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SMALL FRUIT IS BLENDED
 PLANTING KNOWING AND MANAGING
 SMALL FRUIT
 IS APPLIED TO THE GARDEN AS WELL AS THE FIELD



PURDY & SONS, 200TH BROADWAY
 NEW YORK

SMALL FRUIT INSTRUCTOR;
CONTAINING PLAIN AND PRACTICAL DIRECTIONS FOR
PLANTING, GROWING AND MARKETING
SMALL FRUITS.
EQUALLY ADAPTED TO THE FAMILY GARDEN AS WELL AS THE FIELD.
Price 10 Cents.



14
WILSON'S ALBANY.

WRITTEN BY A. M. PURDY,
OF THE FIRM OF
PURDY & HANCE, SOUTH BEND, INDIANA.
1869.

Small fruits are a luxury so easily grown,
By the directions as given within,
That no excuse can be given by the laziest drone,
For not supplying himself and his kin.

Entered, according to Act of Congress in the year 1869, by PURDY & HANCE, in the Clerk's Office of the District Court of the Northern District of the State of New York.

EVENING EXPRESS PRINT, ROCHESTER, N. Y.

PREFACE.

For the past six or eight weeks we have been engaged a large portion of our time, on a work to be composed of fully eighty pages, with the same title we have given to this little work; Price to be 25 cents. It was made up to a large extent of notes and items we had penciled down from our own observation, in planting, growing, marketing, &c., of all kinds of Small Fruits, and also with minute instructions for growing seedlings, roots, &c., &c., besides a great many facts and suggestions obtained from a number of intelligent and practical contributors in all parts of the country. The "copy" was nearly finished and in the hands of the printers at Rochester, N. Y., at the time of the fire there, on the 19th of December, which destroyed the printing establishment, and all of our manuscript. Many may ask why we did not keep a copy of this work. To such we reply, our business is so pressing and correspondence so large, as to make it impossible for us to copy it; besides we had the promise from the printer, that we should have "proof sheets" as fast as we forwarded "copy." This they neglected to send notwithstanding we wrote them, complaining of such neglect.

It is a great loss to us, and one that we cannot make good for a number of months; but we shall endeavor to do so as fast as possible, and shall have ready in a few months a work containing fully three times the amount of matter herein, with the same title. As soon as published, due notice will be given in the advertising columns of all the leading Agricultural and Horticultural papers of the country. In the meantime we shall send out this little work, which we have hastily got up, for the small sum of 10 cts. It will be made up largely of our Manual for 1868, with enough new matter added, perhaps, to fully compensate those who have sent for both this and our Instructive Catalogue of 1868.

N. B.—Those who should read the advertisements that we had inserted in some papers, offering "Small Fruit Instructor," for 25 cents, and which we did not have time to countermand after the fire and before such papers went to press, and who have sent the 25 cents, will have three copies of this forwarded to them to sell or distribute among their friends.

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NOTICE.

All persons will notice that this work and its title is copyrighted. This is done to prevent parties who have been in the habit of getting up Catalogues, &c., copying our directions and instructions almost word for word, without giving the proper credit.

We have no objection to Editors copying from it, providing the proper credit is given.

ADVICE TO NEW BEGINNERS.

We are in receipt of a great number of letters making enquiries as to Small Fruit growing—how to be successful, &c. Friends, these are hard questions for us to answer, for all localities and all persons. Many fruits that are profitable in one locality are not in another, while varieties that will succeed and prove profitable in the hands of one person, with his manner of high culture, &c., will prove a failure in the hands of his more careless and slovenly neighbor. Our first advice is: Procure land as close to a town as possible. If you intend to go into fruit largely, you must calculate to locate where plenty of pickers are to be had. We would prefer to pay two hundred dollars per acre for land for this purpose, that lay within a mile of town, than \$100 per acre if over a mile, or \$50 per acre if over two miles. Let any person calculate the difference in interest on the cost of such land, and compare it with the disadvantages one works under with it away from all the conveniences that surround the first named locality, and they will see the force and importance of our statement. Help *must* be convenient and plenty if you would be successful. Manure should be as close by as possible. The market, express office, and railroad or steamboat station near by; all of these have their importance, that cannot be fully appreciated and valued until tried.

The best soil for growing Small Fruits is of a light sandy or loomy nature, one that is easily worked.

The next thing after securing your land is to go around among fruit growers in that locality, and learn from them what varieties succeed best with them. Read different works on the subject, and last, but most important of all, visit the grounds of some successful fruit growers, and "have your eyes and ears open." A few hours on such grounds will be of more practical value than reading all the works on Small Fruit yet published.

There are certain *tried* sorts that have proved profitable and a success wherever grown. These we will endeavor to point out in our description of different sorts.

Another important thing to be remembered is, to set an *assortment* of Small Fruits,—Strawberries, Raspberries, Blackberries, Currants, Gooseberries, and Grapes, and of these early, medium and late sorts. By so doing, the grower can be more independent of the seller. He is more certain of making his business *pay*, for if one sort fails, another will not. The great trouble with many growers is that they will set out nearly all their ground to *one* variety, and if this fails, their main dependence is gone; while if they had had others to fall back on, they would have come out right. We have known seasons when that old and *reliable* sort, Wilson's Albany Strawberry, would prove almost a failure, and pay but lightly, while our Jenny Linds and Downers would prove highly remunerative.

Don't try experiments too largely, especially if your means are small, and instead of building air castles, go right to work with a will and build up a permanent business. Don't let a little drawback discourage you,—such as low prices some seasons, or a late spring frost or hard winter. Remember, these things *will* drive many out of the business, and that those who keep right along, year after year, will have the benefit of the seasons of high prices.

We know that there are years when the winter preceding and the season following are *universally* favorable to the full fruiting of *all* kinds of Fruits, and that in such seasons the amount marketed is so large as to cause prices to drop to a low figure; but let it be remembered that such seasons are *exceptions* and *not* the rule, and that most seasons one locality is favored and another not, and other times vice versa. In our long experience in growing fruits, we have found that our crops of Small Fruits *net* us just about the same money every year; for when the crop is large, prices are lower, and when small, higher. We have, however, some years, had large, full crops, when the crop in other localities would be light, and in such seasons our profits would be enormous. The summer of 1865, we believe, we sold over four hundred bushels of Strawberries, that *averaged*, in the Chicago market, \$10 per bushel. This was owing to the crops being cut short in other localities.

We propose, in order to give a practical illustration how to make high-priced land *pay* near a city or village, to show in a few lines here, (we shall give more extended instructions in our new work promised in the preface.)

WHAT WE WOULD DO WITH TEN ACRES.

Our first effort would be to have it thoroughly enriched, plowed well and deep, following with a subsoil plow and loosening up the ground to a depth of 20 inches. We should then set the whole to Apples, Pears, and Plums, except about two acres for Grapes, that should not be shaded. The Pears and Plums set 18 feet apart each way, and Apples 30 feet, with Peach trees half way between the Apple trees each way, these being out of the way by the time the Apples got into full bearing. Two acres we should set to Grapes of different sorts, 12 feet each way. In the rows of Grapes plant out tomatoes or early potatoes; between the Grape rows garden truck of different sorts can be planted for two years, or Strawberries,—the latter in rows 2 feet apart, and the runners kept off. Four acres set to Raspberries, 3 feet in the row and rows 6 feet apart; 2 acres to Blackberries and 2 acres to Currants and Gooseberries, all 3 feet apart in the row and rows 6 feet apart. Thus planted, it brings the trees directly in the rows of Raspberries, Blackberries, &c. Between these Raspberries, &c., in the rows, some kind of garden truck can be planted one year, while half way between one Strawberry row can be set out, allowing it to run and form a matted row, giving them the attention described for such rows in this pamphlet, each year after fruiting. These directions are intended for localities where more land can be had at reasonable rates, so that when the trees get so large as to shade the ground, or the Raspberries, &c., full grown so as to damage the Strawberries, new plantations can be formed on adjoining land. If the land is very high priced, and near some large market where truck and Small Fruits pay well, we should not set but an acre or so of fruit trees, devoting the balance to Small Fruit and truck, *closely* planted, *closely* pruned, and *closely* cared for.

PROFITS OF SMALL FRUITS.

When properly attended to, and care taken to raise first-class fruit and send it into market in fine order, (which is *required* of any horticultural or agricultural products to make them *profitable*), there is no branch of business that *pays* better than the growing of *Small Fruits* for market, and as to overstocking the market with such, it cannot be done. More *Profits* can be realized from ten acres of Small Fruits, than from any one hundred acre farm in the country, and that, too, with less hard labor.

We are aware, however, that there have been seasons when ordinary fruit has sold low in certain markets. Yet in these very markets and seasons, *first-class* fruit has *always* sold at high and most profitable rates,—thus showing the great importance of *thorough* culture. By “*thorough* culture,” we mean *deep*, *subsoil* plow-

ing, *liberal manuring, clean and oft-repeated cultivation, and plenty of mulching, and last, but not least, with the Strawberry, growing them in hills—that is, keeping off all runners. Add to this the great importance of growing the best sorts, even if the first cost is considerable higher, and the grower may rely on a ready market, at the highest rates, for all he can raise.*

PROTECTION FROM WINDS.

This is of great importance to secure a good and sure crop of fruit—especially Strawberries. Any person may see by passing a field that is protected on the West by timber, that the snow will lay like a sheet all over such fields. It needs no argument to show that this blanket spread over the surface of the ground protects the plants and roots, and adds richness and vitality to the soil. It is a common saying that “snow is the poor man’s manure.” We believe this is so, by its shading the surface, and shade, to a proper extent, enriches the soil. We believe it gathers in its descent from the atmosphere, and carries to the soil, certain properties that add greatly to its richness. These things are not easily explained, and may be ridiculed by some; but *practical illustrations* abound on every side to *prove* the truth of our statement, and we believe the more our people strip the country of its timber, the less and more uncertain will be the crops. We can *prove* that in localities that have a fair proportion of timber, the crops, and especially winter wheat, are more certain than in those sections barren of timber. We know of a farm where but one row of maple trees were set through the center of the farm, running north and south. These trees are now twenty to thirty feet high, and about twenty feet apart. They commenced branching out low, and have grown so that the limbs meet. On the east of this row of trees snow lays as it falls for twenty or thirty rods, and the crops of winter wheat are excellent, while on the west side the snow is generally swept off, and the crops poor, notwithstanding the soil is the same. This row of trees scatters and breaks the force of the wind so that the snow that falls on the east side is not swept off thereby. We would therefore advise all parties who are intending to go into Small Fruits, to choose a locality that is protected on the west. If this cannot be had or found, then set a row of trees, or a double row, on the west.

The best tree we know of for this purpose, on account of its quick, rapid growth, dense foliage, and cheapness, is the Scotch Pine. We should set these 10 to 12 feet apart, with some rapid growing forest trees half way between.

RAISING NEW SORTS.

We are aware there are those “voting-for-Jackson” men that believe we have brought Small Fruits to perfection, and that there is no necessity for further effort in this line. It will be time to settle down in this belief when we succeed in raising a Strawberry equal to the Wilson’s Albany in firmness and productiveness on all soils; to the Hooker and Burr’s New Pine in deliciousness, and to the Jucunda in size and color; and we will further add, that we will give one thousand dollars for the stock of any new sort (if not under 100 plants) that combines the above qualities.

We believe the time is coming that such a berry will be produced. We want a Raspberry, too, equal to the Mammoth Cluster in productiveness, firmness, and hardiness; to the Brinkle’s Orange in flavor; and to the Fastolf in size and color; and also other Small Fruits—Blackberries, Currants, Gooseberries &c., with like desirable qualities and characteristics.

It is but little trouble to those who have the time and taste for such things, to grow new seedlings; besides, there is a great amount of interest and pleasure attached to it that makes it a very pleasant occupation. The first important point is to save the seed at the proper time—that is when the fruit is fully ripe. Allow the berries to get dry, and then rub them out of the flesh. Sow them in pots of light, rich mould, or in a bed of light earth, in rows 3 or 4 inches apart, in July or August. Press them into the soil with the back of the hoe, and keep the ground regularly watered. In two to four weeks they will make their appearance. Cover through the winter with some coarse evergreen boughs or brush of trees. In the spring transplant the proper distance. The second season they will produce fruit.

STRAWBERRIES.

There is no fruit that is grown so successfully over so large an extent of country—no fruit that adapts itself to so many different soils and climates, and so universally relished, as the delicious Strawberry. It does seem very strange to us that so many families unnecessarily deprive themselves of this healthy luxury—especially those who have plenty of land to plant them on.

Many are deterred from planting out a bed, with the false idea that it is too much trouble and work. Now, we claim that we can grow a bed on the same piece of ground for years, with no more trouble or work each year than so much ground planted to potatoes. There are sorts, like the Jenny Lind and Downer, that will stand neglect, and yield good crops year after year, on the same ground; but we do not wish to convey the idea that we recommend such culture, but wish to impress it on the minds of all, that *the better the culture, the better the crop*. Remember the old adage, "A stitch in time saves nine," and that there is no branch of business this applies to more than in the cultivation of this fruit. It is easier to cultivate and hoe a plantation *four times* over, when there is no weeds, than *once* if weedy; therefore hoe soon after setting the plants, and as often as possible afterwards.

There are sorts that are better adapted to extreme temperature and localities than others. We shall endeavor to show the success of each prominent sort in different localities, and where each originated.

There are many modes of cultivation, each of which have their strong advocates. We have heretofore strongly advocated the matted row system, but after careful and practical comparisons, we are satisfied that the hill method is the best, one year after another. The fruit average *double the size*—the crop *double*, and on most soils with *less labor*. In hills, they form such strong, bushy tops, that the fruit and blossoms are protected from severe late Spring frosts thereby. Some Springs we have had late frosts in May, that nearly ruined our plantations that grew in matted rows, while those grown in hills were but slightly damaged, and yielded a very heavy crop. Another reason is, that the heavy tops mat down around the crown in the Winter, and protect it from the action of the frost, while those grown in the matted row form but small tops, and are not thus protected. Again, if the ground should be weedy, they are attended to with much less work and care than if allowed to throw out runners. The work can nearly all be done with the hoe and cultivator, while if in matted rows, it has to be done with the fingers, which is very laborious indeed.

The only situations where we can recommend the matted row method, is on land that is quite free from weeds, and localities not liable to severe action of frosts in Winter or late Spring.

There are sorts that *must* be grown in hills to produce well, and *none* but what do better grown ths.

HAVE STRAWBERRIES CEASED TO BE PROFITABLE?

We have read many articles, and had the question often asked us, "Have Strawberries ceased to be profitable? Will they pay at 8 cts. per quart?" To the first, we answer most emphatically, *no*; to the last, *yes*. In taking this position, we do not wish to be understood as writing from a stand-point where land is worth \$500 to \$1,000 per acre (and badly "run" at that), manure \$2 per cord, and other things in proportion; but rather on land near any of our villages, that can be bought for \$80 to \$150 per acre, manure from swamp muck, leaf mould, leached ashes, sods from the roadsides and from the villages, to be had for almost the drawing. Still, we wish to be understood that Strawberries can be grown on the first named ground at even *six cents per quart*, and *pay better* than the *best* crop of potatoes to be found about such cities. And if this is so, one can see at a glance how profitable they will prove on rich virgin soil, or, in fact, on any soil that will grow good corn or potatoes; such soil requiring but little, if any, manure, providing the plants are thoroughly worked and well mulched. Some of the most successful cultivators claim that they can raise the largest and finest crops and vines on poor soil, if it is only kept *well* worked and mulched, thus showing that it need not necessarily follow that Strawberries cannot be made profitable because land is poor.

We admit that if Strawberries are grown on the "slip-shod" plan, they will not really prove profitable. Cannot the same be said of any crop, especially if grown on very high priced land. We claim that we can get a far better crop of fruit from Strawberry plants than from *pig-weeds*, *chick-weeds*, and *the like*, and the more the ground is occupied by the first, and the less by the last, the better the crop, and *vice versa*. We cannot "gather grapes of thorns, or figs of thistles."

One very important fact to be taken into consideration is that it costs no more to grow good and pure varieties than inferior and mixed up sorts; and second, that it costs no more (except in the original plants) to cultivate a row that has been thickly set with plants, than one where the plants were set too far apart—the consequence being that the first form *perfect* rows, with the ground fully occupied, with no vacancies, while the last are very imperfect and the ground not half occupied—the crop on the first being double to triple of the last.

To illustrate the great importance of setting pure, unmixed sorts: We did not have on our place east a year ago last Spring enough Wilsons to set out what we desired to, and therefore purchased 20,000 plants of that sort, which were sold to us for *the Wilson*. We soon found that fully one-half to two-thirds were poor, worthless sorts. The consequence was we averaged this year about six cents per quart for them, and obtained about 40 bushels to the acre; while from adjoining beds of the pure Wilson, we got fully at the rate of 200 bushels to the acre, and averaged twelve cents per quart—the first bringing us about \$80 per acre, the last *eight hundred dollars per acre*. The spurious sorts in the first named were such prodigious runners, that they nearly choked out and destroyed the Wilsons—hence the small crop and price. Now our expenses of cultivation on both lots were *the same*, cost of marketing, per bushel, *the same*, and cost of picking *more*. In fact, it was a tedious job to get the first picked at any price. We know of plantations of pure and mixed Triomphe de Gands that turned out in the same way. Can any thing be plainer than this to show the *great importance* of having each kind of fruit by itself? Do potatoes, apples, or any kind of fruit or vegetables sell as well that are mixed up? Yet hundreds of persons will, when they are setting out Strawberries, look around to see where they can be got *cheap*; and no matter whether the party has any reputation at stake, there is their place, they think, to buy. Probably a difference of \$10 to \$20 per acre on cost of plants would prove as bitter as the experience we had this season. While in New York city, in the *early* part of the Strawberry season last Spring, we could not help but notice the Strawberries that were coming in from Norfolk, Delaware and South Jersey. A great share of them were badly mixed of those we saw, and we were informed by a reliable fruit commission firm that such was the case with most they received. We noticed quart boxes of unmixed selling for 50 cents per quart, while those that were mixed sold for 20 to 30 cents.

