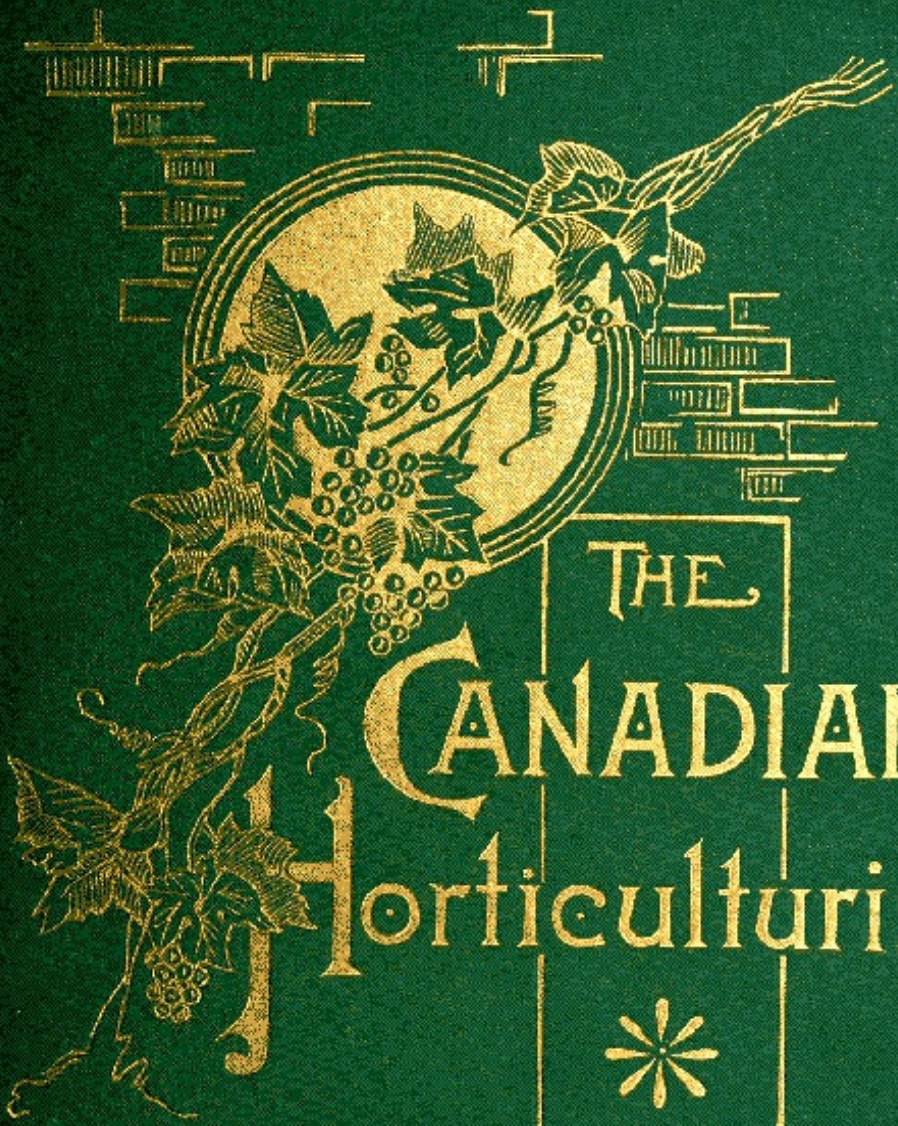

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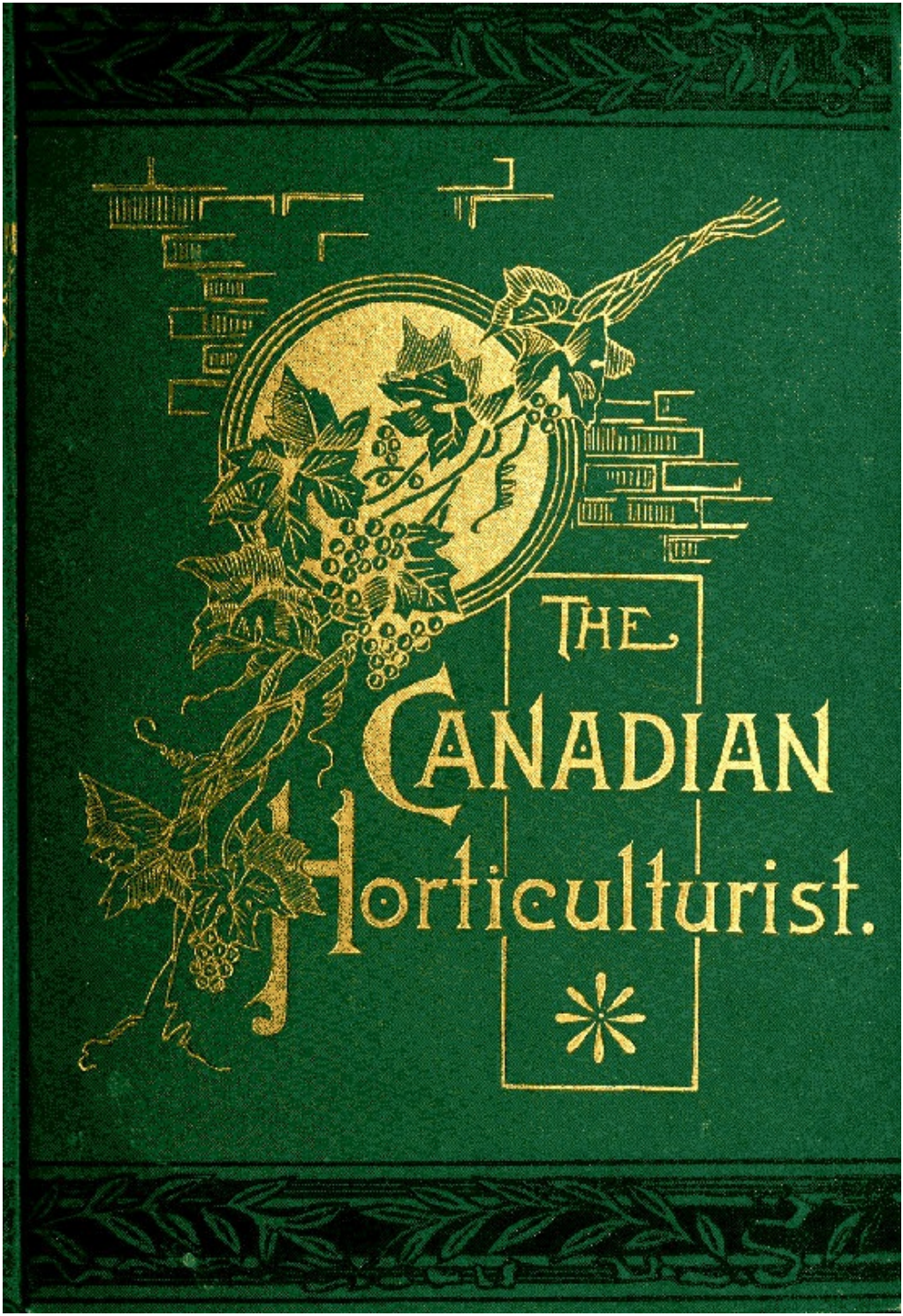
THE
CANADIAN
Horticulturist.

The Canadian Horticulturist.

PAINTED FOR VICK'S MONTHLY

CHINESE PRIMROSE.

Karle & Co. Rochester, N.Y.

THE

Canadian Horticulturist.

VOL. V.] MARCH, 1882. [No. 3.

THE CHINESE PRIMROSE.

The colored plate presented to our readers with this number will enable them to become acquainted with this pretty flower, if perchance they have not already become familiar with its bright, cheery face. Of all the window plants we cultivate, none repay so profusely the care bestowed by their abundant flowering all the winter long as this, and we have often wondered that it is not more generally grown by those who are fond of winter-blooming plants. Mr. Vick states in his monthly magazine that the reason why the Chinese Primrose has not come into more general use is that it requires several months to bring it to perfection from the seed, and that care and attention are needed during this period of the plant's life to keep them in a healthy condition; just as though any true lover of flowers was not willing to give all the attention needed to the perfect development of his favorite flowers. Has it not been rather a want of knowledge of the requirements of this particular flower, than any unwillingness to give the required care which has prevented it from becoming a general favorite. Believing this to be the true state of the case we give our readers Mr. Vick's directions for its cultivation, assuring them that there is no better authority on this subject on this side of the Atlantic:

