THE SMALL GARDEN.

How to Make a Back Yard Supply the Table Vegetables.

GUY ELLIOTT MITCHELL.

Have you a small garden? If not, why? There is no reason why anyone with the slightest taste for the pursuit should not be successful in raising a garden with very small expense or effort. Unfortunately in most works on horticulture, and in all short articles on the subject it is taken for granted that the reader has some previous knowledge of the business, or at any rate has his garden already prepared by an expert. This will not be the case with many who intend to move into suburban homes this spring, so it is for their benefit the following hints are given. Even the circumscribed area available at the back of a twenty-five foot frontage, will, if properly handled, furnish enough green delicacies to materially reduce the grocery bills during the summer, and add much to the health and comfort of the family, for a twenty-five foot lot of ordinary depth should permit the rear fifty feet to be used for gardening purposes.

In many instances careless contractors scatter the subsoil removed when excavating basements all over the lot. When this has been the case the work of preparing the garden ground is increased as this unfertile soil must be removed, until not more than three inches are left on the plot it is proposed to cultivate. When this is well leveled the ground can be treated the same way as if still covered with sod, the trenching being carried slightly deeper. The ground having been made reasonably level the best course to pursue is to stretch a garden line three feet from the fence lengthwise of the plot, and parallel with it stretch another, leaving a space of two feet between them. Cut along both lines with a sharp spade, and a turf path clear to the alley is the result. Probably the sod on this will not at first look very tempting, but constant travel over it, if not too frequent, will improve it so that in time it will afford a smooth green walk. Now dig a trench a foot wide and a foot deep across the end of the three foot space between the fence and the path, placing the soil removed, somewhere convenient for future use. Into this trench throw the sod removed from the second foot, taking care to invert it when doing so, and then add a thick layer of coarse manure, tramping it well down. On top of this throw a deep spadeful of the underlying soil, and repeat the

Market Gardener Cutting Asparagus Tips.

process until the bed is all dug over. As soon as the surface is dry rake in thoroughly a dressing of fine manure, mixed with a liberal amount of lime, and a little coarse salt. Then smooth and level the ground, giving a slope of about a foot from the fence to the edge of the path. Follow the same course on the other side of the lot, and at the rear end.

This mode of procedure furnishes two beds fifty feet long and one of fifteen which are available for climbing plants, with a permanent walk around the garden giving access to the alley on both sides. The space between the paths if treated in the same fashion, will be sufficient to provide five beds, each eight by fifteen feet leaving between them a shallow trench a foot wide to serve as a weeding path, and as a drain for carrying off the surface water, an outlet being provided for this alongside either or both the longitudinal walks as circumstances may require. These beds should be neatly rounded up with soil taken from the intervening spaces and as soon as dry, thoroughly raked and smoothed. They will then furnish an admirable seed bed that should be almost free from seeds, the undersoil of which their surface is composed, not having been exposed to impregnation.

A garden so constructed will stand great extremes of wet and drouth, for it is a mistake to suppose that plants on well laid up beds suffer in dry weather, on the contrary they will continue to thrive when those on the level are withering, so no one need be afraid of making high beds, though eighteen inches from the crown to the foot of the ditch is sufficient elevation unless the location is very low. Some people might think that to devote so much space to paths with such a small area available is a useless waste. This is not the case, for the frequent paths enable the gardener to till and gather his crops without the necessity of treading on the cultivated ground, an advantage that far offsets the loss of space. The same plan may be followed on property a lot and a half wide, though, if two full lots are available, an additional grass walk down the centre will be useful, and add much to the appearance of the garden, which, if all lines are kept perfectly straight, will in any case be attractive, even when the beds are bare.

It is obvious that to ensure symmetry, and for many other reasons, a plow is entirely out of place in gardens of this size. In order to achieve success the work must positively be done by hand and conscientiously done at that. The expense is really very small, and need only be incurred once, for a garden so constructed will need very little work to prepare it the second season.

As to the use to be made of the beds when proporly prepared, much depends on the taste of the gardener, but a very good way to utilize the fences on either side is to sow along them scarlet runners mixed with other beans. The runners with their gorgeous flowers which bloom from June till October are very ornamental. They are also prolific croppers, and despite an absurd prejudice against them, the young pods, when cooked green, are delicious, while the shelled beans are superior to limas. Scarlet runners may be planted as soon as the ground is warm, even as early as mid April, for the bean itself remains in the ground sending only its shoot to the surface. They should be sown two at a time; about four inches deep, and a foot apart, so that when all danger of frost is over, more delicate beans may be planted between them. The best for this purpose are Cranberry, Kentucky Wonder and Golden Cluster, as their flowers and pods form a charming contrast with those of the runner. In order not to interfere with the early care of the climbers it would be well to leave the space between them and the grass walks vacant until tomatoes, cabbages and peppers are ready to plant out by which time, if the soil has been kept well pulverised, the beans will be able to care for themselves. The little bed at the foot of the garden might be devoted to Japanese climbing cucumbers. They do well in this climate and their fruit is more symmetrical and cleaner than that of the creeping variety, which take up too much room to be available in a small garden.