Now nineteen-twentieths of the croakers who are constantly trying to show that Strawberries will not pay, are of this class of growers, or else they wish to monopolize the business and discourage others from going into it. We could fill this book with facts that have come under our notice the past year, of persons in *all* parts of the country that have been very successful, and made enormous sums of money from their Strawberries—even in markets where the price was very low; the secret being that they grew the best varieties and large crops from small pieces of ground. We consider what one has done hundreds of others can do.

But to return to the first question—"Have Strawberries ceased to be profitable?" They have, and so has any other crop, providing the raiser does not take enough care or interest in them to *make* them profitable. Suppose a merchant fills his store full of goods, and then leaves them to Tom, Dick and Harry to sell and take care of—he being around a billiard saloon or tavern half the time. Will he find his business *profitable*? Or suppose he pays prodigious rents, expenses, &c., and then has a poor lot of unsalable goods; will he make it pay?

All that is necessary to *make* Strawberries profitable, is to have your soil in good order, well manured, deeply plowed, well harrowed, plants well and thickly set in the row, and of pure, unmixed sorts. Then keep the ground *well stirred* with the cultivator and hoe, no matter whether there are weeds or not, (and, by the way, we believe it is well for us that weeds do grow, for in working the soil to eradicate them we keep it mellow and pulverized, so that plants are not destroyed by the

drouth), and, last but not least, ship them in clean, neat baskets or boxes, and our word for it you will find them profitable at even six cents per quart—far more so than the best crop of potatoes that can be grown at the highest rates. “Take an *interest* in the business, *hate* weeds, *be up* with the lark, and *free* with elbow grease,” is our motto.

TIME TO SET STRAWBERRIES.

The proper time to set plants is in March, April and May; and September, October and November—owing to localities.

We cannot recommend setting too early in the Fall—as the roots should become well matured before being disturbed, especially if they are to be transported. We have had the best success with Fall setting, from plants set in October—not losing scarcely a plant. In fact, we have had good success with plants set up to the time the ground froze, by merely scattering some coarse litter over the surface before the ground thawed out.

We are often asked the question, “Which is the best time to set—Spring or Fall?” It does seem to us that it must be apparent to every such questioner, that the sooner the plants are out, the more roots they form—consequently the greater the crop the first bearing season. If set in the Spring, they yield a full crop the next season, while if set in the Fall, they yield but a small crop the next season. If the ground is not ready in the Spring, we should of course prefer to set in the Fall than to wait until the next Spring, as they would yield a small crop the next season, while if set in the Spring, they do not yield any fruit to speak of the first season. In fact, it is better to pick all blossoms off the first season they are planted, as many young plants so exhaust themselves in fruiting that they die out immediately afterwards. This is especially the case with the Wilson’s Albany.

PREPARATION OF THE SOIL.

If the ground is sufficiently rich to grow good potatoes or corn, it will grow as comparatively good Strawberries. If not in good order, manure thoroughly with any well rotted compost. New coarse manures are very risky, especially for light soils, for, if the Spring should prove dry, the plants dry out badly. Plow or spade *deep* when the ground is in a dry condition, for if too wet and soggy, it leaves the surface stiff and bakey. If convenient, scatter a liberal supply of well rotted compost over the surface, which not only enriches the soil, but acts as a mulch to keep the surface moist, and prevent it from “baking.”

As for the soil necessary to grow Strawberries on, it has never been our lot to see *any* that would *not* grow them,—providing it was sufficiently dry, or could be made so by draining, or if vegetable manures were within reach to be had. The same can be said of all other kinds of Small Fruits that we have had any experience with. We of course will admit that the lighter soils are easier and more economically cultivated. The lighter soils, too, will produce earlier and better flavored fruit, while the heavier soils will produce later and larger fruit. Elevated soils are less liable to be affected by Spring frosts, hence should be selected for the *earliest* Spring fruit—the *Strawberry*, especially the earliest sorts. South and southeast side-hills should be chosen to produce *early* fruit, and north side-hills, *late* fruit. Thus the season may be extended.

MANURES.

Space will not allow us to give any extended remarks on this heading. Rich prairie soils we do not consider so strictly necessary to manure, as those of a lighter and poorer nature. Of course, the poorer the soil the more manure required, and the more thoroughly it should be incorporated *into* the ground. We would advise *deep* plowing;—using a subsoil plow, if possible, in all soils where it can be worked. We have reference to those subsoil plows that follow the ordinary plow, merely *loosening* the underground, and *not* throwing it up to the surface. In most cases where it has never been used, it will be found as beneficial as a good coating of manure; hence our urging it under this heading.

The best way of using manure on rich prairie soils, is to scatter it over the surface *after* the ground has been plowed, and working it in with the cultivator and hoe. By so doing, it prevents the surface from "baking," and keeps it in a loose, light condition, hence it does not suffer from the drouth so badly.

We consider thoroughly decomposed barn-yard manure unexcelled. If not to be had in sufficient quantities, mix with it, in alternate layers, muck, leaf mould, sods from the roadside and corners of fences, leached ashes, lime, salt, &c. Have the whole pile thrown over once or twice, and well mixed together. The value of such a compost can be easily seen by scattering a very little among the Strawberry plants, or around other Small Fruits. Those parties who wish to go into the Small Fruit business, but are deterred by the poor character of their soil, and a supposed lack of manure, should read "Ten Acres Enough," and learn what can be done by any energetic man.

Coarse manures should not be used—especially on light, sandy soils. If manures are not on hand, or ready for immediate use—that is, for Spring planting—the plants can be set, and the manure scattered among them in July or August, with very satisfactory results.

TO GROW LARGE FRUIT.

Grow in hills. Mulch *heavily* with straw or hay. Water liberally with liquid manure, which can be produced by filling a barrel full of manure and running rain water through it. Pick off all but one or two fruit stems, and thin out these, and specimens of fruit will be produced that will "astonish the natives,"—especially if the variety be of the large sorts.

TO PRODUCE FRUIT LATE IN THE SEASON.

Pick off all fruit-stems as fast as they make their appearance at the usual time. Keep the plants well watered with the liquid manure, and surface shaded with straw or hay, and you will be almost certain of a fair crop in September or October.

MULCHING MATERIAL.

The best for this purpose is clean rye straw, or hay of any kind, swail grass, corn stalks, or crushed sorgum stalks. If these are not to be had, *well rotted* tan bark, sawdust, or planing-mill shavings will answer. If the latter could be thrown in heaps, and a little lime scattered through it, and remain thus for a few months before using, it makes one of the best mulching material.

Many parties have tried, with good results, the practice of sowing oats among their vines, late enough in the Summer (say July) to prevent them from ripening. These fall down through the Winter, and make a fine mulch, evenly distributed over the entire surface.

There is no part of the cultivation of Small Fruits that *pays* better than mulching the vines, for by so doing they will yield fully *double* the crop, and *double* the size fruit, besides acting as a

WINTER PROTECTION.

This has become a necessary practice with those who are having the best success in growing Small Fruits. Any of the above material scattered thinly over the surface, *late* in the Fall, or early Winter, will prevent the ground from "heaving," which is the ruination of many Strawberry plantations that are almost perfect in the Fall. Let it be remembered, that the *germ* of the fruit-buds are formed *in the Fall*, and consequently, if plants are disturbed by the action of the frosts, the bud must be proportionally damaged; therefore the great importance of preventing this "heaving" of the soil. To do this, *sudden* freezings and thawings of the *surface* must be guarded against and prevented. This is easily accomplished by merely scattering enough mulching over the surface to *shade* it.

After Spring opens, it is a good plan to pass over the plantation and loosen up this mulching, especially if it be coarse, heavy material, so as to allow a free circulation of air to the soil; for we have become satisfied that soil is "soured" by allowing

such to lay bound close to the surface, and the plantation damaged by such causes. Herein is the trouble why many propagators denounce sorgum bagassa. If they would stir it up after Spring opens, and draw it away from over the crowns of the plants, they would find it one of the best materials for mulching.

PREPARATION OF PLANTS FOR SETTING.

When taken up for setting, the ground should be loosened up with a fork, and the plants carefully raised with one hand and placed in the other with the roots straightened out, and the top and runners kept above the hand; as fast as a handful is taken up, *press the bunch close* and cut off all superfluous leaves and the runners; then place in layers in boxes or baskets. If taken up and kept in this way, one good active man will set from 3,000 to 5,000 plants per day, while if thrown in promiscuously as taken up, it will take at least one-half of a person's time to straighten out the roots and pick off runners so that they will be fit to set, and consequently double the time and expense is made in setting. Just before setting *saturate the plants thoroughly* with water, or dip them into a "puddle" made of water and clay or heavy soil. If kept *well saturated* with water, however, when set, nearly every plant will grow.

TOOLS FOR WORKING AND SETTING PLANTS.

Marking Cord.—We prefer a cord about three-eighths of an inch in diameter, and sixteen rods long; material—Russia hemp.

Stakes—3 feet long and 2 inches diameter, sharpened at one end, made of some strong, hard wood.

Beatles—Made of some hard, knotty stick, to drive down the stake with.

Reel—made inside of a small box, to wind the cord on.

Dibbles.—Take a hard wood stick, nine inches long, two to two and one-half inches wide, three-quarters of an inch thick, commence about two-thirds of the way up, and taper it down all around smoothly to a point at the lower end; also, taper it evenly towards the upper or handle end, so that said end will be about one inch across. On this fasten a handle, by running a screw through it into the first described stick. For extensive planting in heavy or gravelly soil, a steel dibble made the same shape, only being but about a quarter of an inch thick, and fastened to a wooden handle, will be found to be much better and not so liable to get blunt at the point. Many, however, prefer an ordinary strong steel garden trowel to either.

Hoes.—The best steel hoes, with a socket for the handle to enter, and the socket and hoe one piece of iron. For working among Strawberries a flat-tined steel fork hoe is our main dependence. It is far superior to the ordinary hoe, as it loosens up the soil deeper and more thoroughly.

Cultivators—We prefer those that have fine teeth, and do not throw the dirt up into ridges. A very good implement for stirring up the soil is a Cultivator made with ordinary harrow teeth. One of the best implements we have ever used is the "Knox Horse Hoe," made in Boston. It can be so arranged as to throw the dirt in or outside of the Cultivator.

Plows.—There are so many patterns and so many tastes and preferences that we will not name any particular one. Our main advice in this line is to either get one with a sub-soil attachment or a sub-soil plow separately. There is no implement the fruit grower can have that will *pay* better than a sub-soil plow.

THE HILL SYSTEM.

For garden culture, set one foot by eighteen inches or two feet, and for field culture, two to two and a half feet each way, or rows two and a half or three feet apart, and one foot apart in the row, thus giving a chance to do nearly all the work with a fine tooth narrow cultivator or harrow. Have the "lands" or rows for field culture about 16 rods long.

Draw a cord where the rows are intended, press it to the ground with the back of the hoe, or by walking on it, which leaves a plain mark to set the plants by, or in extensive planting, if the ground is free from sod or other incumbrance, and in good order, plow out straight furrows the proper distance apart, and set the plants in these as fast as one person can straighten and drop the roots, by placing the plant against the perpendicular side of the furrow with one hand and drawing in dirt up to the top of the crown with the other. To set by the above marks use a dibble or trowel.

Thrust the dibble in the length of the roots—working it back and forth, so that the hole will not fill in when the dibble is withdrawn, Straighten the roots out and place them in up to the crown of the plants, spreading the roots out fan shape the width of the hole, and running the dibble down near to it, and pressing the dirt up closely to the plant, filling up the last hole made by the dibble when it is withdrawn. If it is a small lot of some valuable high priced sort, and it should be dry, pour a little water in the hole with the roots and fill in quickly with dirt, and shade for a day or two after setting—although if roots are *thoroughly saturated* or “puddled” just before setting, there will not be any failures to speak of. Keep well cultivated and hoed, and the runners cut off. The latter can be done with a knife, shears, or a sharp wheel attached to the side of the cultivator. Just before Winter sets in cover the beds slightly with the mulching. This can be left on in the Spring until after the fruiting season, if the ground should not be too weedy, merely loosening up the surface with a fork hoe, and if too foul, it is better to give the plantation one thorough cleaning the last of April, or just before they blossom. This can be done by drawing the mulching into every alternate row, and after cultivating these, draw it all into the rows cleaned, and clean out the balance, after which scatter the mulch evenly around the plants.

The mulching is not only a protection to the plants through the Winter, but it keeps the fruit clean and finer in every respect. In localities where snow lays over the surface most of the Winter and the ground does not “heave,” mulching is not so necessary, or if used, need not be put on so liberally.

Another very good protection to the roots is to plow dirt up to the plants, leaving a trench half way between and drawing the same away early in the Spring. It is also necessary to draw a little more dirt around the crown each year after fruiting season, as the new roots form above the old crown. If, however, plenty of compost is added around the plants each year after fruiting, it answers for this purpose, besides stimulating them into an immediate luxuriant growth. Plantations kept in this way, will average one quart to the hill, while if even ordinary cultivation is given, good bearing sorts will average half that amount. One good thorough cleaning or forking in April or May is all that is necessary until after fruiting season. As soon as they are through bearing, scatter a liberal quantity of rotted compost over the surface, spade or plow between the rows *as deep as possible*, loosening it up in the rows between the plants with a fork-hoe and cut off all runners that are starting, and *the entire top of the plant close to the crown*. The latter is a very essential point, for if the old top is allowed to remain on, the plant will remain in a dormant state for weeks, forming no new roots, while if cut off, they start out new roots immediately, and by Fall form an immense fibrous root and large, luxuriant top. Keep the ground well worked, runners cut off, and mulched, as before described.

Here we might say, that for plowing between the rows after they are through bearing, the sub-soil plow will be found the best, as it does not ridge up the land. When the other plow is used, the ground can be leveled down with the drag tooth cultivator.

THE MATTED, OR ALTERNATE ROW SYSTEM.

For garden culture, set one foot in the row, and rows two feet apart, and for field culture, rows three and a half or four feet apart. Mark out and set plants as before described. Keep clean with the fork and cultivator. Train the runners along the row as they grow out, and they will soon form thick, matted rows, about one foot to eighteen inches in width. This can be done by keeping the cultivator going through them quite often, harrowing it down as the rows widen out with plants.

Before Winter sets in, scatter a liberal quantity of rotted compost among the vines, thereby protecting them from freezing, enriching the surface, and acting as a fine mulch among the vines the coming season. Work among them thoroughly with the fork and cultivator just about the time they commence to blossom. As soon as they are through fruiting, plow or spade between the rows, turning the edges of the rows under, leaving them about six inches in width. Level the ground down and work the rows out clean, tearing out some of the plants if they should be matted too thickly together.

A light two-horse harrow answers for this purpose well, as it scratches the ground nicely among the plants, by passing over the plantation *across* the rows. By this operation the fresh ground gets drawn in among the plants.

Scatter manure among them, keep clean, and take same care as before described. After these rows have occupied the same place for three or four years, the runners can be allowed to run from the rows and fill up every row, allowing all to fruit, and after fruiting, plow the space occupied by the *old* rows under, leaving about a foot in width of the new plants; allow these to fruit, and take the same care as before described. If the ground is kept well manured and clean, they can occupy the same ground for years.

HILL AND ROW SYSTEM.

We have noticed for the past few years that when runners had been kept off from plants until quite late in the season, and then allowing a few to grow and take root, that the young plants formed from such were *very* strong, and bore large crops of fruit the following season. This can be accounted for from the fact of the plant having the full strength of its root, obtained a strong, full growth, and where a few runners were allowed to grow and root, they partook of the strength and vigor of the parent plant.

We have therefore satisfied ourselves from experiments, that this is one of the best, if not *the best*, methods of growing Strawberries, both for home use and market. By thus keeping the runners off until late in the season, it gives a chance to work the rows out clean with cultivator and hoe up to the time when weeds stop growing, or if a few do grow they cannot ripen their seed. Then, by allowing the runners to grow, and passing through occasionally with the cultivator to keep them running in the row, and the ground stirred up, just enough plants will form between the original or parent plants to form a matted narrow row. These rows will yield as fine fruit as those kept strictly in hills, while at the same time, by hoeing out the old plants after fruiting season, and leaving a new plant between each old original plant, the bed is as good as new each year,—in fact, we believe it to be one of the best “renewal” systems that can be practiced, and the only one that will produce large crops of large fruit every season.

MATTED HILL OR STOOLING OUT SYSTEM.

This is practiced by many. Set one strong plant, or if small, two plants, three feet each way. Keep the cultivator going both ways, and the plant clean from weeds. As they throw out runners keep the cultivator going through them as often as possible *both* ways, having it set so that the two hind teeth will be about two feet in width. In this way the runners will be thrown around so as to set the plants close in around the original plant, and by this means soon forming a matted hill; after they have set sufficiently thick, the cultivator can be narrowed down to about 18 inches in width, and kept this width the rest of the season, keeping it going through both ways as often as possible, until the ground freezes. Then mulch as before described. Many cultivators advocate and prefer the

ANNUAL SYSTEM.