"Seed should be sown any time from February until the first of June, and, if sown at different times, the plants will come into bloom in succession. Soil for the seed is best prepared by taking some good leaf-mold and about twice as much fibrous loam, made pretty fine, mix them together, and add enough sharp, fine sand to make the whole light and porous. A five or six-inch pot may be used; fill in the bottom with coarse drainage, and then

the soil to a height within an inch or an inch and a half of the top, and press it down. Over this sprinkle a layer of fine sand, and then water it through a fine rose; after the pot has stood awhile to drain, the seed may be sown on the surface, and have the lightest possible covering of fine sand. Place a pane of glass over the pots and stand it where it will get the light, but not the sun, and where a pretty steady temperature, ranging near 65°, will be maintained. If the atmosphere is moist, but little water will be needed until the plants appear, but if the pot should become dry, water it by standing it in a dish of water, allowing the moisture to soak upwards into the soil, thus avoiding any disturbance of the surface. In about two weeks the little plants will begin to make their appearance, and after the third leaf has appeared the plants may be pricked out into other pots, provided with soil the same as described. Cover the plants with glass, and keep in a light, shady place, as before. Water as may be required, but only enough to keep the soil gently moist, and be careful to avoid wetting the leaves. After a few weeks growing in this way, transplant the plants singly into quite small pots, using the same soil as before. Keep the plants in the same temperature as at first, and, if the season admits of it, place them in a cold-frame; give a little air every day to prevent the plants from becoming drawn. In potting, the plants should be set low in the pot, for, as they grow, they stretch up above the soil and require a little more to be placed about them. As soon as the plants begin to grow well, repot into five-inch pots, adding a third part of old cow-manure to the soil, and keep them in the cold-frame or a spent hot-bed until they show their flower-stems. The single varieties are much the best for house or window culture."

Such are the freshness and beauty, the naturalness and air of vivacity about these flowers, that one never tires of them. To-

day you look at them with pleasure, to-morrow they greet you with a look of welcome, and you linger even longer than yesterday to admire their winsome grace.

One thing more should be said of their cultivation, and it is this, do not expose them to the full blaze of our summer's sun, but during the summer keep them on the north side of a high fence or of some building. When the flower buds have formed, be careful not to wet them when watering, as when kept too damp they may decay.

We trust our readers will be able to grow this beautiful flower abundantly, and may experience the pleasure which the writer has enjoyed from December till May in the possession of its continuously charming bouquets of bloom.

ROAD SIDE FENCES.

The Committee to whom was referred the Report of the Committee on Fences at our last winter meeting, with instructions to furnish such facts, figures or circumstances, as led them to the conclusions arrived at in that Report, now respectfully submit:

1. That every farm of 100 acres, divided in the usual manner, will have about 1,200 rods of fence thereon.

2. That one of the best and most economical fences now coming into general use is a straight one, made of cedar rails and posts. It is usually built five rails high, the ends of the rails being inserted into augur holes in the posts, which are set firmly in the ground in line, twelve feet apart.

3. The cost of such a fence for a farm of 100 acres will be about as follows:

8,250 Rails at $52 per 1,000	$429 00
1,650 Posts at 18 cents each	297 00
Digging holes and setting Posts at 10 cents each	165 00
Boring holes in Posts at $1 per 100 holes	82 50
Cutting and turning Rails at $1 per 100	82 50
Setting up the Rails at 10 cents per length of 5 Rails	165 00
16 Gates, hung and painted at $6 each	96 00
Total	$1,317 00

or about $1 30 per rod. Such a fence is estimated to last about 25 years. The gates about 10 years.

4. The annual charge for permanent maintenance of such a fence would therefore be:

Interest on (say) $1,300 at 6 per cent.	$78 00

Estimated average annual charge for repairs and for permanent maintenance at 6 per cent.	78 00
Extra do., do., for gates at 10 per cent.	9 60
Rent of land lost by fence 6 feet wide = 4.36 acres at $5 per acre	21 80
Total	$187 40

The foregoing estimate has been made with the assistance of a thoroughly practical farmer in the Township of East Whitby; and we are of the opinion, that although the cost of such a fence must necessarily vary much in different localities, the cost of material and labor here submitted may be regarded as a fair average for the whole Province.

5. Your Committee are of the opinion that the kind of fence as usually constructed in the back country, involves a much greater annual expenditure than the one here described. A common snake fence of the same length will require about 26,000 rails, and are usually made of Basswood, Pine, Elm, Ash, &c. Supposing these to be hauled a distance of one mile, they will cost about

$30 per 1,000, or	$780 00
Labor in setting up at $4 per 100 rods	48 00
Preparing and setting 16 sets of Bars at $2 per set	32 00
Total	$860 00

Such a fence is estimated to last about 10 years. The bars about half that time. The annual charge for such a fence would therefore be:

Interest on $860 at 6 per cent.	$51 60
Estimated average annual charge for repairs and for permanent maintenance at 15 per cent. or	129 00
Extra do., do., for Bars at 20 per cent.	6 40

Rent of land lost by fence 12 feet wide = 8.72 acres at $5 per acre	43 60
Total	$230 60

Showing an annual expenditure on a farm thus fenced of $43 20 for permanent maintenance greater than on the fence as first described.

