the seedlings, this may be owing to the smallness of the seedlings Chautauqua, Queen, Crosby's seedling, Golden Prolific, and Large Golden Prolific suffered most. For vigor and productiveness nothing approaches Whitesmith and Autocrat though Whitesmith is the better fruit. Ontario promises well and Columbian and Dominion are vigorous.

The American varieties, Red Jacket, Pearl, Downing, Champion and Smith's Improved were not sprayed and gave a large crop of clean fruit.

Now to sum up, the foreign gooseberry is superior to the American varieties in size and in size only, and Red Jacket is large enough for all practical purposes when preserved ripe, as they should be, for there is no more reason in canning the gooseberry green than there would be in doing the plum or cherry in the same condition. The thick skin of the large berry are against them. Again the big berry is sweet, in some cases inspired while Red Jacket has a fruity acid taste peculiarly pleasant. We can or rather preserve the Red Jacket for our own use and no other. No berry compares with Red Jacket in appearance when picked just as they are turning to ripen. At this stage they are a pinkish transparent color, very beautiful. To sum up, this variety is the most vigorous, hardy, prolific, beautiful thin skinned variety on our grounds. In size it is well up to Whitesmith when equally loaded with fruit.

If I were planting extensively I should certainly set Red Jacket for main crop and Champion for picking green for sauce, etc., at a season where there is a dearth of material for this purpose. Champion is full grown two weeks before any other variety except Smith's Improved and it is too uncertain a cropper. If a foreign is desired then Whitesmith is more vigorous my bushes of this variety are as large as Downings and more prolific than any other foreign variety tested here except Autocrat.

I am certain that when the Red Jacket is fully tested and compared with others it will take first

place as a cooking berry but will also put the gooseberry where it rightfully belongs, at the head of preserving fruits especially for the poor man. I say the man with limited means because there is less waste in this fruit than almost any other and it can be grown cheaper. Our Red Jackets this year gave $7\frac{1}{2}$ quarts to the bush all around. To those who prefer a sweet fruit then the Downing or Pearl fills the tree.

As far as profit is concerned even supposing spraying will control mildews, and it will not, when the cost of spraying, material and labor is counted, it will pay better to grow Red Jacket and Champion at 6 cents than the foreign at 10 cents. Green Chisel still maintains the first place as a pure English variety.

Nantyr.

STANLEY SPILLETT.

Tomatoes on the Channel Islands.

SIR,—Enclosed find a slip I cut from the Southern Times, published at Weymouth (my home 45 years ago). I thought it might be of interest to some of our readers to know the amount of tomatoes now grown on the Channel Islands.

When I left Weymouth in 1856, tomatoes were then an almost unknown luxury, but it is very evident that they are now largely grown, and must ripen much earlier there, than with us.

Yours truly, CHAS. JAS. FOX.

THE FRUIT TRAINS.—One of the sights of the Great Western line this summer has been the passing of the fruit trains from Weymouth. With an engine at the front going at topmost speed, and another pushing at the rear to help it along, the trains go through the small stations at a terrific rate, highly suggestive of the importance of the business on which they are bent. To the growers of the luscious products it is the essence of the trade that the fruit should be got to its destination within a few hours of its being picked, and the railways are not slow in providing the prosperous growers of the Channel Islands all the facilities they need. That they are doing well there is no reason to doubt, which perhaps is more than can be said of the people who rely on the pleasure traffic. The official returns show that so far this season over half a million packages of fruits, vegetables and flowers were despatched, and a large proportion of them were shipped by the Weymouth route. Tomatoes are grown on an enormous scale, and it is stated the output this year was over a quarter of a million baskets, averaging fifteen pounds each. What this means to the Great Western anyone who pays a visit to the landing stage on a busy afternoon can see.



Our Affiliated Societies.

WOODSTOCK. The once hospitable doors of old Knox church were thrown open last night for the first time since the old church was deserted by its congregation for their new building. The days of the old church are numbered, and in a short time it will be torn to the ground, but even in its palmiest days it seldom presented a brighter appearance than it did last night. If Knox were an Irish church anyone might have supposed on seeing the lights and the flowers and hearing the music that "Sure, it must be a wake, plaze yer honor," being held in honor of the passing away of the old church, but as Knox is not Irish, a more prosaic explanation must be found in the fact that the Horticultural Society had rented the building to hold their annual exhibition of flowers and fruit.