Which is to set the plants 1 foot by $3\frac{1}{2}$ or 4 feet. Keep well cultivated the first year, same manner as described for the “matted row” system. Allow them to bear the second season, or first fruiting season, and then plow under. If a person has *plenty* of land this is a very good plan. In doing so, however, new beds must be

set every Spring. If the plantation gets foul or weedy, it is no more trouble to set a new plantation than to clean out the old one. If, however, plenty of manure is to be had, and one has but a few acres of land, we would advise keeping the same plantation in fruiting for at least 3 or 4 years. Another manner of growing them in many parts of the country and advocated by many, we must truthfully call the

SLIP SHOD SYSTEM.

This is to plant out, cultivate and hoe for once or twice, and then "let them run," covering the entire surface with plants and weeds. If there is danger of too many weeds going to seed they pass over and mow them down. Others let them get as weedy as they will and then burn over the plantation after they get ripe, which we think is preferable. After they are through fruiting a plow is run through the plantation every 3 or 4 feet both ways, and the ground all harrowed over. They are then allowed to run, and the same care taken as before described. Of course the more manure they can have scattered among them the better they do, and the longer they can occupy the same ground. We would not advise this plan, but still, when help is scarce and high, it is sometimes a necessity. When this system is practiced, we would advise a liberal quantity of mulching to be scattered among the plants every Fall.

HILL AND MATTED ROW SYSTEM.

After growing them in hills, as before described, for two or three years,—or until they commence to fail in bearing large crops,—they can be allowed to run, and form matted rows. Some varieties, like the Wilson's Albany, will only bear two or three good crops, in hills, when they must be allowed to run. Other sorts, like the Triumph de Gand, will yield large crops for a number of years in succession, if kept in hills.

GROWING STRAWBERRIES AMONG RASPBERRIES, BLACKBERRIES, &c.

When these are grown in hills both ways, Strawberries can be set half way between, each way, and kept in "hills" or "matted hills," as before described. When the Raspberries, &c., are grown in rows, Strawberries can be set half way between the rows, and grown in matted rows for two seasons, or until the Raspberries, Blackberries, Gooseberries, or whatever they may be, get so large as to make it impossible to work them out with the Strawberries among them.

VARIETIES.

Those marked with an (H,) are perfect blossoms, or Hermaphrodite, and those with a (P,) imperfect blossoms, or Pistillates; the former producing full crops by themselves, while the latter requires every fifth or sixth row of the former planted among them as a fertilizer.

Jenny Lind, (H)—One of our old, standard, *early* sorts; succeeds well in hills or rows. Color light scarlet; shape conical; fine flavor; size medium, and very uniform. Originated in Massachusetts.

Downer's Prolific, (H)—Yields the bulk of its crop *early*, when fruit sells for very high prices, and with us, one year after another, as great a bearer as any of our old tried sorts, and its *extreme hardiness* makes it a very remunerative sort indeed. It has received the highest number of votes in many societies, as being the *most profitable* market sort, and this, too, with the *Wilson's Albany* as one of its competitors. In rows, it yields as good crops as any sort; but in *hills* the crop is *enormous*, and fruit *double* the size. Color light scarlet; shape nearly round; flavor fair; size large, and a *certain* yielder *every* year. Originated in Southern Kentucky, and succeeds equally well in the most Northern or Southern latitude.

French, (H)—Another *very early* sort. Better to be grown in *hills*, and grown thus forms *enormous* crowns—the hills averaging a foot across the top, and consequently yielding very large crops, all of which are picked early and in a few days' time, thereby making it a very valuable market sort. Fruit beautiful scarlet; flavor *very delicious*; large size, and uniformly so. Originated in New Jersey, and proves extremely hardy wherever tried.

Early Washington, (H)—An old well known early sort. In many localities proves very profitable as a market fruit, on account of its *hardiness, earliness*, and great bearing qualities. Fruit medium size; flavor fair; color orange scarlet; round and uniform.

Ida, (P)—This sort is receiving universal praise by all who have fruited it. With us, the past season, it yielded fully equal to any other sort, and we do not hesitate to recommend it as one of the *most profitable* varieties on our grounds. The plant is very strong and hardy, of rapid and certain growth, bears an immense crop on strong footstalks; fruit of medium uniform size, and brilliant scarlet color. Ripens with the earliest, and in regular succession for twenty-five days.

Metcalf's Early, (H)—Claimed by its originator and original disseminators as being *very early*, and yielding a large crop in a few days' time. Originated at Niles, Mich.

New Jersey Scarlet, (H)—This variety stands very high, on account of yielding the bulk of its fine fruit *very early* and in a few days' time, thus making it a very valuable acquisition as a profitable market fruit.

The above seven sorts are all early.

Wilson's Albany, (H)—Too well known to require any description. Yields enormous crops everywhere. A week later than either of the above. This sort is *badly mixed* throughout the country, there being but *very few* plantations but what have more or less spurious plants mixed in. Hence great care should be taken to get genuine plants. Succeeds well in hills or rows. Originated at Albany, N. Y.

Triomphe de Gand, (H)—On a *heavy* soil, with *rich* cultivation, and grown only in hills, this proves a fine sort. Fruit large; color light scarlet; shape *coxcomb* and inclined to "sport"; flavor *delicious*, and fruits late. Foreign.

Hooker, (H)—One of our favorite sorts for table use, on account of its rich, delicious, aromatic flavor. Resembles the Jenny Lind, but darker crimson, and later. Should be in every assortment for home use. Originated at Rochester, N. Y.

Crimson Cone, or Scotch Pine Apple, (P)—A very handsome, dark, conical fruit. Flavor good; size medium; shape long and conical, and on account of its lateness and good canning qualities, and also beautiful appearance on the table, very desirable.

Feast's Fillmore, (P)—A very popular sort in many localities. With us it yields very fair crops of *most delicious* fruit. It *must be* grown only in hills to produce well. Fruit when *ripe* nearly as black as the Black Tartarian Cherry; size large and very uniform, with a peculiar delicious aromatic flavor, highly perfumed. Originated in Maryland, and gives good satisfaction wherever tried. Medium to late.

Great Austin's Shaker, (H)—The peculiarity of this variety is its *very large* and uniform size, and beautiful light orange color. It produces well in hills or rows. Originated with the "Shakers," near Albany, N. Y., and succeeds well wherever it has been tried.

Russell's Prolific, (P)—A very profitable sort in many localities. Where it does succeed, it gives the highest satisfaction. They should have every 4th to 6th row planted with some *late* staminate sort, like the Jucunda, Triomphe de Gand, Golden Queen, Hooker or Shaker, on account of their being such late bloomers themselves, and requiring thorough fertilizing. Fruit very large; nearly round; surface somewhat irregular; color bright crimson; fine grained, with a rich sub-acid flavor. Originated in N. Y. State. Season medium to late.

Buffalo, (P)—Claimed by many as being identical with the *McAvoy's Superior*, and as strongly denied by others. Our opinion is that they are so nearly identical that there is no necessity for growing both. We pronounce it, however, a very excellent variety. Fruit uniformly large; color dark crimson; flesh red; solid core and very juicy; sub-acid, with a sweet aromatic flavor. Yields well, and very hardy. Succeeds in either rows or hills, in all sections where tried.

Green Prolific.—Still another season's trial with this truly fine and valuable sort has attached us the more strongly to it. We notice that a large share of our best and most reliable fruit men speak in the most flattering terms of its high value; and what is still more significant, it has received *general* praise by *every* Fruit Association that we have seen any notice of.

Of all the *tried* sorts on our grounds, we are *satisfied* this has proved one of the most valuable, on account of its *extreme hardiness*, both through the coldest and most changeable Winters, and dryest and hottest Summers, and its *wonderful bearing qualities every year*. We have sent out no sort for the past three seasons that we have received more high and flattering testimonials from than this, and this, too, from nearly every State in the Union. They yield good crops in rows, but fully *triple* grown in hills. It forms one of the most astonishing hills we ever saw. Plant of a very dark green—hence its name. It was originated by Seth Boydan, of New Jersey, who has grown within the past few years *over twelve thousand* seedlings—including the famous Agriculturist, and *he* pronounces the *Green Prolific* the *best of all*. Dr. Trimble and Francis Brill, of N. J., speak of it as the *best tried* sort. Fruit large size and very uniform, there being scarcely no small berries among them. Shape round; color beautiful orange scarlet; fair flavor, and grows well up from the ground. It is pronounced by some a pistillate, but we consider it sufficiently supplied with stamens for a self-fertilizer; still, it might be well to plant every fifth or sixth row with the Wilson, Downer, or some other fertilizing sort. We earnestly advise all persons who have not this sort to plant them, knowing from our own experience, and testimonials from others in all parts of the country, that it will give satisfaction in *every* State of the Union. Season medium to late.

Agriculturist, (H)—Where this variety succeeds it gives the best satisfaction. Like the *Green Prolific* and *French*, it forms enormous "stools," the Wilson being a pigmy to it. Fruit large size, conical, and somewhat flattened; dark crimson, firm, and of the finest flavor. Originated in New Jersey.

Brooklyn Scarlet, (H)—We consider this the best of the three Tribune sorts. Good size; bright scarlet, with a long neck; flavor delicious and highly perfumed; plant very strong, hardy and vigorous.

Lenning's White, (H)—The finest "white" variety grown. Large size; perfectly round; white, with a rich delicate blush on one side; extremely high flavored and highly perfumed. It is one of the most delicious flavored Strawberries we have ever tasted, and should be found in every assortment. The August No. of the "*Agriculturist*" says: "It is really a fine fruit, very productive, and the best of all the White Strawberries." The plant is a strong, vigorous grower, resembling the Wilson's Albany.

Jucunda, (H)—Misnamed by many "Knox's 700." We have had plants that came *direct from Knox's ground*, and the *Jucunda* from Hoag and others, and we defy any person to show the *least* difference in them.

We can only say that we have never grown a Strawberry that run so uniformly large, and of such a beautiful scarlet waxen color, as this variety. We will say that when it first blossomed we thought it had been overpraised; but when we noticed that *every* blossom formed fruit, and *every* berry was *large—very large*, we changed our minds, and became satisfied that it would prove one of the most profitable market fruits on our grounds. The fruit *keeps large* up to the *very last picking*. It succeeds best on heavy rich loom; if not rich, it must be made so with a liberal coating of well rotted manure. It should be grown only in hills to produce full crops. Season medium to late.

Golden Queen, (H)—Claimed by some as the *Trollope's Victoria*. We have picked fruit, *twenty* of which would fill a quart measure, and picked as they run, the average was not over *fifty*. Being such fine yielders, and such large, beautiful fruit, and yielding so *very late* in the season, makes them one of the most valuable and desirable sorts.

Perry's Seedling.—We have not fruited this variety, only on Spring set plants. It comes to us from its originators, Geo. Perry & Son, of Conn., with the most flattering recommendations. What we have seen of the plant and the fruit borne on Spring set plants, we are very favorably impressed in its favor, and would advise all to try it.

Durand's Seedling.—Large, oblong and flattened; scarlet; firm and of good flavor. New, and is being highly extolled.

Barnes' Mammoth, (H)—We noticed this variety made quite a sensation in New York the past season, bringing the highest market prices. We do not wonder at it, if we are to judge by the fruit produced on our Spring set plants, for we certainly never saw larger or finer specimens on young plants. The surface is as firm as the Wilson's Albany, color about the same, *much larger size*, and flavor spicy and rich. We regard it as one of our most promising new sorts—especially for market purposes.

Dr. Nicaise, (H)—Fruit grown with us on Spring set plants were *very large*. We herewith give Gould Bros. testimonial:

"The fruit is of enormous size, berries having been picked this season (from plants set last September) that measured $6\frac{1}{2}$ inches in circumference and weighing from $1\frac{3}{4}$ to $1\frac{3}{8}$ ounces. It is early, of a bright red color, very glossy, flesh white and of the first quality. In Europe it is considered one of their finest varieties."

Napoleon III., (H)—Fruit is large to very large, flattened, varying from oval to coxcomb shaped; color handsome rosy-red, shading to darker red in the sun, and waxy blush in the shade; flesh of snowy whiteness, firm, and of sprightly, high flavor, with a delicate aroma; the plant is vigorous and healthy, with large dark green foliage, which endures the sun well, and is very productive. It is claimed by many that it is one of the best berries for American culture. We quote the following testimonials:

Charles Downing, Esq., Newburgh, N. Y., writes:

"Napoleon III. Strawberry has succeeded well with me, and I consider it a good variety for the amateur and family use. The plant is vigorous, productive, and so far has proved hardy; the flavor is excellent; compared with *Triomphe de Gand* it is not so rich, but sweeter."

H. E. Hooker, Esq., ex-President of "The Western New York Horticultural Society," says:

"It is very large, vigorous, productive, and of as good, perhaps better flavor than *Triomphe de Gand*. I was favorably impressed with it, and thought it worthy of trial—one of the finest large Strawberries."

Thomas Mechan, Esq., Editor of the "Gardener's Monthly," in noticing the variety in his August number, 1866, says:

"This is one of the most distinct fruits we know, and one of the best in many respects. It is larger than any of the others named," (*Jucunda, La Constante, Marguerite*, and some other choice varieties with which he is comparing it.) "It is very variable in form, some nearly round, others oval, some coxcomby, and others triangular and irregular. The color light red, with a pinky tinge, seeds small and numerous, not very deeply set; flesh a snowy whiteness; flavor equal to any we have named except *Marguerite*. If this should prove a regular and abundant bearer, well adapted to most soils and situations, it would be a valuable kind."

Michigan Seedling.—Our friend B. Hathaway, of Michigan, has for years been growing and experimenting with new sorts, and has succeeded in producing some extraordinary fine varieties, probably the best of which is his "Michigan Seedling." The plants we received from him of this sort have that peculiar lustre and strength or stockiness of the Wilson's Albany, that indicate *productiveness* and

hardiness. He sends us the following description: "Best market sort to succeed the Wilson; a week to ten days later; keeps better, more uniform in size and firmer fruit. For hardiness, vigor, productiveness, and long keeping qualities, it has no equal. Average product of well established beds, 4 quarts to 3 hills; picked 3 quarts from 2 hills 4th of July."

Boydán's No. 30.—A new seedling of Seth Boydán's, the originator of the famous Green Prolific. The highest recommendation that can be given to it is that it is *superior* to that well-proved, reliable sort in every respect. A friend of ours who saw it in New Jersey the past season, says that it was the most promising new sort he had seen for years.

Kramer's Seedling.—W. W. Beebee, Secretary of the Iowa State Horticultural Society, and first disseminator of this sort, says of it:

"A seedling of the Wilson's, ripening at same time, and originated near this city in '63—has no equal as a producer and multiplier. The original plant bore 22 good sized berries in eleven months, from the seed, and in '67 one plant, with runners kept cut, was found to contain twenty-four good foot-stalks, well set with fruit.

"Its productive powers are such that where its known parent will be run out by grass and weeds, the Kramer will *run in*, take entire possession, starve out all weeds, luxuriate on high or low grounds, and yield immense crops from same bed for many years. An old bed of twenty-six square rods—weedless and unweeded for two years, and thought worthless last fall for future fruiting—unprotected in our last severe and snowless Winter,—on 1st of May last was one matted mass of new, even-sized plants; and, in this poor Strawberry season, that bed produced \$200 worth of the choicest berries.

"Mr. Kramer, the originator, has never given his plants any winter protection—deeming it entirely unnecessary.

"The fruit is very perfect in form, fully equal to Hovey's, or an average of Wilson's in size—seeds very small, of dark color, sparsely and equally diffused over the entire berry, and are neatly set in slightly sunken cavities. In sweetness and richness of flavor, and in strong wild Strawberry aroma, it is unrivalled—selling readily in our market for 30 cents per quart, while the Wilson's and others would only bring 15 to 20 cents."

Perpetual Pine, (Gløde)—This is claimed to be a *real perpetual* Strawberry. It bears a fine Spring crop, and also keeps up fruiting *late in the Autumn*.

Nicanor.—This is the new seedling of Ellwanger & Barry, and on account of the *high character* of that firm, and *their own personal endorsement* of its merits, and the description given it by Elliott, we have the highest expectation and confidence in its value. Below we insert Ellwanger & Barry's description:

"Having fruited it for six years, we pronounce it a decided acquisition to the list of Market Strawberries. Plant very hardy and vigorous, surpassing, in quantity of fruit and hardiness of vine, any other variety we have ever tasted. It commences to ripen a few days before the Early Scarlet, and continues on up to the very latest; thus making it profitable at both ends of the season. Fruit from one to one and a quarter inches in diameter, very regular and uniform in size, roundish conical, bright scarlet, and more firm and not so acid as Wilson."

Also Elliott's description, as copied from the September (1867) No. of the "Horticulturist":

"Leaf large, broad, oval, of a deep, dark pea-green color, and deeply serrated. Foot-stalks long and strong, carrying the foliage very erect and high. Fruit medium, or above, in size, or from one to one and a quarter inch in diameter, regular and even rounded coxcomb form; surface glossy, firm, bright, deep scarlet red; seeds dark colored, moderately imbedded; flesh reddish, rich, sweet and high flavored; truss with long foot-stalks, and usually from eighteen to twenty-four berries on a truss. Flowers very perfect, setting every berry without a failure. As a market berry, while it is not perhaps any larger than the Wilson, it is more uniform in size, ripens more gradually, and carries equally as well, if not better. As a vine, it is among the most hardy, having very long, deep and strong roots, and enduring the changes of Summer and Winter with impunity."

Charles Downing, (H)—A seedling from Downer's Prolific, and claimed by all who have fruited it to be superior to that well known reliable sort. Originated with Downer, of Kentucky. We are certainly highly pleased with it, from what we can judge of Spring set plants, and have great confidence in its value. If it only proves as *reliable and substantial*, in comparison to the rest of the Strawberry family, as the Pomologist and Horticulturist whom it is named after, stands among men, it will be *all that can be desired in a Strawberry*.