6. The estimate, therefore, in the second paragraph of the previous Report of two dollars per acre per annum seems a moderate one, and your Committee are of the opinion that if farmers were not compelled to fence against their neighbours' cattle, they could protect their crops and their own cattle by live fences, the trees forming wind-breaks, by the use of hurdles and otherwise, (which would add much to the general beauty of the country, and thereby greatly enhance the value of the land), at less than one quarter of the yearly expenditure above shown, or —in other words—that the farmer of every 100 acres of land in Ontario could realize a clear yearly profit over and above what he is now doing (if every owner of stock were compelled by law to keep them enclosed) of $150.

7. That the foregoing figures, showing the unnecessary but compulsory annual expenditure of $1 50 per acre for all cultivated land by the unwise laws at present in force in this Province, have been carefully prepared, and therefore, by applying them to communities of farms, we find that the annual loss from this cause to the large Township of London, in the County of Middlesex, having a cultivated area of nearly 70,000 acres, is over $100,000. The Township of Mariposa, in the County of Victoria, having cleared land to the extent of nearly 48,000 acres, loses $72,000 annually. The Model Farm at Guelph loses by the same means annually about $800. These figures when applied to the whole Province assume gigantic

proportions, for we find from Official Reports that there are at the present time between eleven and twelve millions of acres under actual cultivation. The total loss therefore to the farmers of Ontario must be upwards of $16,000,000 per annum.

THOS. BEALL, *Chairman*.
P. E. BUCKE.
THOS. HALLIDAY WATT.

CORRESPONDENCE.

ENGLISH SPARROWS.

Toronto, Jan. 28, 1882.

I enclose you an article taken from an Australian paper concerning the destructiveness of the English sparrow in that Colony, and would suggest that some steps be taken immediately to suppress their increase in this country, as the destruction by birds in this city is beyond conception. Chap. 29, Statutes of Ontario, sec. 81, enacts that "persons may destroy the robin and cherry bird on their own premises during the fruit season." Now these birds are harmless in comparison with the sparrow, and yet least harmless during the fruit season; therefore by adding the sparrow it would not meet the requirements necessary, as the sparrow is most harmful in winter and spring before the blossoms have burst. There should therefore be added, after the words cherry bird, "and may destroy the English sparrow at any time." I think if the above suggestions were made to some member of the Ontario Parliament now sitting, who is interested in horticulture, there would be no difficulty in introducing the amendment.

Yours, &c.,

J. NEWHALL.

To the Editor of The Canadian Horticulturist.

SIR,—Herewith I send you an abstract Meteorological Report for Lindsay for the winter of 1880-81, compared with abstracts from the reports issued from the Observatory at

Toronto for that place.

If similar reports could be obtained from several places—say from St. Catharines, Hamilton, London, Goderich, Guelph, Owen Sound, Orillia, Peterboro', Belleville, Kingston, and Ottawa—would it not furnish data whereby almost positive information would be furnished to intending fruit-growers as to the success or non-success of cultivating certain fruits in their neighborhood? For if given kinds of fruit are successfully grown in a locality where the climate is known, surely the same kinds of fruit may be grown in any other neighborhood having like climatic conditions; and, if experts fail to grow certain fruits successfully in a given neighborhood, novices may not expect to succeed with the same varieties under similar conditions elsewhere.

Perhaps the publication of this report may cause others to view this subject in the same way, and possibly induce others to furnish similar reports.

I hope soon to see this subject taken up by our Association, and accorded that consideration its importance deserves, and an application made to the Dominion Government to cause a report, compiled from the reports, from all important points, not only in Ontario, but throughout the Dominion, to be issued periodically from the Meteorological Office at Toronto. A knowledge of the climate of our vast Dominion, and its possibilities for Agriculture, Horticulture, Pomology, and possibly for Stock-raising, can only become general by this or some kindred means.

Much valuable information may now be obtained from the Observatory at Toronto, and is always willingly given by the obliging officers of that institution, but it is scarcely probable that a periodic report as indicated could be issued by that already over-taxed institution.