As to the five centre beds they should of course be mainly devoted to vegetables that are at their best when fresh gathered. Peas belong to this category, and besides yielding well, are almost a sure crop for an amateur to raise. The eight feet wide beds should be marked out in straight rows, the first one a foot from the ditch, the next two feet from it, and the same on the other side. The two middle rows of the first bed should be planted with a second early pea, such as Heroine or Dwarf Telephone and the outside two with an extra early, such as Motts Excelsior, as this arrangement enables the peas first ready to be picked without disturbing the others. The same course should be pursued in the second bed, a second early filling the outside rows, while one of the giant late varieties such as Stratagem or Duke of Albany occupies the other two. Nothing is more vexatious to a gardener than to raise a patchy crop. To avoid this the drills should always be made four inches wide. For peas they should be three or four inches deep according to the heavy or light nature of the soil. The seeds may be planted somewhat thickly, say a dozen to each four inches of row of the width recommended. When six inches high, the soil should be drawn well against the outer stems in order to induce the plants to lean towards the centre of the bed.

A SMALL GARDEN WITH CAREFUL CULTIVATION

WILL PRODUCE ABUNDANT CROPS OF FRESH VEGETABLES.

The third bed may well be used for crops suitable for salad. The two centre rows being devoted to a late and early lettuce, the outside ones to white barletta onions, which are a sure crop and the best variety for bunching or pickling. They will do best in the outside rows, as then they can more easily be weeded and thinned out, and may be sown quite thickly an inch deep in drills four inches wide. To mark the rows radish seed should be sprinkled very lightly in them.

The centre rows of the next bed should be sown with early beans to supply pods. Valentines for a green variety, and Wardwell's Wax for a yellow one are probably the best. The outside rows should be reserved for beets, as they require thinning and weeding. The centre rows of the fifth bed should also be put in beans, late varieties being chosen that are suitable for shelling, just as they reach their full size. Yellow Swedish and Red Flageolets are far the best for this purpose. One outside row should be sown to Chard, a delicious and prolific vegetable much neglected in this country, while the others will supply plenty of radishes if they are sown broadcast. On a double lot a bed or two should be reserved for early potatoes, as nothing is better than the young tubers when fresh dug, but they begin to deteriorate very rapidly as soon as exposed to the air, for nothing equal in flavor to home grown product can be obtained from a market man.

"MAILNER KREN"

New Horseradish from Bohemia.—An Improved and Excellent Variety for Garden Use.

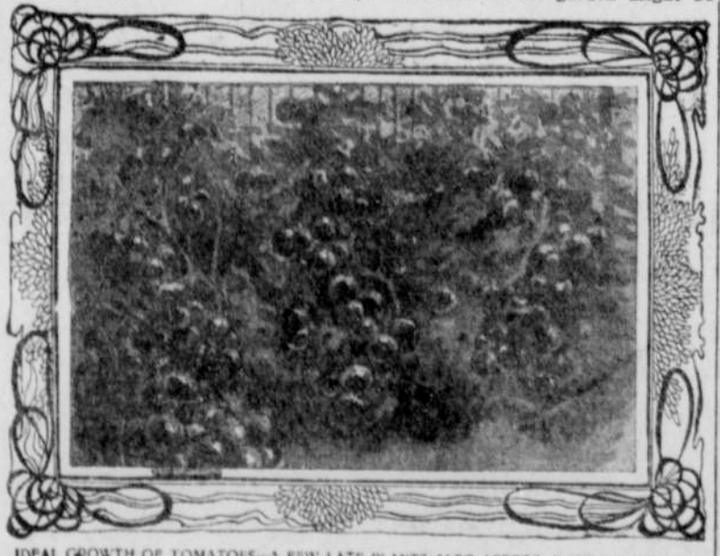
With regard to culture, no matter how strong the temptation may be, no one should ever attempt to do anything in a garden when the foliage is wet with dew or rain, or until the soil is sufficiently dry to crumble between the fingers without adhering to them, and if it can be avoided no foot should ever press the cultivated ground. The most efficacious tool in any garden is a sharp and narrow rake, which should be constantly run between the rows whenever the ground is dry. Except in very wet seasons this implement when frequently used will suffice to keep down all weeds between the rows, which it also keeps the soil sufficiently pulverized to act as a watering pot as well. An expert gardener seldom needs to use a hoe, except when preparing his beds for a second crop, or when a spell of rainy weather has rendered the use of a rake unadvisable for quite a long period. There are several varieties of hand planters on the market, the best of which save much labor when planting the coarser seeds, but a drill or wheel hoe is unnecessary in a small garden.