Romeyn's Seedling, (H)—Perhaps there has been no new sort introduced that has attracted so great share of attention as this. We have only fruited it on Spring set plants, but this was sufficient to impress us very strongly as to its great value. It might be sufficient to show its character by stating that it is claimed to be equal in every respect to the *Triomphe de Gand*, and far more productive on all soils.

Joseph Foster writes us: "It has such an immense root, and reaches down so deep, the drouth does not affect it in the bearing season, as it does other plants. We are growing it on different soils, and it succeeds equally well on all. We have plants that are five years old, that have borne a fine crop of berries and runners every year, and they are finer this year than ever." Their circular also says: "This Seedling is a most decided acquisition to the Strawberry family, being large size, perfectly solid, very fine flavor, more spicy than the *Triomphe de Gand*, fine bright red color, and a very prolific bearer. The plants are vigorous growers and most hardy—holding their foliage throughout the picking season, and do not winter-kill. *Two hundred quarts* have been taken from 112 plants, and *two quarts and a half* from one plant at two pickings—the last being on the morning of the 9th of July. The fruit-stems taken from a single plant, and exhibited at the New York Institute, in June, numbered *six hundred perfect sets*. It was awarded a special prize for *flavor*, at the New York Agricultural exhibition. Comes into bearing very late—two weeks after the Wilson."

J. S. Nedham, of Mass., says of this sort: "Last year I purchased some plants originating with Mr. Wm. H. Romeyn, called "Romeyn's Seedling." I had great faith in them at the time, because of the soil in which they originated being calcareo-silicious, adapting the plants to almost any soils, excepting perhaps pure sand. I understand it to be a double cross seedling from the *Triomphe de Gand* and *Wilson*, and *Austin*. The plants are very vigorous and hold their foliage through the picking season. The fruit buds set deep in the crown, better protecting itself from winter-killing. The runners are long, hugging the ground, and rooting their new plants from ten to twenty inches from the parent plant, which is a great advantage over the *Wilson*, which sets its new plants so close to the parent plant that they are difficult to remove, and if left to grow are a serious detriment to the main plant. The fruit is of large size, between the *Wilson* and *Russell*, and more uniform than either; color bright red; its flavor, to my taste, is quite equal to *Walker's Seedling*, a berry possessing the aroma of the *Hamburg grape* in union with the delicate perfume of the *Strawberry*. The calyx or hull stands well off from the berry, making it easy to take off, without marring or bruising the fruit.

"It is said to be a very prolific bearer; so far with me it supercedes any other variety I cultivate in productiveness. If it does as well another year as it has the past (and I see no reason why it will not) it must stand beside, if not surpass the *Wilson* in productiveness; under those circumstances its superior flavor, in connection with its ten days longer bearing season, will supplant it in the market."

Colfax—Some 15 years ago, Hon. Schuyler Colfax introduced into Sout^h Bend a number of seedling Strawberries that had been presented to him by an amateur friend. Among them was this sort. We have known it 12 years, and must say, for *productiveness and hardiness of plant*, we have never seen its equal, and we are prepared at any time to pay *one hundred dollars for 100 plants of any sort that will produce as much fruit from the same sized bed for as many years in succession as this sort*, for even *one season*.

The same can be said of it as the *Kramer*, regarding its reproductive powers, and running out grass and weeds. Farmers who will not take the care required, that most sorts need to produce good crops, may be certain of immense crops from this sort, by growing them even as described under heading of "*Slip Shod System*."

Plant purplish green and extremely hardy, never having been damaged a particle by our coldest and most changeable Winters. It forms astonishing hills—fully double the size of the Green Prolific, Agriculturist, or of any sort grown in the same specimen bed the past season—over 30 in all. Fruit medium size, round and very uniform, hanging in clusters that have been the astonishment of all who have seen it; color very dark crimson; flavor sub-acid, with a very large percentage of juice. Not sufficiently firm to carry to distant markets. It is pronounced a pistillate, but our plantations, away from any fertilizing sort, have produced as well as any.

Peak's Emperor, (H)—Originated by E. Peak, of South Bend, Ind. Very large size; single specimens often measuring $6\frac{1}{2}$ inches in circumference. Plant quite similar to the Agriculturist in appearance, but is perfectly hardy and does not sunburn. Flavor *very* excellent; berry firm and very productive. It has been fruited four years, and we offer it both for family and market.

Its season is about with the Wilson, but continues longer in bearing and does not so quickly deteriorate in size and quality. Form of berry generally oblong, conical and symmetrical, occasionally coxcomb, as seen in cut. Color, dark crimson.

RASPBERRIES.

This delicious, indispensable and very useful fruit follows immediately after Strawberries—in fact, the earlier sorts, such as the Davison's Thornless, Purple Cane and Doolittle, commence ripening before the late sorts of Strawberries—such as the Green Prolific, Jucunda and Golden Queen—are gone, thus keeping up the succession of fruits. The Raspberry is not only a delicious fruit for the table, but is one of the finest for jelly, canning, preserving, &c., besides being a *very* profitable market fruit—the expense of growing, one year after another, being no more than the same amount of corn, while the *profits* will average \$200 per acre yearly, with *ordinary* cultivation,—while if extra care and cultivation is given, double that amount can be obtained. From two to four dozen of the different sorts will supply any ordinary family; while that number of the “over-bearing” sorts will supply the table from the time Blackberries are gone until the ground freezes.

CULTIVATION.

There are different methods of cultivation, some using stakes. This we consider an expensive and useless practice. Many persons are deterred from setting this—one of the most profitable and easily cultivated of fruits, from reading articles and books on *Small Fruit* culture, wherein the *necessity* of *Stakes* is laid down. Now, we affirm that if the Raspberry is trimmed and grown as we shall describe, there is no need whatever of their use. The great fault with most growers is, that they allow the main stalk to grow its full height, or at least much longer than it should, and even if they do trim them, it is not done until the following Winter or Spring. The true way is to trim them *while growing*. By so doing, and checking the top, the roots become larger and the tops branch out more. It is sometimes advisable, in **GARDEN CULTURE**, where the bushes have but little room, to tie them up close to stakes, or place two stakes, one on each side of the hill, and nail a hoop between them, training the bush through the hoop. Or they can be set along in a row, or by the fence, and posts three feet high set alongside of them, with a strip nailed on top of the posts, and also about two feet from the ground. Still we should dispense with all these, by setting the roots two to three feet apart, and never allowing them to grow over three feet in height—two feet is still better—and two feet wide, thus forming a perfect hedge; and on account of such close pruning, they will hang *literally* loaded with the *largest* size fruit, and growing thus they will be a support to each other, so that the strongest winds cannot damage them.

For field culture there are two distances. Where land is *plenty*, and help scarce and high, we would advise the

HILL SYSTEM.

Set the plants six feet each way, setting Strawberries between if desired, as before described; or potatoes can be planted half way between, each way, and when dug, the tops thrown around the Raspberries, thus forming a fine mulch. By setting this distance, nearly all the work can be done by a boy with horse and cultivator,—especially if plenty of mulching is thrown around the bushes, which prevents weeds from growing.

Of the Black Cap family, none but young Fall-layered roots should be planted. The ground should be marked out shallow with a one horse plow, the proper distance apart. Set the plants with the germs up, spreading out the roots and covering with about two inches of dirt. If set in the Fall, throw a shovelfull of manure over each hill before severe freezing weather comes on, and draw it away from over the roots in the Spring, and if the surface should be inclined to bake, loosen it up *down to the roots* with a fork hoe, as the germ is very tender and will not come through if the ground is too hard. As soon as they sprout in the Spring, work them out clean with the cultivator and hoe, and keep them well worked through the season. Cut them back the *first* season, in August or September, to within *one foot* of the crown. This severe pruning *must* be resorted to the *first* season, to insure a strong, healthy bush afterwards. If not cut back, they are apt to so exhaust themselves in bearing the first season, before they get sufficiently rooted, that they get stunted and many die out, while the large share of the balance never make healthy or good bearing bushes. Here is where the great mistake is made by many planters—to leave too much wood the *first* year. ~~Be~~ Be sure and have a *strong, full grown root and bush* before allowing them to bear heavily, and your plantation will last from ten to fifteen years; while if they are allowed too much top, and to over-bear when young, your plantation will ever afterwards be worthless, or at least will not *pay*. We have heard parties boast what a growth their Raspberries made the *first* year, and what a crop they got from *that* growth; but they “paid dear for the whistle,” for their plantation was ruined thereby.

After the first season they must be cut back in July or August to three feet in height, and if the side branches should grow out too spindling, cut these back to within a foot of the main stalk. If this cutting back process is *thoroughly* attended to each season, they will grow sufficiently stocky to hold up their fruit without the trouble of staking, besides yielding double the amount of fruit. Trim out the old wood each Fall, and mulch heavily with any coarse litter. Those who have but little land, and wish to make *every foot pay*, will do best to set by the

ROW OR HEDGE SYSTEM.

Mark out the rows six feet apart, and set the plants two to three feet apart in the row. Keep well cultivated, and when *one foot* in height pinch off the tops, and as side branches grow out, pinch these off also to within *a foot* of the main stalk. The second year, allow the main stalk to get three feet in height before pinching back, and the side branches two feet in length. A row thus grown will form a *perfect hedge*, and will yield double the bulk, of larger, finer fruit, than if they had been allowed to take their own course. The third year, and each year afterwards, they can be allowed to get three feet in height before nipping back.

If desirable, Strawberries can be grown half way between, as before described. If however, this double cropping is practiced, the plants *must* be kept *highly* fed with the *best* composts. If the ground was not sufficiently enriched before the plantation was set, they can be enriched by throwing composts around each hill. The best for this purpose is leaf and rotted wood mould, from the woods.

VARIETIES.

Purple Cane.—One of the earliest and undoubtedly most enormous yielders grown. We have letters from the extreme North and South, speaking of it in the most flattering terms. Fruit purplish red, medium size, and flavor delicious, being the same as the old wild red. It is one of our favorites for table use and jam. It yields its fruit *early* and in a few days' time.

NOTE.—The above sort requires *age*, and to become *thoroughly* rooted, and *must* be *severely* cut back the first two years. If this is done, it will yield an *immense* crop *every* season, for twelve to fifteen years, and prove one of the most reliable and desirable sorts for family use.

Doolittle's Black Cap.—Valuable for its earliness and hardness. Double the size and yields double the crop of the common Black Cap. The first year after planting it will yield one to two quarts to the bush—after which it yields from four to eight quarts. When the common wild black is selling for five to ten cents per quart, this sells readily for fifteen to twenty-five cents, which shows plainly the comparison of the two sorts.

Miami Black Cap.—Another year's experience with this sort has proved to us that it is superior to the Doolittle except in earliness. It ripens a few days later, and keeps in bearing longer—thus keeping up the succession. Size of fruit about the same, and not so full of seed. Bush less thorny, large and *more stocky*; consequently yielding larger crops.

It will be remembered that we offered H. H. Doolittle, a year ago last Fall, \$200 if the Seneca Black Cap should prove superior to our Miami in *any* of the valuable qualifications claimed for it. The following is our report:

"It will be remembered by the readers of the Rural, that I offered last Fall to pay H. H. Doolittle \$200 if a committee should decide that the Seneca Black Cap was superior in any of the qualities claimed for it, to the Miami Black Cap. No committee could be got together to decide on it. I, however, must admit that the Seneca is much the later berry of the two, and has the highest flavor; and as these were two of the qualities claimed for the Seneca, I feel in honor bound to pay the \$200.
A. M. PURDY."

A mistake that some persons seem to be laboring under, and that they are trying to spread broadcast, and which should be corrected right here, is that we had reference to the *Mammoth Cluster* as the *Miami* when we made this offer. As we had not seen the M. C. in full fruiting at the time we made that offer, any unprejudiced person will see we had no reference to it; hence the absurdity of such a report. We referred to the above described *Miami*, that we have fruited for six years, and to no other.

Seneca Black Cap.—Very similar to the *Miami*, in color, size and productiveness, but fully a week to ten days later, and one of the highest and most sprightly flavored berries we ever tasted. Canned fruit of this sort tasted almost similar to well ripened Blackberries.

Davison's Thornless.—*Not a thorn on it.* This alone is sufficient to make it very desirable indeed. When we add to this, however, that it has *proven* to be a week *earlier* than the *Doolittle*, fully equal in size of berry, as hardy, and on account of being a *much stronger bush*, a greater yielder, makes it one of the most valuable Raspberries grown. Black, very sweet and fine flavored.

Golden Cap.—The same in size and bearing as the last, except being of a beautiful deep golden color, making it very attractive and fine for table use and jam. It is also a very profitable variety for market purposes, for, on account of its beautiful appearance, it sells for very high prices. It is a rampant grower, and must be well cut back.

Ellisdale.—This is a new sort from Iowa. Similar to the *Purple Cane*, but bush more stocky and fruit larger and firmer.

Minnesota.—A beautiful large size, and productive, straw-colored berry. Very hardy.

Mammoth Cluster.—Of all the Black Cap family this has proven the most wonderful in productiveness, size and uniformity of fruit, stockiness and hardness of plant, of any sort we have ever grown. Such Horticulturists as Chas. Downing, Andrew S. Fuller, F. L. Perry, D. D. T. Moore, Wilcox, Turner, O. J. Weeks, H. H. Doolittle, and numerous others pronounce it superior and distinct from any black sort they ever saw. It is *very* late in ripening its fruit—the first being picked just as the *Doolittles* are disappearing. Great care should be exercised in obtaining this sort, as many are offering a brown *Miami*, as described in Fuller's work, for it.

Ohio Everbearing.—The same in size, color and flavor as the *Miami*. Yields a good Summer crop, and a fine crop on the new growth in the Fall. One of the best and most reliable *tried* "Everbearing" sorts.

Catawissa.—A most delicious Everbearing sort. Yields a large crop of purplish red fruit in the Fall, until the ground freezes.

Lum's Everbearing Raspberry.—This is a new sort, brought out by H. B. Lum, of Ohio, and highly recommended by many of the most reliable and noted Horticulturists, among whom is Dr. Warder, of Ohio. The following is its description: "Plant resembles the common black or Doolittle, but is more stocky and not so tall. It never sprouts from the roots, and is increased naturally, only from the tips. Fruit large, black and sweet, resembling the Doolittle in size and quality at the Summer fruiting, but the berries are much larger in September and October, if the weather is favorable, frequently measuring three fourths of an inch in diameter. Berries commence ripening on the old wood about the first of July, and the crop, according to the size of the plant, will be fully equal to the Doolittle. Before the berries are all gone, new shoots will have pushed out from the base of the plant, which will also be loaded with fruit, and thus a succession will be kept up until late in the Autumn. Not a few scattered clusters of berries, but whole stools will present long clusters of fruit that will terminate nearly every branch. Plants will bear fruit the same season they are set out, but not so profusely as after. If the plants are all cut down close to the ground in the Spring, they will produce a larger Fall crop, commencing to ripen the last of August. [The same treatment should be given the Ohio Everbearing and Catawissa.] For market purposes, I would advise this treatment, especially if the peach crop should promise a failure. The berries would then command a high price, and the fruit could be raised in localities where the peach almost universally fails. The plant is as hardy as the common black. I have never yet failed of getting a good crop of berries every season since the variety first fruited. The soil most congenial is a moist loam; but they will do equally well on sand or clay, providing they are mulched in case of severe drouth. The soil of course should be rich, when large crops are expected."

The foregoing sorts are all increased from the tips of the new growth, and never "sucker," and none of them require Winter protection. The following are increased and propagated from "suckers:"

Philadelphia.—This has proved perfectly hardy with us, and on account of its wonderful bearing qualities, every year, should be found in every family and market garden. Our bushes were loaded to the ground the past season, and that, too, after one of the most severe Winters, and in the midst of one of the longest drouths we have had for years. Fruit medium in size, and of good quality.

Clark.—Another highly valuable sort, which has proved perfectly hardy with us. Bush, a strong, rank grower. Fruit, large size, beautiful light scarlet, and of the most delicious flavor. Commences to ripen with the earliest, and keeps in bearing until late in Summer. It will prove one of the most valuable market sorts we know of, not only on account of the above valuable qualities, but for its firmness and great bearing qualities.

Franconia.—One of the old reliable and profitable sorts. Fruit large, glossy scarlet, delicious flavor, and great yielder. Requires protection where the Peach does not stand the Winter.

Kirtland.—A very fine, large red sort. Has proved hardy and very productive. Early, and picked in a few days' time, thereby making it one of the most profitable of the old tried sorts.

Brinkle's Orange.—Very large size, and beautiful deep, rich orange color. One of the most delicious and attractive berries grown, and should be found in every garden, providing plenty of protection is given it in northern latitudes. It will pay to grow a few, and bury them entirely with earth through the Winter.

Naomi.—This is a new sort that produced a great sensation with all who saw it fruiting on our grounds the past season. Fruit very firm; flavor sprightly and most delicious; shape between conical and oblong; color bright scarlet; hardy and yields large crops; canes strong and hardy.

Riley's Early.—This is another new sort, described by its disseminator as follows: "It fruited this season on plants but one year old from root cuttings. It proved to be the earliest red Raspberry known, the plants yielding their first picking several days before Doolittle Black Cap was fit to pick—it being the same day on

which the last of the Wilson Strawberry were being picked. It also had one very excellent market quality, that of solidity; flavor, color and size were good. It is a vigorous grower, though not so vigorous as the Clarke, and stood *unprotected* the past very severe Winter without injury."