Lindsay, Ont.

THOS. BEALL.

GENERAL METEOROLOGICAL REGISTER FOR THE WINTER OF 1880-81.

LINDSAY.—*Lat. 44° 19' 15" North. Lon. 5h. 15m. West. Approximate elevation above the Sea 876 feet. Compared with*
TORONTO.—*Lat. 43° 39' 4" North. Long. 5h. 17m. 33s. West. Approximate elevation above the Sea 350 feet.*

Key:

A=Mean temperature
B=Highest temperature for month
C=Date of highest temperature for month
D=Lowest temperature for month
E=Date of lowest temperature for month
F=Warmest day of the month
G=Mean temperature of warmest day of the month
H=Coldest day of the month
I=Mean temperature of coldest day of the month
J=Mean maximum temperature
K=Mean minimum temperature
L=Mean daily range
M=Greatest daily range
N=Least daily range
O=Monthly range
P=Day on which the greatest amount of snow or rain fell
Q=Quantity of snow or rain on that day in inches
R=Number of days on which snow or rain fell
S=Total depth of rain and melted snow for month in inches

Places	October 1880.	November 1880.	December 1880.	January 1881.	February 1881.	Mar 188
A: Toronto	45.0	30.3	21.4	16.7	20.0	30.
A: Lindsay	42.32	26.10	16.0	9.5	15.9	27.
B: Toronto	75.4	57.0	48.5	37.7	42.9	42.
B: Lindsay	79.0	58.6	42.0	36.1	45.8	49.
C: Toronto	11	5	5	13	10	9
C: Lindsay	11	5	5	13	27	16
D: Toronto	26.3	3.7	-8.3	-4.8	-15.1	10.
D: Lindsay	17.4	-9.9	-16.0	-24.4	-27.8	3.4
E: Toronto	28	24	30	15	1	11
E: Lindsay	28	14	10	24	2	12
F: Toronto	3	5	5	13	10	17
F: Lindsay	11	5	5	13	9	16
G: Toronto	59.97	50.53	36.52	33.32	37.93	36.5
G: Lindsay	53.6	52.80	33.15	32.50	39.58	37.2
H: Toronto	28	22	29	14	2	1
H: Lindsay	28	23	29	14	2	1
I: Toronto	32.47	10.85	-0.82	5.25	-7.07	15.9
I: Lindsay	26.80	.30	-7.75	-8.48	-10.45	9.3
J: Toronto	52.86	35.93	26.74	23.80	26.99	35.5
J: Lindsay	53.72	33.81	21.57	19.19	25.00	35.4
K: Toronto	37.17	23.78	15.40	7.89	11.28	24.6
K: Lindsay	34.06	18.85	9.10	-2.50	3.95	20.8
L: Toronto	15.69	12.15	11.34	15.91	15.71	10.8
L: Lindsay	19.30	26.10	12.48	21.70	20.60	14.6
M: Toronto	29.1	22.6	23.9	27.8	29.2	19.

M: Lindsay	39.7	31.1	27.1	47.8	38.9	31.
N: Toronto	4.9	6.3	2.3	4.6	4.7	2.4
N: Lindsay	6.4	4.5	2.7	5.4	5.3	2.3
O: Toronto	49.2	53.3	56.8	42.5	58.0	31.
O: Lindsay	61.6	68.5	58.0	60.5	73.6	39.
P: Toronto	4	6	1	21	9	19
P: Lindsay	24	6	1	22	12	4
Q: Toronto	.96	1.01	.37	.63	.57	1.7
Q: Lindsay	1.11	1.11	.70	.70	.46	1.1
R: Toronto	14	22	20	19	15	15
R: Lindsay	13	17	9	14	13	10
S: Toronto	3.54	2.65	1.11	2.13	2.44	3.6
S: Lindsay	4.03	3.87	1.95	3.00	1.67	2.5

BLACK SPOTS ON APPLES.

Prescott, Jan. 10, 1882.

I have no doubt that I wrote the article mentioned in your letter of the 9th for the *Canada Farmer*. The fruit of several of my apple trees had been affected with a black taint when they were about half grown; they then shrank and became worthless. I remembered a remedy I had read when a boy for caterpillars and other worms on apple trees, and I thought I would try it on my trees, as I was of opinion that the taint was occasioned by some kind of poison in the sap, and not from the attacks of moths in the fruit. Since that time my apples have been perfectly free from the taint—indeed the change took place the first season after applying the remedy. I inserted the sulphur early in the spring, before the sap began to ascend into the branches. I cannot see that the trees have been injured by the holes having been bored into them; yet I think grafting wax is preferable to wooden plugs—anything to *exclude the water*.