The society were very happy in their choice of a building, as the church lends itself well to purposes of decoration. The exhibit this year was also an exceptionally fine one, and a great deal of artistic taste has been displayed in the arrangement of the great variety of plants and flowers. The galleries were draped in red, white and blue bunting, which formed a very effective background for the green foliage of the plants. The draping, by the way, was done by Mr. Smith, of John White & Co. Between the posts of the gallery hanging baskets were suspended and Chinese lanterns.

The centre of the building was occupied by a large rectangular bed, composed of palms, foliage plants, geraniums, etc., and banked with ferns. Two large banana palms belonging to Mr. J. S. Scarff, and a handsome palm, the property of Mrs. J. J. Hall—the latter is for sale—were the most notable features of this bed.

The pulpit was elaborately decorated, and, if there are sermons in flowers as well as stones, many eloquent sermons must have been preached last night. A very handsome rubber plant, the property of Mr. W. H. Van Ingen, occupied the centre of the reading desk, baskets of asparagus spengari, belonging to Mr. Hoar and Mr. Thos. Douglas, Brock street, were placed at the sides and in front, while clusters of golden rod and sun-flowers gave the needed touch of color.

A long table placed across the front was devoted to cut flowers, as were also two tables at the back of the building. Along the sides stands were arranged on which were displayed the different exhibits.

CUT FLOWERS.

The display of cut flowers was a very fine one. Conspicuous amongst these were the large bouquets of geraniums, salvias and petunias that were brought from the garden at the Central school. There were also some fine specimens of asters, gladioli, zinnias and other seasonable flowers.

There was not a very large display of fruit, but it was of a very fine quality. Mr. John McLean had an assortment of plums and pears a number of baskets of which were offered for sale and disposed of before the evening was over. Mr. Jas. Canfield showed pears, plums and peaches, Mrs.

H. J. Finkle, grapes and plums; Mr. J. S. Scarff, grapes.

Doyle & Son have a splendid display of plants of different varieties. Their ferns are exceptionally fine. A great many beautiful specimens of the Boston and maidenhair fern were shown. In fact, one large stand was devoted solely to these varieties. Another large stand was occupied by palms, begonias and geraniums. This exhibit is worthy of special attention from all horticultural enthusiasts.

Amongst the private collections Mr. Jas. Scarff showed the greatest number of plants. Nearly the whole south side of the building was occupied by his exhibit. Mr. Scarff has devoted most of his energy to begonias, and had a great variety of fancy-leaved, tuberous rooted and rex begonias. He also showed some fine foliage plants.

Mrs. George McPherson's exhibit was a beautiful one, and included a great variety of different plants, probably more variety than any other exhibit. Besides a lot of cut flowers, she showed a fine specimen of the day lily in full bloom, palms of several different kinds, begonias, a century plant and cacti. All looked in the pink of condition, and showed signs of care from a practiced hand.

Mrs. John Pascoe showed two fine specimens of begonias in full bloom and with fine foliage.

Mrs. Hoar supplied a number of hanging baskets, one of asparagus spengari deserves special mention, and also two large stone vases of trailing nasturtiums.

Mr. D. C. Richmond exhibited hanging baskets and two large pots of varied flowers.

A window box belonging to Mrs. H. J. Finkle excited a great deal of admiring comment. It is ten or twelve feet in length and is filled with a great variety of plants, cordylina, foliage plants, geraniums, petunias, etc., forming one of the handsomest window boxes to be found in the city.

Mr. C. R. Reid's collection of cacti was an interesting study. He possesses a great many varieties of these freak plants and not satisfied with nature he has brought art to bear upon them and has grafted different varieties of cacti on to each other. One plant has specimens of six different varieties grafted on to its stem, forming a curiosity that it would be difficult for a botanist to name.

Thomas Douglas, Brock street, had an exhibit of great variety. He showed a *complanata persicaefolia* in full bloom and of great beauty, the only plant of that variety shown. It is placed in a conspicuous position in front of the pulpit and should not be missed by anyone. Mr. Douglas also shows a magnificent sweet-scented geranium, an asparagus fern of exceptional beauty, and a basket of asparagus spengari.

The pleasure of looking at the flowers was very much enhanced by the excellent impromptu concert that was given during the evening. A pianauto, operated by Mr. D. W. Karn, gave a great variety and number of selections and the following well known vocalists rendered solos in

their accustomed excellent style: Mrs. Knight, Misses McLeod and Dignam, Dr. Brown and Mr. Charles Hamlyn.