Hudson River Antwerp.—But few sorts have stood the test and proved a better or more profitable market sort, in localities that seem to be adapted to it, than this old reliable sort. Many "Red Antwerps" have been sent over the country that were but little, if any, better than the wild red. We obtained our original stock from a reliable party on the Hudson River, and can therefore speak of the true sort. Berry large, conical, dark red, rich and juicy, productive and early; canes strong and hardy, with a few small purple spines.

BLACKBERRIES.

This is another indispensable and very desirable fruit both for the table and marketing. They are as easily grown as corn, and with but little more expense. It is very strange that it is not more extensively grown for market purposes. For the last four or five years they have sold readily in every western city for *eight to ten dollars per bushel*, and as the yield will *average*, every year after they come into full bearing, one hundred bushels per acre, the reader can see what *enormous* profits there is to be made by growing them.

CULTIVATION.

Plant, if ground is plenty and help scarce, six or seven feet apart each way, or if but limited space to spare, two to three feet apart in the row, and rows seven or eight feet apart. When help is plenty, we prefer the last distance, for they sustain each other, and are not broken down by hard winds. Yet to prevent their being thus broken down, when grown in hills, a *thorough* course of pruning and cutting back *must* be followed. *As soon* as the new growth gets *three feet high*, nip off the extremity. This will cause it to thicken up, and throw out side branches and other leaders; and as these get two feet or more in length, nip off the extremities. If this is followed up, the strongest winds will not damage them, while the crop will be equal to the highest expectations—at least double the amount and size of berry that will grow on bushes that have been allowed to take their own course. We have picked from rows of the Lawton, thus trimmed and well cultivated, containing forty plants, eight bushels of fruit, while other rows, that were not as well cultivated and trimmed, yielded from three to four bushels. The Blackberry—as well as other kinds of Small Fruits—delights in oft-repeated cultivation, and a thorough stirring up of the surface.

Allow but three or four stalks to grow in each hill, *hoeing off all the rest as they sprout*, for if too many are allowed to sprout over the ground, they are not only in the way about picking and working among, but detract from the growth of the main stalks. If cut off, the whole strength of the roots go to the main stalks, and they yield *enormous* crops and are easily attended to. *Never plow* among the roots after the second year, and *never dig plants* from a bearing plantation; for, in either case, the roots get torn and mangled, and will send up an innumerable amount of suckers—thereby detracting from the fruit stalks, and soon destroying the plantation for fruiting purposes. Mulch very heavy with any coarse litter, each Fall, and trim out the old stalks. The mulching will not only keep down weeds, but will keep the surface moist, so that the crop will not suffer from drouths. Potatoes, or any planted crop, can be put half way between those planted the first distance, for a year or two. Those grown by the second distance can have one row of Strawberries grown between each row of Blackberries, for two or three years. If they are kept thoroughly clean the first year, and well mulched, they will require but very little work afterwards. To protect them where they Winter-kill, dig out dirt from one side of the root and bend over the bush, and cover a foot or more of the top with dirt.

VARIETIES.

Dorchester High Bush.—Yields fine crops of fruit. Large size; long, glossy black; very sweet and delicious *as soon* as it turns black. Valuable for marketing, on account of being so early and all picked in a few days' time.

New Rochelle, or Lawton.—A well-known popular sort; yields *enormous* crops of the largest size fruit. We have picked from rows containing forty plants five to eight bushels of fruit, or on an average of *two hundred bushels per acre*. It commences to ripen a week later than the above, and keeps in bearing 4 to 6 weeks, and always sells readily at the highest quotations, on account of its very large and fine appearance. For table use it is indispensable on account of its long continued bearing.

Crystal White.—This truly desirable variety originated in Kentucky. It is a beautiful, transparent white; *very* juicy, and has a peculiar and most delicious flavor. The bush is very distinct from any of the black sorts—the stalk being of a pale, yellowish white, and leaf pointed, narrow and small. The gentleman of whom we first obtained our stock, wrote us last Fall that they bore with him equal to any black variety he had, and sold for double the price in market.

Kittatinny.—Large to very large; deep, glossy black; sweet, rich and excellent; plant strong, vigorous and very productive; the fruit begins to ripen before the Lawton, and continues four or five weeks; of recent introduction, but promises to be exceedingly valuable. In many localities where the Lawton has Winter-killed, this variety has not been damaged. Among those who recommend its *hardiness*, we notice our friend John J. Thomas—one of the most reliable judges of fruit throughout the land.

Wilson's Early.—Very large, oblong, black; quite firm, sweet, rich, and good; fruit ripens very early, and crop matures within two weeks, rendering it of the highest value as an early market variety.

Missouri Mammoth.—A new variety, introduced by Thompson & Barter, of Missouri. Claimed to be *enormous* in size and productiveness. Very sweet as soon as black, with no core, and *perfectly hard*—never having been Winter-killed.



CURRANTS.

CULTIVATION.

For garden culture, set plants four feet apart along the fence, and for field culture three by six. Manure ground well, and plow or spade deep before setting. Keep the branches trimmed up and trained out so as to admit the sun, and have plenty of fine mulch scattered over the surface.

NOTE.—Many are deterred from setting this fruit on account of the depredations of the "Currant worm." These, we have found, are very easily destroyed by sprinkling over the bushes while they are wet, and as soon as the worms are first noticed, and once or twice after, a little powdered white hellibore.

VARIETIES.

Red Dutch.—A well-known reliable and productive sort, yielding immense crops of fruit yearly.

Cherry.—A *very large*, glossy red Currant. Fruit of extraordinary size, and bears fine crops.

La Versailles.—A new and very extraordinary large bunched Currant—the bunches measuring three to four inches in length, and fruit of large size.

White Grape.—The finest White Currant grown. Size large, and of a beautiful transparent white. Yields large crops.

GOOSEBERRIES.

This fruit is gaining in popularity and importance every year. It is being largely used in all of our large cities for pies, catsup, jell, canning, &c. They can be shipped in bulk in any shaped box that is convenient, and being so wonderfully productive prove very profitable. We hope this fruit may be improved, so that we may have as hardy and productive sorts, and as free from mildew, as the Houghton Seedling, with the size and flavor of the Smith's White. *Cultivation* same as the Currant.

VARIETIES.

Houghton's Seedling.—A vigorous grower; branches rather slender; very productive; not subject to mildew; fruit of medium size; skin smooth, pale red; flesh tender and very good.

Mountain Seedling.—Fruit larger than the above and fully as productive; otherwise similar.

GRAPES.

Many are deterred from setting this luscious and healthy fruit by reading long, intricate and utterly useless instructions by many amateurs. We affirm that *any* soil that is of a dryish nature, and that will grow good corn or potatoes is *good enough for Grapes*.

INSTRUCTIONS.

We recommend two methods for planting. The first is to set the roots six feet apart each way, setting a stake six feet high by each root. Cut back to two eyes, and as they grow, trim them up to the stakes. If in localities where they are apt to be damaged by Winter, take them down and cover them with dirt or any coarse litter. Late in Spring take them up and cut back to about three feet in height, and tie them up to the stakes. Allow two new vines to grow out near the surface, and in the Fall cut out the old vines and the next Spring train up the new vines to the stake, cutting them back so that they will be just as high as the stake; or the old vine can be trained up for two or three years and new shoots cut off, until they get too large to handle well, when they can be cut off and new vines trained up that have been allowed to grow the previous season. When the yearly renewal system is practiced, it is a good plan to have two stakes, set a foot apart, training the old fruiting vines to one, and the new vines as they grow to the other. This is the simple method we have practiced with good success, getting extraordinary crops yearly. The other method is termed the

TRELLIS SYSTEM.

Plant out the sorts twelve feet each way. Put up good strong posts half way between one way, six feet high, and fasten on three slats. Allow two vines to grow at an angle of about forty-five degrees, fastening them to the trellis with bass bark or coarse twine. The next year allow three side shoots to grow each way from the main vines and tie along the slats or wire, keeping the balance of the shoots that may start trimmed off each Fall; before laying down, cut these side shoots back to within *one* eye of the main vine, and allow the new shoots to grow from these eyes the next Spring, training them and tying them in the same way. This can be followed until the old three main vines get too old and large, when three new vines can be allowed to grow out near the crown to take their place.

Another very good way is to train two canes in Spring each way to the lower rail of a trellis, about one foot from the ground; allow about three or four laterals to grow from each of the two old canes and train them perpendicularly to the upper rails of the trellis. These will be your fruiting canes for the next year, and while they are fruiting, grow canes to replace them from their base, and renew each year by cutting away the upright canes that have fruited.

Strawberries can be grown between, not setting them nearer than three or four feet to the Grapes, and keeping them well supplied with rotted compost.

We do not claim that these are the best or only plans for growing Grapes, but that they are simple and easily carried out, and that by them large crops of fruit can be obtained yearly. Any party wishing for more extensive information as to Grape growing, by sending us \$1.50 we will have them forwarded a copy of one of the best and most practical Grape books printed, with no charge for our trouble, except to enclose two red stamps with the money.

KEEPING GRAPES.

There are many sorts, such as the Diana, Isabella, Clinton, &c., that are easily kept through the Winter. One practice has generally been to take a tea chest, place a layer of Grapes in the bottom, over this spread a newspaper; then another layer of Grapes, and another paper, and so alternate until the box is filled. Then set it away in a cool, airy place, where the mercury will not run below 30° above. We have kept them until February, in this way, by keeping the box in an upper room where a stove pipe passed through, being careful when there was an extreme cold spell to set the boxes near the pipe and cover them with blankets.

Another method we have seen highly recommended is to put the Grapes in a light jar, and sealing them up tight and putting them away in a dry cellar.

Still another method is to take a large box and put in the bottom about six inches of sawdust or tan-bark. Pack the Grapes as described above, in a box one foot less in size. Place this box in the larger one, on to the sawdust or tan-bark, and around the sides and over the top pack in with the same material. Set this box away in the loft of the barn, and when extreme cold weather sets in cover it over well with hay. Grapes have been kept in this way and taken out in April as fresh and plump as when packed away.

OVERCROPPING.

A very common fault with many is to allow their vines to overbear—especially when young. We always regard statements of large yields from single vines in the same light that we do large crops of Raspberries on young 1 year old plantations, as poor management and culture, to bring weakness to the vine, and ultimately result in half ripened fruit, mildew, or rot in fruit or leaf. All experienced Grape growers admit that plantations receive more damage from this too common practice than from all others combined. We believe the same laws that govern life and health in the human family, as to over-exhaustion of the system, especially when young, bringing about disease and weakness, are equally applicable to the vegetable family. We therefore claim that all persons who are desirous of receiving the most and longest benefit from their Grape vines, must give this matter the proper attention. He must go over his vineyard and examine the strength of each vine, allowing them to bear in proportion as their strength will permit. When in blossom, thin out all overloaded vines. Do not allow them to bear the first year after setting over 3 to 8 or 10 bunches, owing to variety and strength of vine, and after they get fully grown not over 10 to 15 lbs., when the stake system is practiced, or 20 to 30 lbs. to the vine on trellises.

We will close this subject by inserting the following extracts, all of which have some valuable suggestions:

TRAINING THE GRAPE.

[From the Country Gentleman.]

We have had occasion formerly to speak of the excellent vineyard management of J. W. Clark, of Naples, near the head of Canandaigua Lake. He carefully avoids the common error of overcropping, and always regards statements of large products as a sure indication of bad management and poor fruit. By planting his vines more remotely, and keeping the crop well thinned, he obtains fruit of such superior quality that the high price and certainty of market more than overbalance the large yield commonly obtained, although double the amount by weight. At the same time he does not exhaust his vines, and being more remote they are less affected with mildew. The American Farmer, (Rochester,) in a recent account of this vineyard, states that the vines are set fifteen feet apart each way, and are trained on trellis made by setting posts 7½ feet apart, using rods or slats 2 by 1½ inches and 15 feet long, the lower one being placed 18 inches from the ground, the upper 6 feet,

with three at regular intervals between. The trellis runs north and south. The trimming is done in March—no Summer pruning after the middle of June. Very little fruit is allowed to grow above the third slat, an abundance of room being given above the fruit for vine and foliage. Over 25 lbs. of Grapes are not allowed to grow on each vine—20 lbs. is regarded enough. A Grape house is placed in the centre of the vineyard.

On 6 sides of this octagonal house, slats are placed one above another, and the picking trays or boxes shoved in on these slats like drawers, until they are packed, so as to have as little handling as possible. The placing of these trays is begun at the bottom and extends upwards as the picking season progresses. There is room for 12,000 lbs. placed in this way. Adjoining this storing house is a packing room, where from 4 to 8 women are employed in putting up boxes for market, commencing generally about the 20th of September and continuing into December. The prices obtained last year, through the whole season, after paying express charges, commission, &c., netted 14 cents per pound delivered at the nearest railway station. A part of the crop was sold in the eastern cities at 20, 25 and 31 cents per pound.

GRAPES ABOUT ROCKS.

The past season was a very peculiar one—wet and cold; and the Grapes in many localities in the East failed to ripen. While this was generally true, it was rather refreshing to observe at one of our horticultural exhibitions, splendid specimens of a well-known variety, apparently fully ripe, which we found on inquiry had been grown near a ledge of rocks. Some years ago, we visited a place where we observed similar results from a similar cause. The whole secret of the thing is that the rocks absorb the heat of the sun by day, and give it off at night; keeping the roots of the vine warm, and the temperature about it more fully equalized.

Our attention was once attracted to this same subject by observing that the melon vines in a hill around which some stones had been placed were much larger at the end of a few weeks than those in the hills that had not been so treated. The same principle is observed in cities, where Grape vines are trained in front of brick walls, which absorb the heat by day, and reflect it when most needed by the vine. We propose to test more fully the value of such treatment for the vine, by placing stones about the roots of several bearing vines, in different parts of the vineyard where they failed this year to ripen a single Grape.—*American Journal of Horticulture.*

GRAPES IN CITY YARDS.

Under this head, Dr. Charles W. Ridgely writes to *The Horticulturist*, to say that he has twenty-five specimens of the most approved varieties of hardy Grape-vines growing in his door yard, which consists of only thirty feet by twenty of clear space. He says that in this small patch of ground, after making due concessions to domestic claims, he laid out a Grape border forty-five feet long by three feet wide, and another twelve by five. He took up the stiff soil to a depth of two feet and mixed with it liberal proportions of old field-sods, street-scrappings, plaster, coal ashes, sand, etc. He then procured the choicest vines and planted them in four courses on the trellis, one above another, setting up stout posts to support the four horizontal bars, the first placed one foot from the ground, and the other above it at intervals of two feet.

Each vine has a space on the trellis nearly ten feet long and two feet in height. By careful pruning and pinching, a vine can easily be confined to this space. Should a long jointed Isabella or Herbemont aspire to reach its neighbor on the next higher course, it may be passed *behind* the bar occupied by the other, and suffered to spread itself a little. The arms may be lengthened by two or three buds each season, but this must be done cautiously lest the older spurs should suffer.

VARIETIES.

Adirondac.—Black; bunches uniform and large; berries large size, very sweet and tender; ripens about the same time as the Hartford Prolific.

Clinton.—Bunches small and very compact; berries small, sprightly; keeps well; one of the most free, rapid growers and profuse bearers; ripens earlier than the Isabella.

Concord.—Taking all things into consideration, this is our favorite Grape. It yields *enormous* crops on any soil—even with neglect—of large, glossy, dark purplish or blue fruit. Flavor, when *fully ripe*, we pronounce *delicious*—as good as the famous Delaware in *this* latitude. Bunches extremely large, and mostly shouldered, and very compact; thin skin, and flesh very tender and buttery; vine very hardy and vigorous. Ripens in this section from the first to the tenth of September.

Catawba.—One of the best native Grapes, where the season is long enough for it to ripen perfectly. Bunches medium size and quite regularly formed, with a few shoulders; fruit round, with a reddish or coppery color when ripe; flesh pulpy, with a very sweet, musky flavor.

Creveling.—Another season's trial has satisfied us that this is one of the best and most delicious *early* sorts grown. Bunches about the same size of Hartford Prolific, but growing with us more compact; black, with a bluish bloom; pulp light red, tender, sprightly and rich. It is claimed by some that it should be grown near the Concord, Hartford or Isabella, as the flowers are not perfect.

Delaware.—This fruit has fully maintained its high reputation as one of the finest of our native Grapes. The vine is comparatively slender, but grows freely. It proves quite hardy in this climate, and ripens two or three weeks before the Isabella. Bunch small and compact; berries small, light red, with a violet bloom,—beautiful. Sweet, sugary and vinous, with a musky aroma; equal to the finest foreign varieties. It justly claims the best place in every garden.

Diana.—A very delicious and fine light colored late Grape. Its great value is its long keeping qualities. We have seen it in April as fresh and fine as when picked from the vine. Bunches medium and very compact, flavor of a honey sweetness, and color about the same as the Catawba.

Hartford Prolific.—A very valuable Grape, on account of its extreme earliness. Fruit similar to the Isabella, but ripens two to three weeks earlier. Vine hardy and productive.

Iona.—A seedling of the Catawba. It is a red Grape; skin thin; pulp tender and exceedingly rich, with a peculiar delicious aroma; berry good size and very uniform; bunch large and beautiful, with one, and very often two shoulders. Early and very desirable.

Israella.—Described by Chas. Downing as follows: "Ripens as early as the Hartford Prolific, (one of the earliest of American Grapes,) or before it; beginning to color about one week earlier; but also superior in flavor, with handsomer and more compact bunch, adhering well, and keeping a long time after ripening; it will be more valuable, and, from my present experience, I think it will prove the *best* early variety for this purpose I have yet seen." Again: "Both Iona and Israella have so far proved hardy, vigorous, and the foliage has been less injured by mildew than Delaware and most other sorts."