The only enemy that has baffled me is the *Codlin Moth*, and until last season I had almost given up in despair, for he is an insufferable nuisance; and if these moths cannot be conquered we shall lose in quantity and quality immensely.

For the *tent* caterpillar I tye a cotton swab to the end of a long pole, dip it in a pail of pretty strong lye, and easily wipe the tents off in the morning. Last spring I found only *two* tents on all my trees.

The apple tree *Borer* must be looked after, otherwise he will destroy the trees—ornamental as well as fruit.

My only enemy *now*, as I said before, is the Codlin Moth. However, I think I have a remedy for him also. Last spring,

early in April, I tried the experiment on two trees—Duchess of Oldenburgh and McLean—of tying tightly around their trunks, about 18 inches from the ground, with twine, a piece of cotton cloth about three inches wide; then I daubed the cloth thoroughly with printer's ink, so that no insect could crawl up the trunk without sticking fast in the ink. Although heretofore my Duchess had been affected as much as the other trees, every apple was sound and perfectly mature, and the largest crop I ever had. The McLean tree had a few wormy apples, which I could account for: I was taken sick and could not attend to more. And here let me say that the *Duchess of Oldenburgh* is the surest and most valuable early tree for the locality—the *Brockville Beauty* next. The *Red Astrachan*, although hardy, will not hold its fruit, and the apples burst as soon as ripe. The *Early* or *Yellow Harvest* is too tender for this climate. These trees have all been thoroughly tried. *Fameuse*, if kept clean of *borers*, in my opinion stands above all others as a fall dessert apple. *Rhode Island Greening*, *Baldwin*, and *Esopus Spitzenburgh*—all magnificent apples, and superior winter apples to all others that I know—are not reliable, being too tender. They have all been grown here, and are not now to be found.

The only enemy I notice to the Plumb is the black knot. I have lost a number of the old Blue Plumb family by it. By the use of coal and wood ashes, and washing with salt brine and sometimes lye, I have kept the black knot off my Jefferson and Egg plumbs pretty well; but I am not sure yet that I have fully succeeded. I have not yet discovered the *cause* of the *black knot*. If I knew the cause I would not rest till I found out a cure. No doubt it is a *fungus*, and not the effect of insects. I think it is a poison in the sap, which, perhaps from over-stimulation with manure bursts the bark, and then, unless cut out at once, increases from one tree to another until the tree is

destroyed. When the *black knot* begins on the main trunk of the tree it is difficult to arrest its progress. I have a dozen or more very fine plumb trees—all very superior—which I intend to nurse and cultivate so as, if possible, to bring them up to the standpoint of fifty years ago.

I have tried pears of various kinds, but all have failed. A few years ago I obtained from New Hampshire six young chestnut trees. They all died the first year.

To conclude, if any member of the Fruit Growers' Association, or any one else, can tell us *why* the Codlin Moth lays its egg in the apple blossom—whether it goes there to extract honey or for any other purpose—I think we could soon invent a scheme to *circumvent* him. Next spring I intend to try the cotton rag and printer's ink on all my apple trees, and if successful again shall not fail to report.

Yours very truly,

S. B. MERRILL.

The above was received from Mr. John Croil, who remarks that Mr. Merrill's plan is this:—"Early in February, with a three-quarter inch augur, bore half through the trees diagonally about two feet from the ground, fill the hole with sulphur, and cover the orifice with grafting wax or with a wooden plug."

BEST CODLIN MOTH TRAP.

I set two traps on the 20th of last August and caught over one thousand moths in one night. The trap is a glass lantern set in a tin pan of water an inch or more deep. The light attracts the moths and they fly around the lantern, and when they strike the water they are caught, as they are helpless when they once get in

the water. In trimming the lanterns use less or more oil, according to the length of time you want them to burn. They should be set on something two feet or more from the ground.

I intend to use a number of the traps this season, commencing when trees are in blossom, for the moths are numerous and destructive.

W. C. RAYMOND.

Dickinson's Landing.

LETTER FROM THE HON. MARSHALL P. WILDER.

PRESIDENT OF THE AMERICAN POMOLOGICAL SOCIETY.