When the audience grew weary of walking around and looking at the exhibits they could retire to the gallery and rest, and be served with ice cream, if desired, from an ice cream stand presided over by the Misses Parker.

This afternoon is children's day at the show and the successful candidates in the public school competition will be awarded prizes. In the evening the successful candidates from the Collegiate Institute will receive their prizes. The presentations will be made by the mayor of the city and other leading men. An excellent musical program will also be given in which Misses Powell and Farrell and Messrs. R. J. McAlpine, Sykes and Dugit will take part. The pianauto will be a feature of the evening's entertainment.

Thursday afternoon was children's day at the Horticultural Exhibition, and a most enjoyable time was spent. The schools were dismissed a little earlier than usual, and a great many of the children visited the exhibition. The great feature of the afternoon was the presentation of the prizes received by the school children in the competition for the best gardens. Mr. Angus Rose and Mr. James Hoare were the judges in the competition, and the society is very much indebted to them for the painstaking and conscientious manner in which they performed their task.

The prizes were presented by Messrs. William Grey, T. H. Parker, D. W. Karn, J. S. Scarff and President G. R. Pattullo, who made appropriate remarks for the occasion, and encouraged the small gardeners to continue in their efforts.

The attention of the children was pretty evenly divided between the speakers and the tempting array of fruit ranged in front of them. The president observed the longing looks that were directed towards the luscious plums and pears, and after the presentations had been made he stood treat to a basket of plums, a practical method of enjoying an exhibit of fruit that appealed very strongly to the children.

THURSDAY EVENING.

At the third and last session of the exhibition the attendance was much larger than at the two held previously and more encouraging to the promoters of the exhibition. If a fourth session had been held the building would probably not have accommodated the audience.

As on the previous evening, a most enjoyable musical programme was given opening with a number of selections on the pianauto. Miss Clara Farrell sang very sweetly "The Creole Love Song," and for an encore gave "The Tale of the Kangaroo," from "The Burgomaster". Rev. R. J. McAlpine, Mr. P. J. E. Dugit and Mr. H. Sykes also sang in a highly acceptable manner. Misses McMullen and Bushby and Mr. E. Karn acted as accompanists.

In addition to the musical programme there was a programme of speeches and the presentation of the prizes won in the competition for the best cottage gardens and flower beds. The following were the successful competitors:

COTTAGE, GARDEN AND FLOWER BEDS.

To the President and Members of the Horticultural Society:

Gentlemen, — We beg to report as follows the result of our work as judges of cottage gardens and flower beds:

Best cottage flower garden, not to exceed $\frac{1}{4}$ acre — First, D. C. Richmond, Riddell street, \$3; second, Geo. McPherson, College avenue, \$2.

Best kept garden and grounds, including boulevards, not exceeding $\frac{1}{4}$ acre — First, H. B. Sproat, Ingersoll avenue, \$3; second, R. H. Bond, Victoria street, \$2.

Best cottage vegetable garden, not to exceed $\frac{1}{4}$ acre — First, John Whitehead, Drew street, \$3; second, Robt. White, Wellington street, \$2; third, Frand Pond, George street, \$1.

(Signed, ANGUS ROSE.
JAMES HOARE.

Rev. Dr. McMullen and Mr. D. W. Karn made the presentations.

Among the speakers was Mr. Angus Rose, who spoke in the highest terms of the gardens he had visited in his character of a judge. He also had something to say about the increasing beauty of the town and the number of gardens being cultivated.

KINCARDINE.—The officers and directors and especially Mr. Jos. Barker, the able secretary, may feel quite satisfied with their efforts in the way of horticultural displaying. The town hall was most beautifully illuminated with electric lights, and the plants, flowers, fruit, etc., were very tastily arranged. Great care was taken in the collecting, handling and displaying, and the large numbers who viewed the exhibits were more than surprised. We predict more interest in the exhibition next year, judging from the many remarks and promises made by old members, new members and non-members. The indomitable Secretary and his able assistants deserve every praise. No pains or expense were spared to make the display a complete success. The Highland Cadets added very much to the enjoyment of the hour by their sweet strains of music. As Longfellow says.—

In all places, then, and in all seasons,
Flowers expand their bright and sunlike wings.
Teaching us, by most persuasive reasons,
How akin they are to human things.
And with child-like, credulous affection,
We behold their tender buds expand;
Emblems of our own great resurrection.
Emblems of the bright and better land.