Ives' Seedling.—Regarded as the best wine Grape; hardy and productive; about same season as Isabella.

Isabella.—Bunches long, large, loose; berries large, oval, juicy, sweet and musky. A vigorous grower, hardy and immense bearer; one of the most popular of all our native varieties.

Norton's Virginia.—Bunches long, rather loose; berries small, no pulp vinous; esteemed one of the best wine Grapes in Missouri; ripens well in this latitude; vigorous and productive.

Northern Muscadine.—An early, sweet fox Grape; very productive; must be gathered before too ripe, or it drops.

Martha.—A newly disseminated "white" Grape, claimed to be "as healthy, vigorous and hardy as the Concord, and to grow in any locality where that popular sort succeeds. In quality it is claimed to be very sweet, with enough vinous acid to make it sprightly and delightful. It has a little of the 'native aroma,' scarcely perceptible to the taste; very little pulp, which is tender and melting, and no unpleasant acidity next the seed. The skin is thin, but tenacious; in this respect like the Delaware. In color from a pale, yellowish green, with thin white bloom, when grown in the shade, to a delicate sulphur yellow with amber tint, when exposed to

the sun. Neither vine nor fruit have ever shown any indication of mildew or rot. It ripens a week to ten days *earlier* than the Concord."

Salem, (Rogers' No. 53.)—The only one of Rogers' Hybrids yet named; now announced as one of the most valuable of all; described as "bunch large and compact; of a light chestnut color; as early as Delaware or Hartford."

Rogers' No. 4—A magnificent black and large bunched Grape, claimed to be equal to the Concord in every respect, and better in some. Among the best of these Hybrids we name Nos. 1, 3, 4, 9, 15, 19, 22, 30, 33, 34 and 43, and were we to select 6 of them, should take Nos. 1, 4, 9, 15, 19 and 43.

Union Village, (Ontario.)—A very large, coarse, foxy flavored Grape. Succeeds in but few favorable localities. Generally condemned.

CRANBERRY CULTIVATION.

[COPIED.]

"Cranberries, to produce best returns, need a suitable soil; neither too wet nor too dry. A moist soil, of alluvial formation, is the only one in which they will succeed and continue productive with any degree of certainty; but to a certain extent they may be grown on upland, when suitably prepared and cultivated.

"I will first briefly notice Cranberry culture on the 'bog' lands. If the land be wet, drainage must be provided as the first thing; ditches of sufficient number, depth and width, must be made to thoroughly drain every part. The land then will need to be thoroughly grubbed, and if a tough sod, or peaty surface, be skinned, and the sods burned and the ashes scattered, the surface made level and even, and cleared of everything that will interfere with the growth of the vine. Then cart on and spread clean sand to the depth of three or four inches, when the ground is ready for the vines. Land which is more firm is easier of preparation; less ditching will be necessary. grubbing, skinning and sanding perhaps less; it can usually be plowed, and may turn up sufficient sand, the weeding will usually be less. After plowing thoroughly, harrowing and raking off the roots, &c., the ground is usually considered ready for the vines, which are set in stools from one to three feet apart. But a better way is to plow and harrow several times the first season, giving time between each to let seeds of weeds, &c., germinate. The following Spring, as soon as the weather will admit, make the ground mellow and level, and if necessary sand it two to four inches deep; lay off the rows two and a half or three feet each way, and set the plants at the crossings, the vines soon cover the ground, and previously there is space for ample clean cultivation. All weeds and grass must be kept out till the vines take exclusive possession. In Cranberry culture it is best to 'make haste slowly' at the commencement, if we desire the most speedy and greatest pecuniary results.

"Spring planting is preferable to any other season; any time in Spring up to the last of May. For upland culture the ground should be well pulverized and made clean of weeds and seed, and then covered with two or three inches of muck, which has been exposed during Winter, or with fine white sand. The plants are then set in rows, two feet apart and eighteen inches in the rows; set them three or four inches deep. Cultivate till the vines spread and get in the way of cultivation. The worm and untimely frosts are the great difficulties to be encountered in growing Cranberries, and the only successful remedy is by having the Cranberry patch so arranged that it can be flowed with water in a few hours' notice. Cranberries should be picked by hand, spread in hurdles made of lath, left open for the air to pass through, not over five inches thick. Place these hurdles in a room where the air circulates freely, for three or four weeks; they are then taken from the hurdles, winnowed and hand-picked, throwing out unsound berries, and packed in clean, dry barrels.

"The 'Bell Cranberry,' so called from its resemblance in shape to a bell, is of good size, and almost as dark as blood coral; and in some sections grows to great perfection. The 'Cherry Cranberry,' so called from its resemblance in size, shape and color to the cherry, is of two varieties, large and small. It is hard and very

dark, or blackish crimson when properly cultivated. There are a number of other species and sub-varieties, both wild and cultivated, but not as valuable as the above for either market or domestic use."

CULTIVATION OF THE SWEET POTATO.

This subject may not seem an appropriate one for this work, but as we have so many enquiries as to growing them, we have concluded to insert simple instructions for growing these and Asparagus.

Choose a location where the soil is of a light sandy or loamy nature—no matter how poor. Plow and harrow well: then plow furrows three and a half feet apart; scatter in the bottom of the furrows a good supply of partly rotted manure—say at the rate of ten or twelve loads to the acre; throw together two furrows over the manure, so as to leave the ridges broad on the top; allow them to stand a few days to settle before the plants are set. If the ground is very dry when the plants are received, set them as follows, and not five per cent. will fail to grow. Have another person carry a pail of water and a small cup; take the plant in the left hand and thrust the right hand into the top of the ridge, drawing it back towards you, drop the root in back of the hand; at the same time have part of a gill of water poured in with the root, and press the dirt back quickly.

If the ground is not very dry when they are set, they can be put in a pail of water and taken from the pail as they are set. Set them one foot to eighteen inches apart in the row. If there is a prospect of a frost after they are set, pass along with a hoe and throw a little dirt over the plant, or a piece of newspaper, taking it off next morning. Keep clean, and as they commence to run, pass through them occasionally with the cultivator. After they have run so as to fill up between the rows, pass through every other row with a fork, throwing all the vines into every alternate row, and pass after with the cultivator. Then throw the vines out of the rows they are in into the rows which have been cultivated, and pass with the cultivator. This should be done occasionally, to prevent the vines from rotting at the joints, which, if allowed to do, detracts from the growth of the potato.

ASPARAGUS.

No family should go without this early Spring luxury. It is prepared for the table the same as green peas, which is very similar to many preferring it.

All that is necessary is to dig a trench one foot deep and wide; place the roots in the bottom, six inches apart; fill up partly with well rotted manure; dig another trench one foot from the first, throwing the dirt out of it into the one that the roots are in; plant this in the same way, and thus keep on until all are set. Keep the bed well manured, which is best done by covering it with coarse manure every Fall and raking it off in the Spring. Old brine or salt is very beneficial to the bed.

When gathering the Asparagus, cut it just below the surface. A bed should be transplanted one year before cutting to use.

MARKETING FRUITS.

"A little practice is the best teacher." It is almost impossible to give minute instructions on this subject. A visit to the market and dealer you intend to ship to will give you a better insight into the details of shipping, selling, &c., than can be learned from all the books in the land. The question of supply and demand must be looked into. If the home market is small and your plantation large, you must acquaint yourself with a large market to ship to. If the large market is likely to be fully supplied with a large quantity of inferior, "last run" fruit from a point further South, endeavor to make arrangements to ship your fruit to a market further North.

It takes but a small town to use the fruit from 3 to 5 acres, especially if an *assortment* that will keep up a perfect succession is judiciously planted.

Our immense country, dotted so thickly with towns and cities, and these linked together with such a vast net-work of railroads and water communication, with the rapidly increasing population, must keep up an increasing and unlimited demand for Small Fruits. Take, for instance, the great city of New York and its suburbs, with its fifteen hundred thousand consumers, and allow but one quart per day to ten persons, and the consumption amounts to *five thousand bushels per day*; add to this the immense amount that is re-shipped to inland towns, with the enormous quantities that are used in Baltimore, Philadelphia, Boston, &c., and some idea can be formed of the amount used, and what becomes of the crop raised throughout the country. The same is true of Cincinnati, St. Louis, Cleveland, Toledo, Detroit, Chicago, Milwaukee, &c. They all receive their supply from the extreme South first, and then from points further North, and last from extreme Northern localities. As an illustration, we have known of fruit stands in Chicago being supplied daily with Strawberries for twelve weeks.

If these markets get over-stocked at any time, the wide-awake commission merchant (if he understands his business and has had sufficient experience) will have acquaintances in either Northern or Southern towns, where the season for that fruit is past or not commenced, that he can ship his surplus to, or he will notify his consignors of the market, so that they can change the course of their shipments. It is most generally, however, the best course to ship right along to the same market, as these "gluts" do not last but a day or so, as many who are shipping from long distances, or sending in an inferior class of fruit that hardly pay for shipping and selling expenses, but which have a tendency to run down prices, even on good fruit, stop their shipments and dispose of their fruit nearer home, the result being that the price goes up again. We remember one season we were shipping from South Bend to Chicago, from 150 to 200 bushels per day, and getting good paying prices. All at once the price dropped down extremely low, and telegrams came to us thick and fast to stop shipping, as the market was glutted, and berries were being thrown into the river. A letter received at the same time from our commission merchants, informed us that heavy consignments were being received from Pittsburgh, Cleveland, and other points. We at once saw what it all meant. These distant parties had heard of the high prices that were ruling in Chicago, and had changed the course of the bulk of their shipments to that point. We consulted with our neighboring growers, and notwithstanding we could have turned the course of our shipments to other points for a day or two, and realized fair prices, we concluded our best course was to ship to Chicago *all the berries we could for a day or two*. The result was, the market was over-run, and those berries from long distances hardly sold for enough to pay express charges; while ours, going in fresh, sold for just about enough to pay all expenses. The result was, berries stopped coming from these distant points, and prices advanced again to good paying rates for the rest of the season. Now, what is the lesson to be derived from this one circumstance? Simply this: Had these parties commenced light shipments for a day or two in advance, and notified the commission houses in Chicago what they might expect from them, it would have given them an opportunity to inform parties in smaller towns what they could expect from them, and thus by due notice and preparation, the bulk of the shipments could have been re-shipped to other points, and the market rates but little, if any, changed; and again, had we stopped our regular daily shipments to our regular consignors, it might have thrown them out of their regular supply, and those who depended on them for their retail supply would have looked elsewhere, and perhaps changed their place of buying. We formerly shipped in what is termed the Cincinnati case, made up of 3 to 6 drawers, and fully described elsewhere in this work. These were shipped to Chicago, Toledo, Detroit and Milwaukee, from 80 to 150 miles, and sold out and cases returned. For near markets we used the small square quart box, made by ourselves, and also described herein. These cases and boxes, however, have "seen their day," and have been supplanted by the later improvements in quart and pint boxes; the *best* kinds, in our estimation, being described and priced in the latter part of this work. They are light and durable, and so cheap that if lost they can be replaced with but little expense. For near markets, strong slat cases can be made to hold 30, 45 or 60 baskets. For distant markets, where the Express Co. charge for returning the

empty cases, they can be shipped in a cheap slat case, to hold 45 to 60 quarts, that will not cost over 20 to 30 cents. These need not be returned, except what is necessary to hold the baskets when "nested" together, and if the grower has a good supply of boxes, and is in no hurry to have the empty boxes returned, he can order them returned as freight, if the Express Co. charge too much for returning them.

These boxes are a great improvement on the old style of cases for two or three reasons. 1st. Fruit carries better in them, not getting so bruised and mashed. 2d. Air has free passage among them, so that they can be shipped 500 to 1,000 miles without spoiling. 3d. It appears to so much better advantage on the fruit stands in these neat, clean looking baskets and boxes, that many are induced to buy who would not if they were in rusty, dirty looking drawers and boxes.

And, too, these boxes and baskets can be used a number of times by having them nested together and returned as described, all the expense being the loss of the cheap case they are shipped in. The further the fruit is to be shipped, the more baskets will be required to market the crop, as it takes longer to go and come. It is best to always be supplied with plenty of boxes, for if they are not all used they will come right the next season. An acre of Strawberries that is in good condition will require at least 1,000 quart boxes, where the fruit is to be sold near by, but if it is to be shipped 100 to 200 miles away, at least 2,000 should be procured for each acre. Keep the fruit picked over every day, if possible, so that it will not get over-ripe. Still, we have made it a practice in our large plantation to pick half of the plantation each day.

It is the practice with many to have two sets of boxes, in every picking case, putting the largest and finest fruit in one, and the smaller and poorer in the other. The smallest fruit will sell for enough to pay the expenses of the plantation, while the larger, if sent to some of the larger cities, where they appreciate first-class fruit, and are willing to pay accordingly, will sell for as much or more than *all* the fruit, large and small, superior and inferior, picked and marketed all together.

If possible, notify your agent a day in advance of the amount he may expect from you, and if a storm should come up that will prevent your picking, telegraph him, so that he will not engage berries on the strength of your notice the day previous.

Keep up a regular rotation of as many kinds of fruit as you can throughout the entire season, if you desire to keep up a good reputation with your commission merchant, for they will take pains to do the best by those who supply them the most regular for the longest time. Ship clean, evenly-ripened fruit, in clean, neat looking baskets or boxes, with your name on each box and case, and no trouble need be apprehended but what your fruit will sell for *paying* prices, even if the market is largely supplied.

Send each day by mail invoice of shipment, and require prompt returns and reports from the consignors.

Do not pick the fruit when wet by dew or rain, unless it is positively necessary, from frequent showers, to prevent too many ripening up. Take from the field to market or cars in a spring wagon, and have them handled carefully and kept "right side up."

GATHERING THE FRUIT.

We usually employ women, and large boys and girls—the former, however, preferred. Each takes a row, and picks it clean before being allowed to take another. One good quick person takes charge of them, keeping each on their row, and passing occasionally behind them to see if they are picking them clean and properly. One person takes charge of the boxes as they are brought in, watching to see if stems, green fruit and leaves are among the berries, and if so, the picker is paid less for picking that case. Another person has an alphabetic tally-book, with the names of all pickers alphabetically arranged, and as each picker comes in, their name is called out by the receiver and repeated by the book-keeper, so that there will be no mistake made. Another method is to have tickets to hand out to the pickers each time they bring in a case of berries, these tickets being presented on pay day. We usually pay from one to two cents per quart for picking, owing of course to the picking.

The fruit should be kept in the shade after being picked. For this purpose we have cheap sheds in different parts of the plantation. These can be made so as to be moved from one place to another, if desired.

Rules for Number of Plants Required on an Acre.

Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and their product will be the number of square feet for each plant or hill; which, divided into the number of feet in an acre, (43,500,) will give the number of Plants or Trees to the acre. For instance:

Strawberries,	-	-	-	-	1 foot by 3=3	43,590	(14,530.
Raspberries,	-	-	-	-	6 feet by 6=36	43,590	(1,210.
Dwarf Pears,	-	-	-	-	12 " 12=144	43,590	(302.

FRUIT BOXES.

For making a cheap and strong quart box, and those which can be packed in the smallest and most convenient compass, have plank got out precisely $3\frac{1}{4}$ inches thick. Have these worked up with a fine buzz saw into end pieces $4\frac{3}{4}$ inches long, $3\frac{1}{4}$ inches wide, and one-quarter inch thick, and sides 5 inches long, $3\frac{1}{2}$ inches wide, and one-eighth inch thick, and bottoms $4\frac{3}{4}$ inches long and same width and thickness. Use two of these slats for bottom, having them nailed *inside* one-fourth inch from the bottom of sides and ends, so that one box can set above another in the packing case without bruising the fruit on top of the box under. When nailed together they make a strong, dry measure quart box, just five inches square and three inches deep inside. Another plan, by which the fruit gets more air, is to nail on the sides three slats, the same length and thickness, and five-eighths inches wide, which, by nailing the lower one three-eighths inches from the bottom, leaves three cracks, three-eighths inches wide. For nailing together, use brads five eighths or three-quarters inches long.

PACKING CASES.

For packing the above quart boxes in to ship, get out end pieces three quarters an inch thick, with a cleat one-half inch thick and two inches wide, nailed on the outside even with the ends to prevent the end piece from splitting. Have these end pieces $20\frac{1}{2}$ inches long and 7 inches wide (which makes the height and width of box inside sufficient to hold two tiers of boxes and four boxes wide). Get out slats for nailing on the bottom and sides, $32\frac{1}{2}$ inches long, 3 inches wide and $\frac{1}{2}$ inch thick. Nail two of these on for sides, having the bottom one come *even* with the bottom of end piece, and the top one come within $\frac{1}{4}$ inch of the top of end piece, the $\frac{1}{2}$ inch space being left for air to pass under the cover. Nailed on thus it leaves a crack between them of $\frac{3}{4}$ inch in width. Nail two of the bottom slats on so that they will come *even* with the *outside* of the lower side slat, fastening them with two or three small nails to these lower side slats—thus adding great strength to the case. Between those on the bottom nail three slats, such a distance a part that the outer edge of the quart box will come to center of the slats—thus leaving cracks directly under the boxes. Nail a cleat, 2 inches wide, $\frac{1}{2}$ inch thick and 21 inches long, over ends of bottom slats; make a cover of half inch stuff, nailed together at the ends with same cleats. The quart boxes described above can be heaped a little to allow for settling, and as the bottoms are raised they can be set on top of each other without jamming the fruit, and therefore require no partition between. This same style of case answers for the American Basket, Beecher Basket, &c., only that it will have to be made a different size to correspond with the size of these baskets, and so a partition will be required for each tier of baskets to set on.