Many suburban gardeners have water available. This is not an unmixed blessing, for to spray plants in hot dry weather is a fatal mistake. At such times the foliage is not prepared by nature to receive an artificial supply of moisture, while if the plants once become accustomed to it they must have it regularly. Constant raking is far better than watering for if no crust is allowed to form on the surface of the soil the plants will always find enough moisture, unless a very long drought sets in. Even when this is the case spraying should never be resorted to, the only safe course to pursue being to block the outlet drain and to place the hose so as to fill the drainage system, but even this must never be done until after sunset. Seed should always be sown in dry soil but immediately after a bed has been seeded quicker germination can be secured by giving the ground a moderate soaking though after the young shoots appear they will not send their roots down deeply if constantly watered, and the rootlets that penetrate the soil in search of moisture not only find what they are after, but a good deal of useful plant food as well.

As to fertilizers, a wagon load or two or fairly coarse manure may be used to good advantage during the trenching process if it is carefully stamped down on top of the sod thrown in the trenches, but afterwards nothing but fine well rotted manure should be used which should be at least two years old in order to avoid the danger of importing the seeds of noxious weeds. This should be thoroughly incorporated with the soil after the crops have been gathered in the fall. As to commercial fertilizers, outside lime and salt, though good in their place, I fancy amateur gardeners are better without them. Really the rake, besides being the best watering pot, is the best fertilizer I know of, for its constant use permits the air to reach the roots of the growing plants and the atmosphere carries more elements necessary for vegetable life than can be supplied by any chemical compound.

With regard to second crops. No gardener worthy the name ever permits any space to lie fallow, if it is possible to raise a second crop on it. The pea vines, as soon as picked over, should be cleared away, and the space they occupied sown with beans, quick growing varieties of which may be planted with good prospects of their yielding a crop as late as mid July. The only preparation the bed will need is loosening up, not turning over, with a four tined stable fork, and then hoeing in a barrowful of fine manure. The first beans ready should also be followed by a second crop, early varieties being chosen, and any ground that becomes vacant between the end of July and the middle of August should be lightly sprinkled with turnip seed, and well raked over. After that date radishes are the only safe crop to sow. If these simple directions are faithfully followed, especially those relating to the first preparations of the ground, any amateur gardener is bound to raise a succession of crops which will go far towards supplying the family with green delecacies, even if his energies are confined to a very limited area.

PERCY TAYLOR.



IDEAL GROWTH OF TOMATOES—A FEW LATE PLANTS ALSO AFFORD A PICKLE SUPPLY.

LONG ISLAND'S BARREN LANDS.

Project to Make Them Productive —Railroad Making Experiments.

Another railroad has essayed the problem of reclaiming land. This time it is the Long Island Railroad Company. It has taken under its control a plot of land containing about seventeen acres near the end of the north shore of the island. The land is typical of much of that on Long Island. It is known as pine-barrens, is considered sterile and is in the fullest sense of the word waste land. The railroad company will establish an experimental fruit and vegetable farm. The company also intends to establish an experimental farm near the middle of the island and another on the south shore.

Suffolk county has an area of 730,117 acres of which 40,000 have been esteemed of so little value that they have never been assessed for taxes, and the value of 200,000 acres of the remainder is so slight that the taxes levied have been nominal. The despatches telling of this experiment of the Long Island Railroad announce that several other railroad companies will be interested spectators of the results, which if satisfactory will be accepted as examples worthy to be followed.

American railroads not only open up new land to settlement, but exert themselves to attract settlers and also reclaim waste land. The railroads of the west have done effective work in promoting emigration to that section and the roads of the south and southwest are now particularly active in soliciting immigration. The southern lines have perhaps done more than any other agency in turning the tide of Italian immigration into the cotton and sugar fields and the mill cities of the south.

Enough is Enough.