"The present number of the *Canadian Horticulturist* is not only increased in pages, but its contents are of a very useful character. This may be called the Grape Number, as it illustrates in a very lucid manner a system of training that any cultivator may understand. Plan and system are the foundations of success in every well ordered effort in life. You have done well to give us so much in one issue on this important branch of pomology, creating as it will even more interest in the future than it has in the past. I am glad to see that the Wilder grape succeeds so far north as the 47th parallel. I have ever had a good opinion of it, and it was my choice out of all Mr. Rogers' hybrids to have my name affixed to. Also am glad to see that the Champion is being properly depreciated. We must keep up the standard of quality, and when we can have a grape as good and as early as Moore's Early, we can dispense with the Champion, as I have done. We were very glad to see your President Dempsey at Boston, and your honored former President, Rev. Burnet; also, I am gratified

that you thought well of what I said in my address before the American Pomological Society on the Grape. No country has such good promise for its successful culture.

REPORT ON FRUIT TREES, &c.

Appin, Feb. 5th, 1882.

As it seems to be the general practice to give a short history of the trees and plants received by the members of the Fruit Growers' Association, I will do so. The pear trees are doing well, excepting the Beurre Clairgeau; Clapp's Favorite blossomed nicely last spring, but bore no fruit; Beurre d'Anjou has fruited twice; Flemish Beauty is growing nicely. My apple trees are growing nicely; Grimes Golden has not fruited as yet. My Burnet grape vine makes but poor growth as yet; my other vines are all dead long ago. My Hales peach was dry and withered up when it came to hand, being taken up as I believe in the fall of the year before it was sent out, and never started into growth at all. My Blackberry never came to anything, nor the Raspberry either. The last Raspberry has made a good growth since planted. My Gooseberry bush never started into growth in the spring. Planting small fruits in the fall should be avoided. All nursery trees and plants should be dug up with more care than is generally bestowed on them. In taking up in the nursery, all the fibrous roots are as a general rule left in the ground and only the stock sent out. I would prefer a smaller tree or plant, provided it had a good root left to the tree. This is a serious fault with many nurserymen. My Hydrangea Paniculata grew well in the first part of the season; it put out buds for flowers, but the dry weather prevented it from flowering, and in September its leaves dried up. I do not know if it is dead or not.

Mr. Lotan's tree has done well; his Raspberry is doing nicely; his potatoes have turned out well. I have given a brief resume since my last report. My Glass seedling plum has not fruited yet; the blossoms have dropped off; this tree is a very free grower; if the fruit can compare with the growth of the tree it will be a great acquisition to the plum orchard. I am glad that the Directors allow of a choice; it is in the right direction.

The *Horticulturist* is getting to be a very useful pamphlet to me. I begin to look for it regularly every month with its discussions and notices of fruits, besides its being so handy a reference book, with its index to the yearly volume. It is worth more than the whole cost to have the opinion of those who are in a position to know the merits or the demerits of those new trees, fruits, &c., peddled around through the country by unscrupulous men. If there were more copies of the *Horticulturist* taken by the farmers around here there would not be such big shaves got from them for new fruit trees at enormous prices.

Yours truly,

JOHN MCINTYRE.

ALGOMA.

Blind River, Dec. 17, 1881.

My Wealthy Apple which came to me from the Association has done well, although it was about two weeks on the way in the mail bags before I got it, and I give thanks for the good condition it was packed in so as to stand the long mail transit. We have had a good year for wild fruits. Cranberries, blue berries, raspberries and strawberries were all very plentiful this year, which has been of great benefit to the new settler of this out of the way part of the world. We also have had good

crops of all kinds of grain and roots. Corn has done well, and I tried a few rows of the Early Amber sugar cane, which was planted too late—the second of June—and grew nine feet high and looked well, but was killed with frost the middle of September; but we had plenty of tomatoes, pumpkins, and squash, which matured well. I planted a few apple trees last spring, which grew very well this summer, and I hope to report that they have stood the winter well.

Yours with respects,

W. WARNOCK.

GRAPES—POTATOES-CHERRIES.

The Delaware is the best grape grown around here. Creveling has done well with me. The Burnet has not had fair play, but promises well. The Concord, *if it is the Concord*, has never ripened. I have about a dozen other kinds not tested: Moore's Early, Salem, Wilder, Champion, Telegraph, Rogers' No. 3, 9, Brighton, &c.

My taste is depraved enough to like the Hartford; one advantage it has, at least, it always ripens. We always winter cover our vines with a few inches of earth.