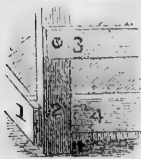
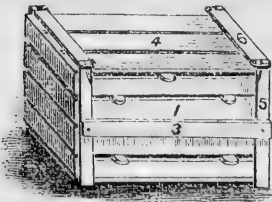
These partitions are made as follows: Take 5 strips, $\frac{1}{2}$ inch square, and length of crate inside; place them the width of a basket apart or so, that they will come over the sides of the baskets; across these nail slats, 2 inches wide, $\frac{1}{4}$ inch thick and as long as the crate is wide inside. Have these slats placed so that the edges of the tier of boxes above will set on them. When the first tier of baskets or boxes are placed in the crate, put in this partition, and it will be seen that these half inch square straps will come down on the edges of every basket, thus holding them firm and in their place. If it is desired to have more than two tier of boxes, more partitions can be made and set in in the same way. The crate should be made such a depth that when the top is on it will be a half inch above tops of last baskets. Under the cover nail three of the half inch square slats so as to come over edge of baskets. This holds all inside firm, and by the partitions and cover being raised $\frac{1}{2}$ inch it allows for heaping the baskets some without danger of mashing fruit. The ends of crates should be got out of thoroughly seasoned lumber, so that no shrinkage will occur in height of box. No harm is done if the slats do shrink—consequently they can be got out of green stuff if it is more convenient.

PICKING STANDS.

For gathering fruit to empty into the Cincinnati Cases as described on third page of cover, we have used a box three inches high and nine by ten inches square *inside*, which holds four quarts, dry measure. A leg eight inches long is nailed to each corner, and a hoop bent over the top and nailed to two sides for a handle. Four of these stands are emptied into each drawer as they are brought in, or, if the quart boxes or baskets are used to ship in, make the picking stand a little larger, so that four of the boxes will fit in, and as fast as filled, take them out and put others in to fill.

QUART BASKETS.

We have almost constant enquiries as to what box or basket we can recommend for shipping fruit. To save the great tax upon our time that is required to answer such enquiries, we have admitted advertisements herein of what are now conceded to be the best and most perfect. Our estimate of them is so high that we shall use them altogether hereafter.



In some of the Western markets the quart boxes are not used for marketing, but cases or stands made up of four drawers—each drawer holding sixteen quarts. The drawers are three inches deep, sixteen inches wide, and twenty-four inches long, *inside*, which, after allowing some for shrinkage, holds just one-half bushel, dry measure. The sides and ends are one-half inch, and bottoms one-quarter inch thick, except lower drawer, which is one-half inch. The end pieces pass by the sides one-half inch. The posts one inch by two and one-half inches, are nailed strongly on to each corner of the lower drawer, so that the other three drawers slip inside of the posts. The posts are then cut off just even with the top of the cover. The cover is made of half-inch stuff, fastened together by two pieces, one inch by two and one-half inches. These pieces fit over the top of the posts, coming just to the outside, and are fastened down on one side with light hinges, and on the other by light pieces of hoop-iron six inches long, which are nailed on top of the top pieces and bent over and fastened to the posts with screws. The engravings herewith will show at a glance how they are made.

THE
SMALL FRUIT RECORDER,
A MONTHLY.

Devoted to the Interest of Small Fruits—Their Cultivation
 and Care in the Family Garden or Market Field.

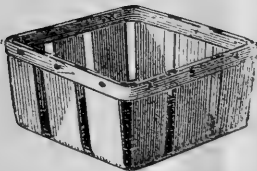
PUBLISHED BY PURDY & JOHNSTON,
 PALMYRA, N. Y.

**First Number Issued the First of April,
 1869.**

Terms, 50 Cents for Balance of Year. Twelve Copies for \$5.00.

THE ONLY PAPER IN THE UNITED STATES DEVOTED TO THE
 CULTURE OF SMALL FRUIT.

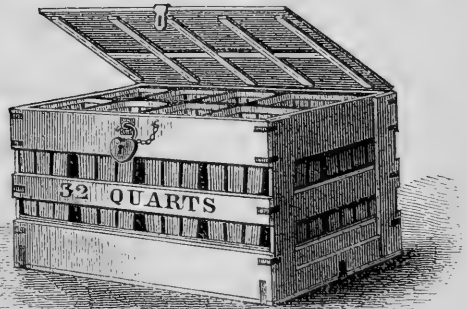
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The Baskets and Crates of the AMERICAN BASKET Co. have taken the First Premium wherever exhibited. At the New England, New York, Ohio, Illinois, Indiana, Wisconsin, Kentucky, and various other fairs, and are the admiration of all who have seen them.

The Baskets are neat and durable, convenient for picking the fruit, or for packing in Crates, and occupy fully one-fourth less space than round boxes or baskets. The Crates are made of strong white wood, put together with annealed and clinched nails, and corner irons, and are so arranged that the berries cannot be misplaced or stolen.

Grape and Packing Boxes made to order, of any size or form, from two to ten inches square, and sent to any distance in pieces ready to be put together; the Packing Boxes are as light as paper, much stronger, and equally as cheap.



TESTIMONIALS.

The Baskets are neatly and durably constructed, and are admirably suited for marketing Strawberries, Raspberries and Currants. Fruit carries safely in them for a long distance. They are at the same time, a very cheap basket. J. KNOX, Pittsburgh, Pa.

Your Baskets and Crates have given universal satisfaction, not only to me, the Producer, but also to the Consumer, the Retail Dealer, the Express Agents—in fact, all concerned. My berries sold for 2½ cts. per quart more than any other in market. E. WILCOX & SON, Trempealeau, Wis.

A friend of mine says that he obtained seven cents per quart more for his berries put up in your Baskets than for those sent in other styles. Pretty good price, just for the looks of a basket. ANDREW S. FULLER, Woodside Nursery, Ridgewood, N. J.

Address, AMERICAN BASKET COMPANY, New Britain, Conn., } Manufacturers.
 And NEWFANE BOX & BASKET CO., Newfane, Niagara Co., N. Y., }

ILLUSTRATED CIRCULARS FREE.

South Bend Nursery and Small Fruit Farm.

Eighty acres compactly planted. Situated close to and within the city limits, on La Porte and Washington Streets.

Having purchased the grounds and stock formerly owned by Mr. JOHNSTON, and known as "JOHNSTON'S NURSERIES," with his "good will," we are now prepared with this increase to our stock and grounds, to fill all orders that we may be favored with in the best manner, and with promptness and dispatch, guaranteeing the most perfect satisfaction to all.

We make SMALL FRUITS our specialty, and as we give our personal attention to the planting and fruiting of all, we will guarantee every sort we send out *true to name*. We have, perhaps, cultivated as many varieties of Small Fruits as any grower in the country, and have been to a great expense in so doing, and have discarded those sorts which have proved worthless and retained those only which have some valuable peculiarities. As to the new sorts that are being yearly introduced, we shall always endeavor to obtain such from *reliable* parties, regardless of expense, and have the same for sale as soon as any other dealer.

We have in our possession letters from customers in *every* state of the Union, speaking in the most flattering terms of our plants and perfect system of packing. Out of over fifteen hundred orders filled last Spring and Fall, we have received but very few complaints, and have endeavored to give satisfaction to these when it was shown that *we* were to blame.

Price Lists, Retail or Wholesale, sent on receipt of stamp.

Address, **PURDY & HANCE, South Bend, Ind.**

BEECHER'S VENEER FRUIT BASKET.

Patented May 31st, 1864.

This Basket, in the past two or three years, has earned for itself a reputation as a reliable and substantial contrivance for transporting and marketing all kinds of small fruit, beyond that of any other box or basket yet brought to notice.

The facilities for ventilation offered by it are PERFECT, and being so, makes this basket of more real utility for the preservation of the fruit than is generally supposed by fruit growers. The accompanying cut shows the form and construction of this basket, which will be seen is such as to give both strength and lightness, while combining utility with beauty.

At the Horticultural Exhibition of the American Institute, held at Cooper Union last June, a prize was offered for the best berry box or basket, price and durability considered. This premium was awarded to



BEECHER'S VENEER FRUIT BASKET.

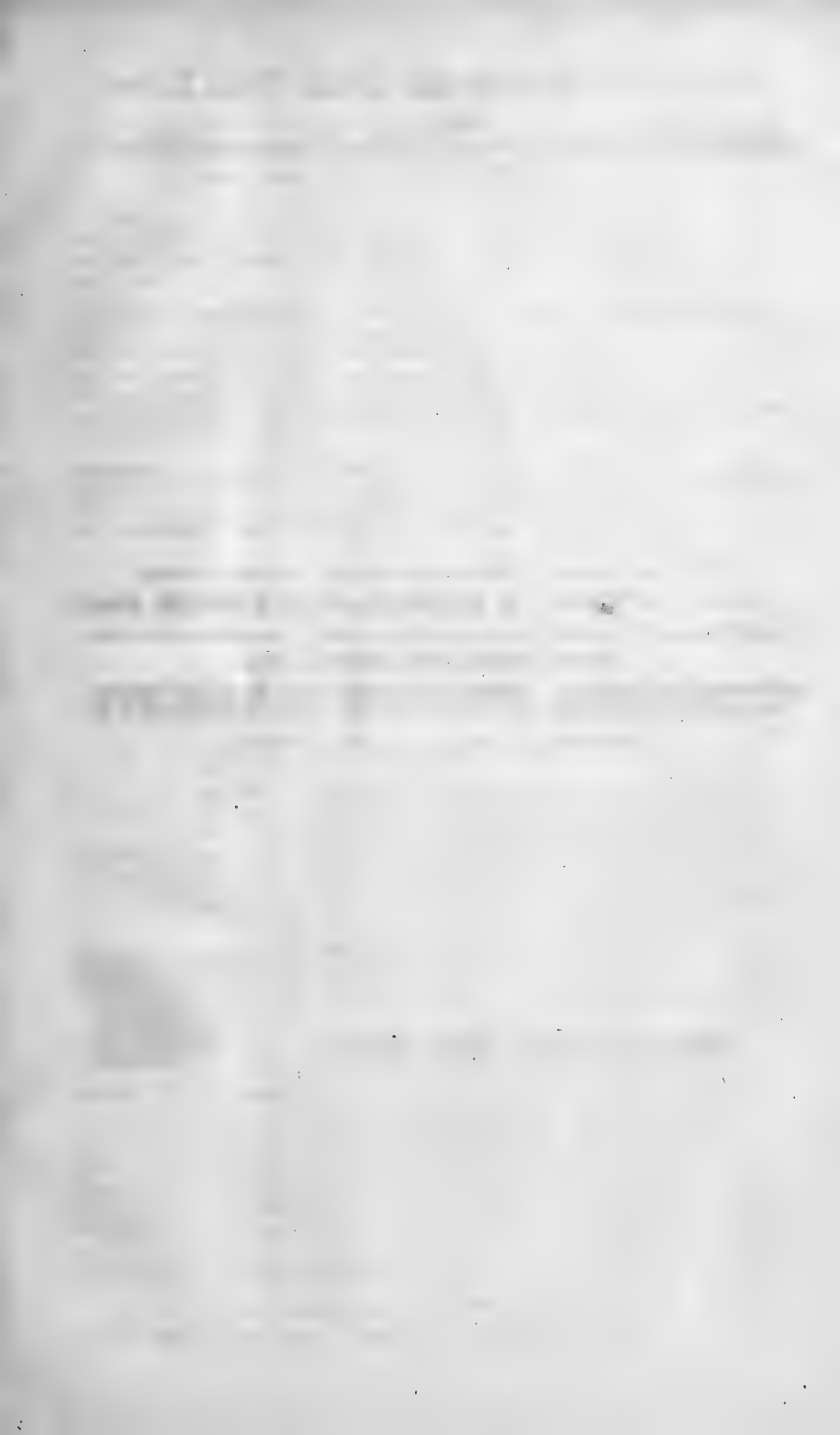
The testimony thus given is fully sustained by the commission dealers in our city markets, and by all who handle fruit packed in these baskets.

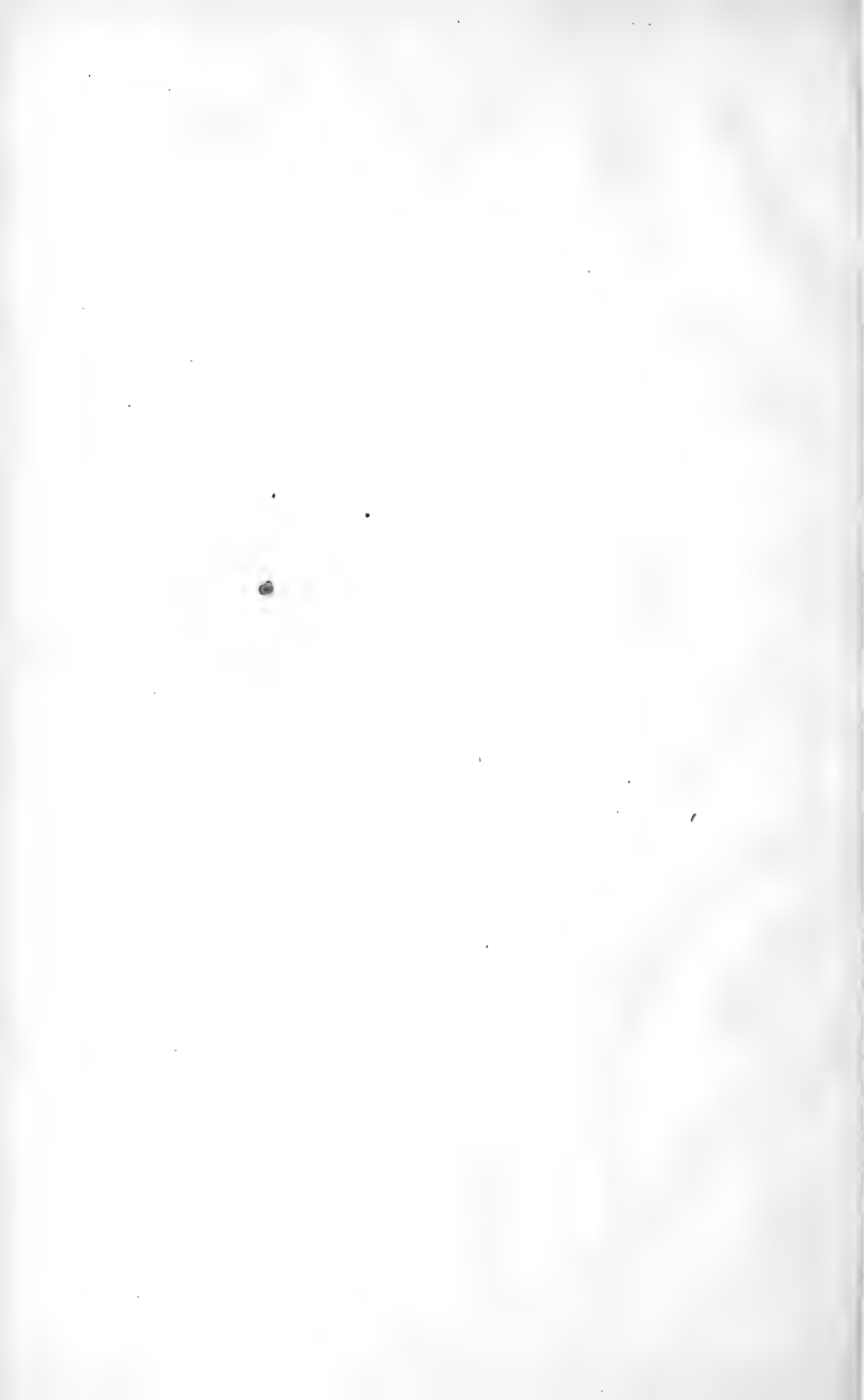
To those fruit raisers who have tried our baskets, we have nothing to say, except to thank them for their good opinion, as expressed to us in their various written communications; but of that other class who have not used them, we ask an early trial, and warrant them a satisfaction in it. We furnish crates for these baskets when needed, and of sizes as requested. We have local agents in nearly all cities and towns throughout the country, who will supply these baskets at manufacturers' rates.