Quitting work with a million dollars saved in twenty-five years, the manager of the Waldorf-Astoria in New York sets an example that might well be followed by those men who get the money-making craze and develop from "captains of industry" through "plutocrats" to something worse. Thomas H. Hillard came from Ireland when he had attained his majority. He is now forty-six and a millionaire, having made it all in hotel management and a careful investment of his savings. He is of the opinion that he has worked hard enough and long enough. Acquaintance with the range of hotel prices, in connection with hotel tips, would indicate that he had also worked people enough, although there has been nothing in Mr. Hillard's career to show that he has ever made an overcharge. On the other hand, he has devised many of the modern conveniences that add to the delectability of hotel existence. But the best thing he has done has been to know when he had enough and to stop when he got it.

Nine Million Plows at Work.

It's plowing time. Two hundred million acres of land will be plowed this year in the United States and about 9,000,000 plows are on the farms to do the work. The capital invested in plows alone represents $80,000,000. Such a multitude of types of plows and plowers can be found on this old continent that we can but name a few. In the great southwest the Mohave with his three or four squaws starts for the planting ground. Each woman carried her digging stick, the most primitive of fall plows, and the man stands guard all day while the "original farmers" of this country dig the land and plant their gourd seeds. In Canada but for the interference of the government we might see the Doukhabor women drawing the plow in exactly the same way that they have done for centuries. In New England the oxen are being yoked, and in the middle west the fourhorse teams are ready. In the south the negro sits on his plow hilt to watch the train go by.

In other parts of the country we find traction engines at work, plowing forty or more acres a day and requiring but two or three men to do it.

MISTAKES ABOUT NICOTINE.

Doesn't Accumulate in Pipe Stems—Very Little Nicotine Poisoning.

There are probably few subjects about which more people are misinformed than nicotine.

Nearly everyone speaks of the dark brown substance which has about the consistency and color of molasses and accumulates in the stems of pipes as nicotine. According to a scientific article, it is not nicotine at all, and it has no nicotine in it.

It is nothing but tar—tobacco tar, distilled from the smoke, just as coal tar is distilled from coal and pine tar from pine wood. One might swallow all the tobacco tar that a rank clay pipe contains without serious harm. If he swallowed the same quantity of nicotine he would probably be dead inside of five minutes.

It is the tar that stains the pipe, and it is the same tar that stains the cigarette smoker's fingers. It is also found inside the nostrils of one who inhales smoke, and it puts an indelible stain on mustaches.

It is true that tobacco contains more nicotine than any other known plant, but nicotine is not a plentiful article in nature. The rankest Kentucky tobacco contains less than 8 per cent of nicotine, and the finer grades of tobacco, such as Havana, have less than 2 per cent.

One often hears cigarettes condemned because the smoker gets so much more nicotine through inhaling the smoke. The fact is that a cigarette smoker gets almost no nicotine, because the tobacco of which cigarettes are made contains next to no nicotine. Turkish and Egyptian tobaccos carry only a trace of nicotine, and some of them none at all.

But no matter how much of this deadly element a tobacco contains, the smoker does not get it. Nicotine is not extracted by burning the tobacco. Burning destroys it entirely.

One often hears of nicotine poisoning, but it is very doubtful if there is any such thing. When one is poisoned with nicotine he dies, and he doesn't get poisoned by smoking. There are plenty of good reasons why smoking should not be carried to excess, but nicotine poisoning is not one of them.

AS PUT.—Mrs. Slowe: "I am so glad your brother enjoyed his visit to us, Mr. Greene."

Mr. Greene: "Oh, he is the sort of youngster who can enjoy himself anywhere, you know."

By Finn, the Comedian.

"Like a grate full of coals I burn,
A great full house to see.
And should I not grateful prove,
A great fool I would be."

A report issued at Simla gives the number of deaths last year in India caused by serpents, tigers and wild beasts as 2,157.

Sixty thousand elephants are slaughtered annually to supply the world with ivory.

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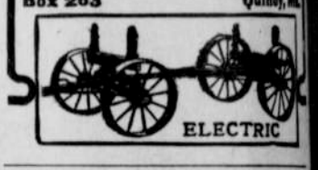

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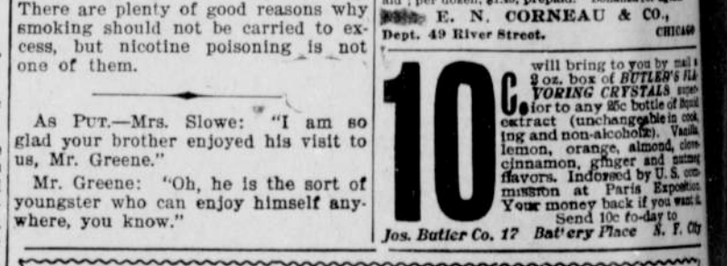

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