One table contained no less than fourteen varieties of sweet pea, grown and exhibited principally by Mrs. Robert Sellery and Mr. M. McCreath, our respected caretaker of God's Acre. The spacious room was filled with the delightful odor of sweet pea flowers.

On the same table were a couple of dishes of beautiful samples of peaches, the Early Canada, grown and exhibited by Messrs. McCreath and E. Miller. The first named gentleman also had on exhibition some samples of water melon, which

was delicious to the taste. We speak from practical experience for our reporter had his share of the "water melyun."

Dar war a water melyun a growin' on de vine,
Dar war a pickaninny a' watchin' it all detime,
And when dat ar water melyun was ripened in de sun,

Long comes dat pickaninny and wid that mel-yun run.

Gold fish owned by Messrs Wm. Bishop, sr., and P. McGaw were on exhibition under the spreading boughs of a Night Blooming Cereus; in the language of flowers meaning "a wealth of true affection," owned by Mrs. Andrew Malcolm. Then came that wonderful plant known as the Pitcher Plant, brought from near Silver Lake not far from Kincardine by Messrs S. W. Perry and W. Welsh who were appointed to gather specimens. This plant in bloom drew quite a lot of attention.

A beautiful rubber tree or plant nine feet in height, owned by Mrs. Loscomb was greatly admired.

A lovely plant was the Plumosus nanus. There were two varieties, the Sprengeri and A. temussimus owned by Messrs. George Hunter and Joseph Barker.

A Golden Gate Rose owned by B. Coombe and cut flowers from Victoria Park were attractive.

Messrs Perry and Welsh's collection of flowers and plants included the Hop Horn Beam (ironwood) in seed; grasses, wild cucumber vine, Touch-me-not, in bloom, Sumac, Cat Tail, rare bushes with berries, Basswood in seed. There were foliage plants, a great variety of Coleus plants and scores of other plants of which space will not permit us to mention. There was no charge or collection and we feel sure our citizens will take more interest next year.

Another attraction was the hornet's nest we made note of in our last issue. Mr. Welsh cut the nest in two and several large hornets showed fight.

LONDON. - On Tuesday, Aug. 6th, the president and directors of the London Horticultural Society entertained the delegates attending the Canadian Horticultural convention. The forenoon was spent in a trolley ride through the city in a special Springbank car, which was profusely decorated with golden rod, gladioli, asters and bulrushes. At eleven o'clock the party proceeded to Springbank and partook of luncheon at the pavilion. There surrounded by the green hills and favoring airs of London's favorite resort, the place seemed happily chosen for an outing especially by florists, whose duties bring them so closely in contact with the beautiful in nature.

Trumpet Creepers

A lot of fine plants of this beautiful creeper

FOR SALE

At Maplehurst Nursery, Grimsby, Ont.

The Trumpet Flower, *Pecana radicans*, is a splendid hardy climber, with large trumpet shaped scarlet flowers in August. Hardy in Southern Ontario, and one of the pattern climbing plants. A fine strong plant, outdoor grown, sent prepaid, on receipt of 50 cents. Address,

P. BLANCHARD Grimsby, Ont.

Complete Set of Back volumes For Sale.

I have a complete set of the Canadian Horticulturist from the beginning in 1878, that I would like to dispose of. The first 10 years are bound in 5 vols., the rest unbound. Do you know of any one who would like to buy? Some of the younger directors might want it.

I am giving up my beautiful home, as my wife is dead and my family scattered and I am getting too old to attend to it properly, so I will not want the Horticulturist after this year.

I was a director of the Association at one time and have the reports from 1869. but I presume that they have no money value.

Yours truly,

Collingwood, Ont

HY. ROBERTSON.

Dealers in Nursery Stock.

Before buying your fall supplies, get our prices on Apples, Pears, Plums, Cherries and Small Fruits. Specially low figures in some lines. Send us your lists to figure on

CAVERS BROS., Galt, Ont.

The Possibilities of North Windows.

Few people appreciate the possibilities of sunless northern windows, where "flowers will not bloom." When given "classical" treatment with such beautiful leaved plants as palms, ferns, dragon-trees, crotons, ivies and araucarias, which require no direct sunlight, they may be made as attractive as any windows in the house.—*The Ladies' Home Journal for October.*

Cacti Collectors

I have the largest variety and finest collection of Cacti in Canada, 400 kinds including many very rare. I make a specialty of making up collections, and can give special value in this way from \$1.00 to \$50.00.

12 varieties, postpaid for \$1.00

12 varieties, finer and rarer for \$2.00

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