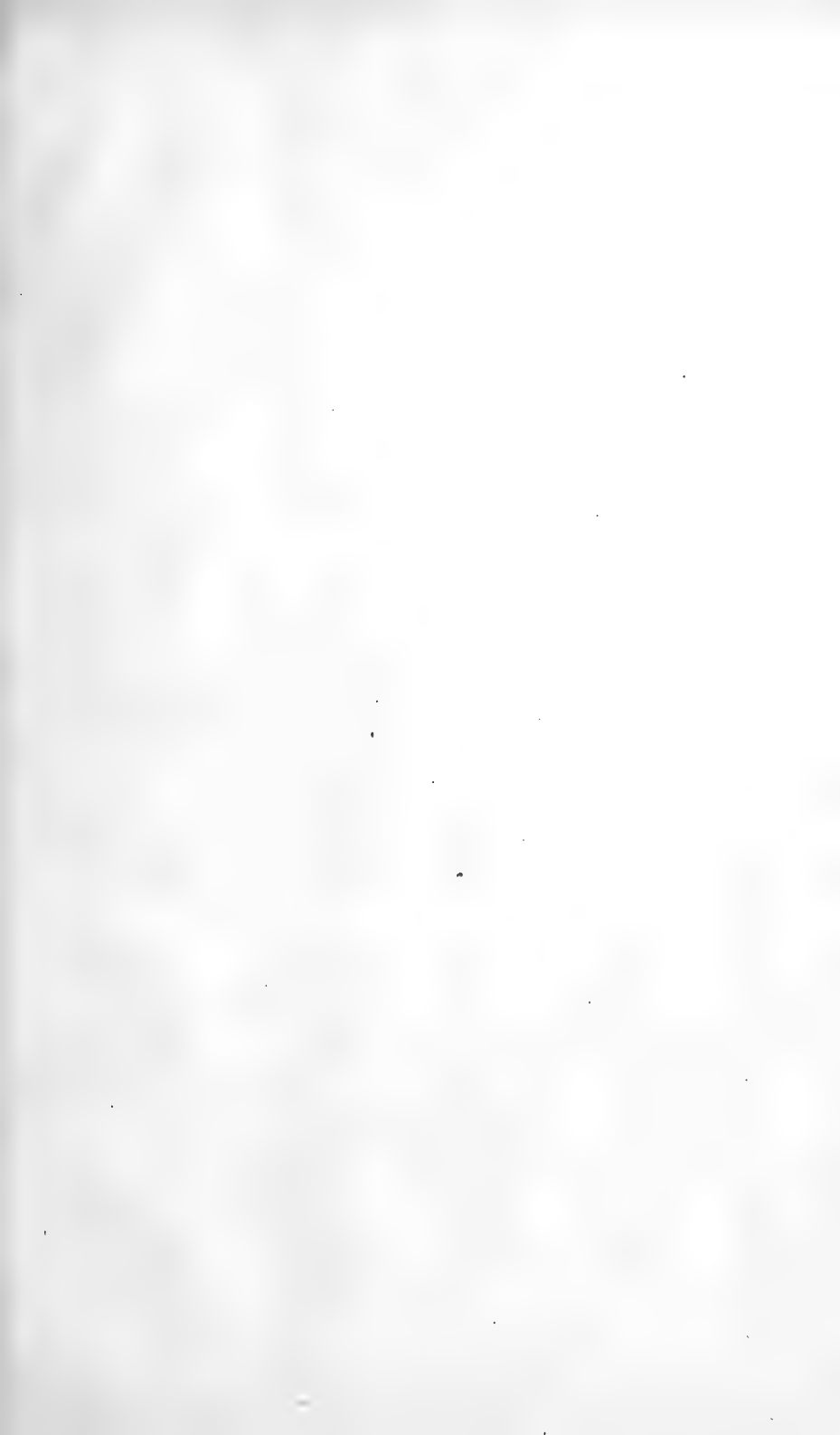
All goods ordered of us will be forwarded as promptly as possible, taking them in the order received.

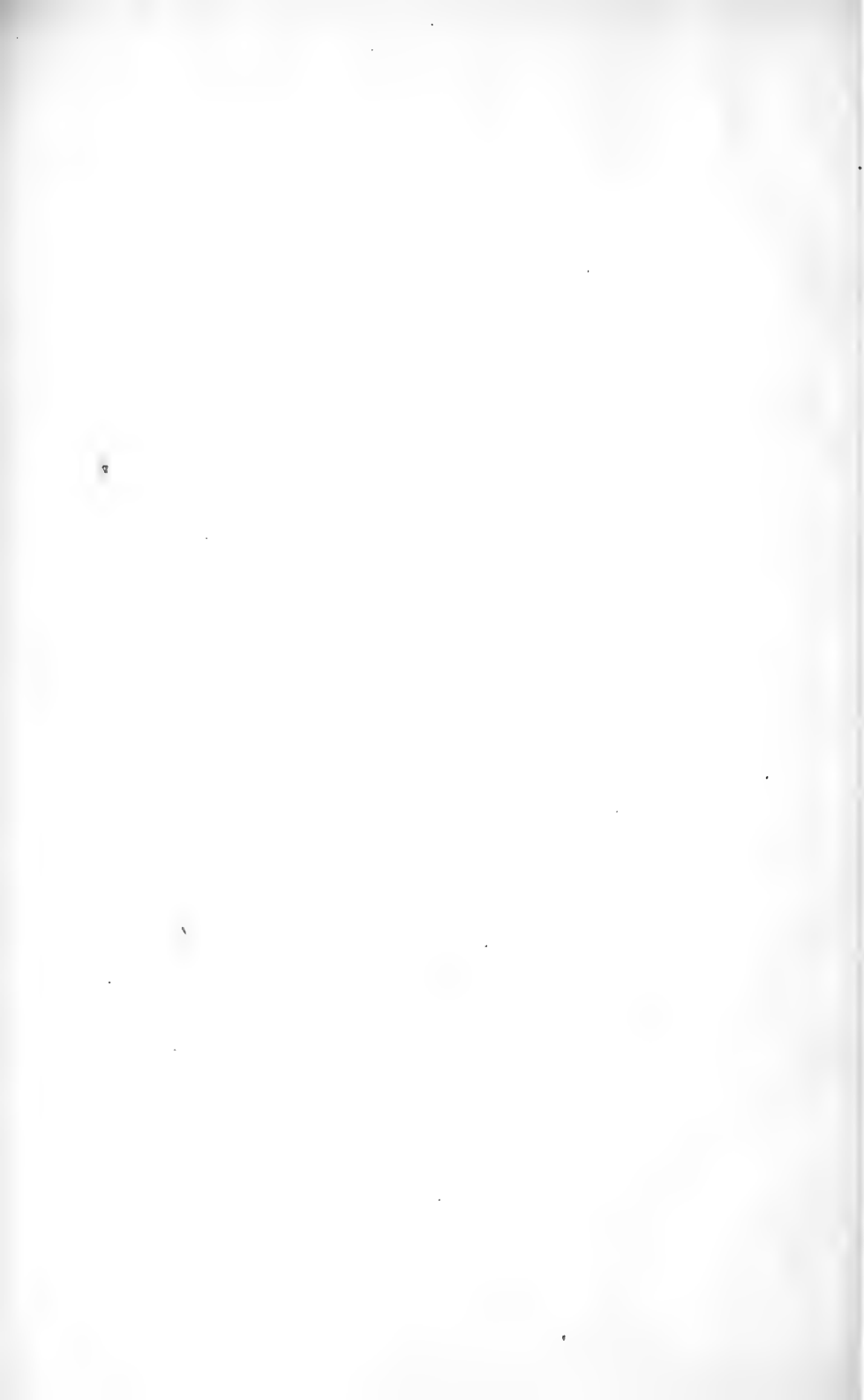
Circulars of Price, etc., sent on application to

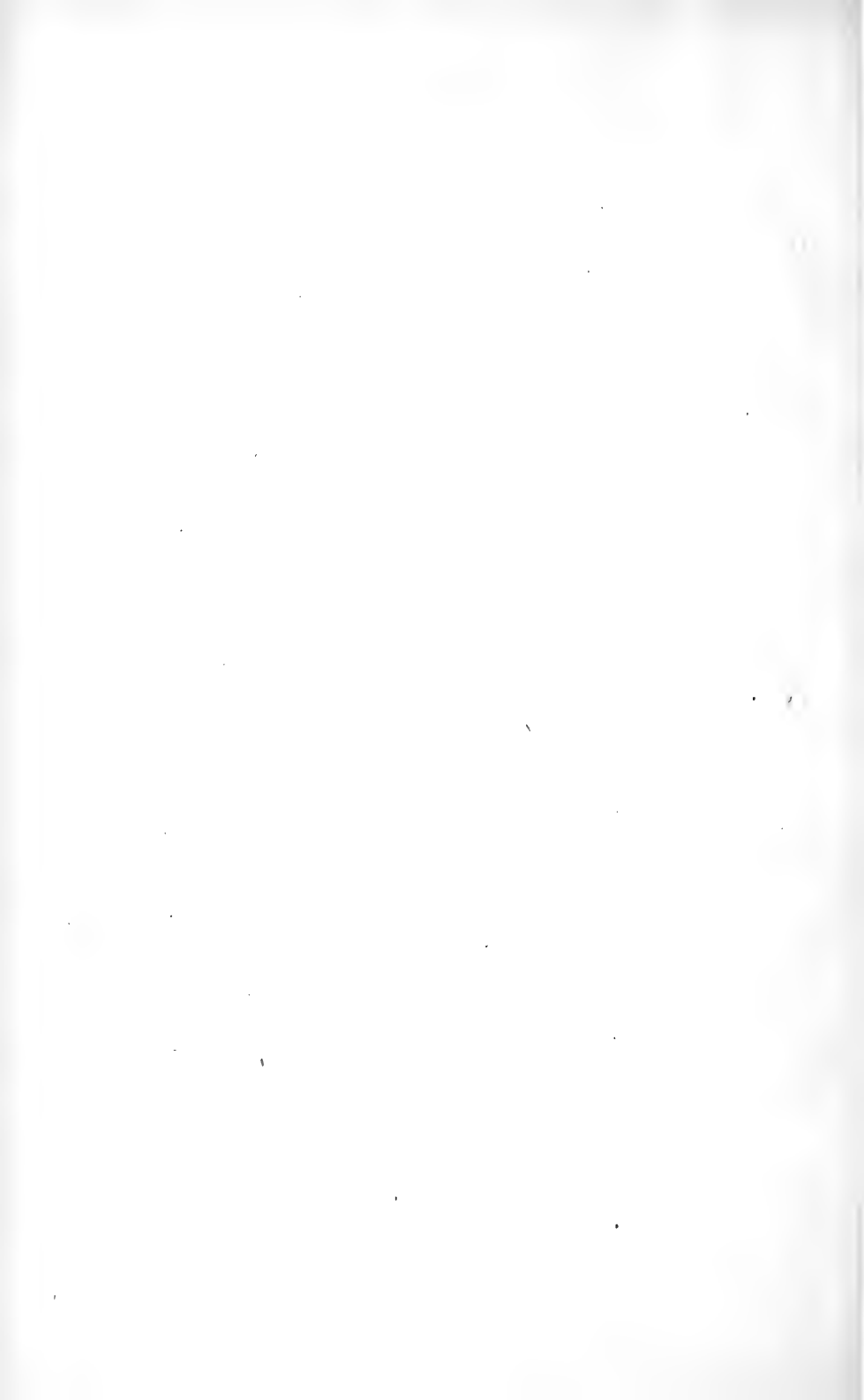
THE BEECHER BASKET CO., Westville, Conn.



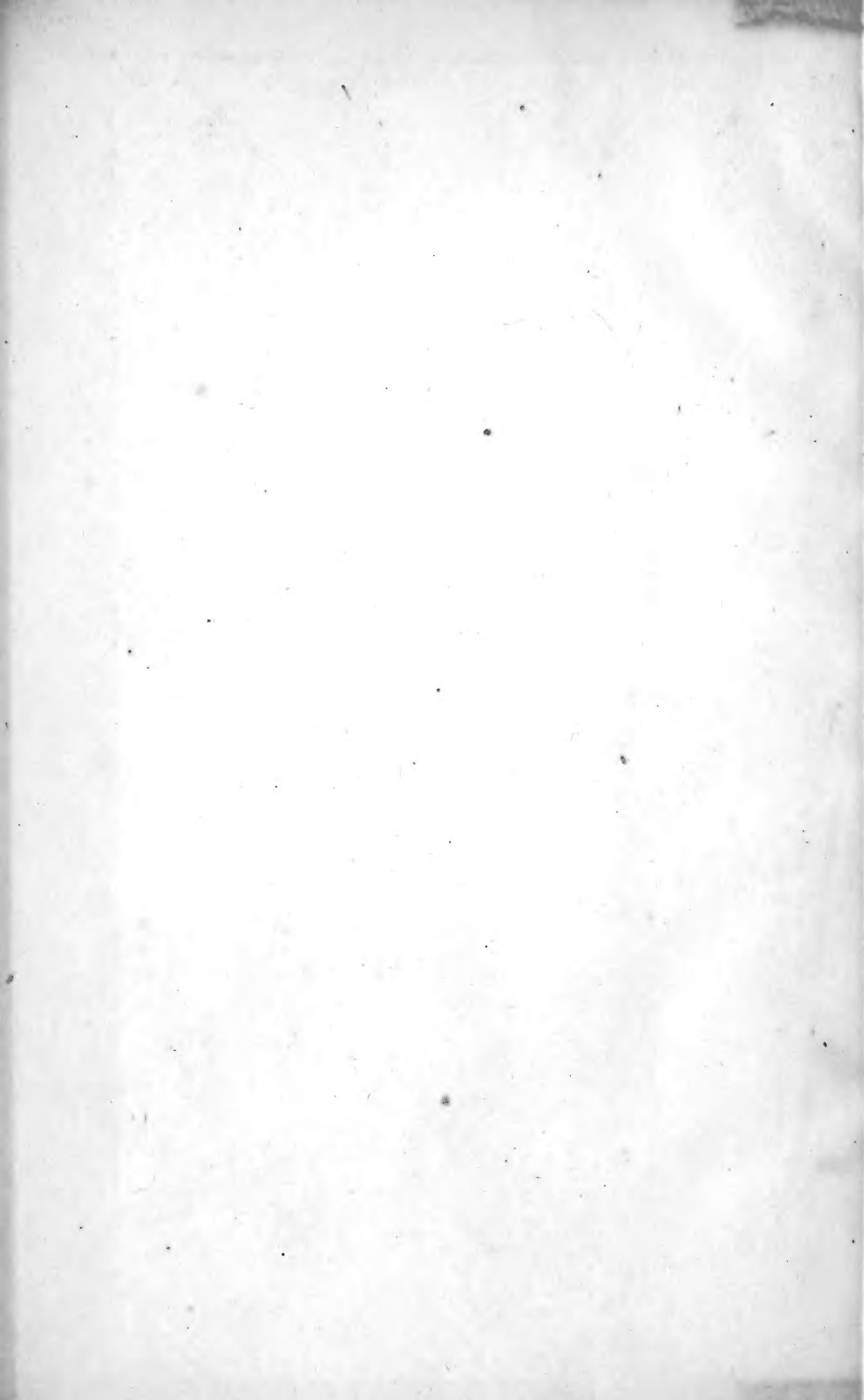


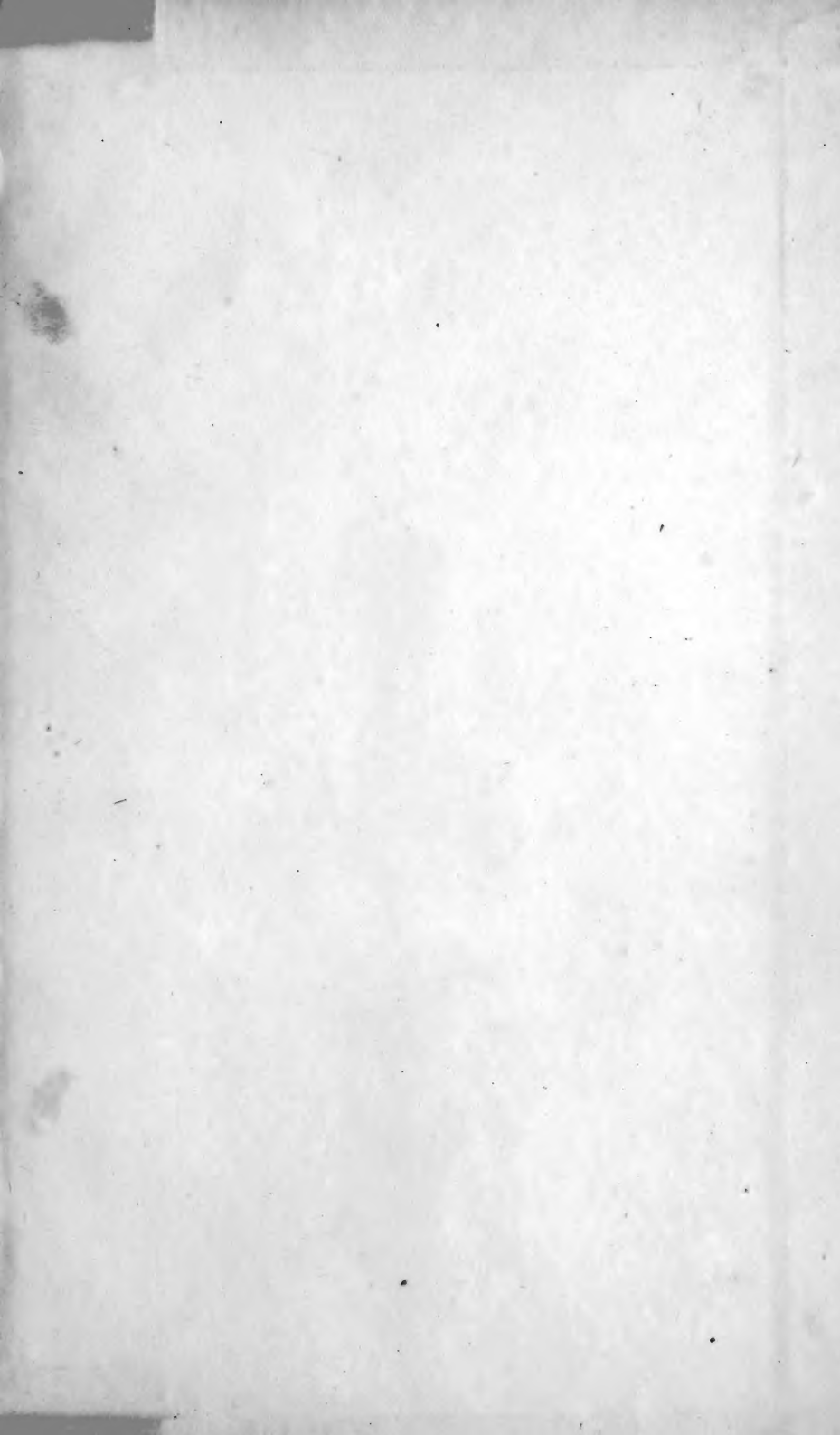












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