Gooseberries I used always to train on a single stem; many recommend five or six stems, renewed yearly; would like your advice on this. Mr. Tait says he uses sulphur to prevent mildew with success.

The Dempsey potato did well with me, from a barrel on sod, no manure, I had 70 bushels (we are using them now, excellent). Beauty of Hebron good, very early and prolific.

I let the Early Vermont take the place of the Early Rose with me. Very like it, but I think a little earlier and more productive.

Peerless I find good for spring use, and a fair cropper. I have seed for a trial of the Late Rose next spring; neighbors speak well of them.

Cherries which used to be with us a sure crop till the birds claimed them, have been entirely barren the last few years. Is this general?

JOHN CROIL.

Aultsville.

REPORT ON TREES, &c., RECEIVED.

With reference to Mr. Geo. Elliott's report on the trees, &c., he has received from the Association (Vol. V., No. 1, p. 14), I beg to observe that I have succeeded in raising every one of the various trees received from the Association since 1874, the year that I joined.

The Salem Grape does not bear much fruit, and the bunches are small; what there are are very good to eat. Swayzie Pomme Grise (1875) is now a handsome young tree, and fruited twice, two or three each year; rather small, but good. Glass Seedling Plum (1876) arrived nearly dried up and dead, but budded out at last into many branches, though so late that they were mostly winter killed; it is, however, now a fine tree, and I trust will bear this year. Diadem Raspberry and Strawberry (1877) grew well, but neither had much flavor. Burnet Grape (1878) has grown well and fruited twice; bunches small, and most of the berries not larger than peas, a few only on each bunch full size; a little sharp, but very nice flavor. Arnold's Ontario Apple (1879) growing well; bore three apples in 1881; small, rather sour; trust they may improve. Saunders' Raspberry, No. 72 (1880), made fine shoots, like a black cap; fruit rather small.

Brighton Grape (1881) made one small shoot.

When gathering Asparagus is it (even) possible to *pull* the stalks up, as recommended in the poetical effusion on page 24 (third, last stanza)? I should think it would injure the crown of the root. I always cut mine with a sharp knife, but carefully, so as not to destroy any not yet above the surface.

G. (COBOURG).

CULTIVATION OF CELERY.

DEAR SIR,—I noticed in the reports of the proceedings of the late meeting of the Fruit Growers' Association, that one of the subjects under discussion was the best method of the cultivation of celery.

It was remarked by one of the members that the ravages of the insect was one of the difficulties to be encountered in raising it.

I have the same complaint to make. For several years I endeavored with great care to raise this delicious vegetable, but was unsuccessful in consequence of the destruction caused by an imperceptible insect, so I gave up the attempt.

The year before last I saw a remedy given in the *Fruit Recorder*, edited by A. M. Purdy, Esq., of Palmyra, N. Y., and was determined to make another effort, which, I am happy to say, has proved entirely successful for the past two seasons.

The remedy is to water the celery once a week with soap suds from the wash tub, and afterwards dust the plants with a little of the flour of sulphur, which will entirely destroy the enemy. This should be continued throughout the season.

Yours truly,

WILLIAM M. MURRAY.

Niagara, Ont.

MULBERRIES.

Will you be kind enough to give me all the information you can about the Mulberry tree, as to its hardiness (1), productiveness (2), and quality of fruit (3).

JESSE WELDON.

Oakwood.

1. The Black or English Mulberry is not perfectly hardy in all parts of Ontario. It will do best where the peach is successfully cultivated. The new American Mulberry promises to be much more hardy. The Russian Mulberry should be hardy as far north as Sault Ste. Marie.

2. All varieties are exceedingly productive.

3. There is some difference in the flavor of the different sorts, but the three sorts named above are highly esteemed for fine quality.

WHAT OUR SUBSCRIBERS SAY OF US.

I highly prize and esteem your periodical, and consider it well worth the money without any premium.

WM. HOOD.

Valleyfield, Pr. of Que.

I was well satisfied with the Potatoes I got last spring. I had four heaped pails full from the pound.

WM. S. INKSTER.

Maxwell.

Please tell your Association to still continue to agitate the prohibition of cattle being allowed to run at large.

JOHN BOTHWELL, Sen.

Springville.

I am very much pleased with the CANADIAN HORTICULTURIST, it contains information very useful to a fruit grower.

WILLIAM A. WALLIS.

Humber.

I am very glad to welcome the CANADIAN HORTICULTURIST in its new and enlarged shape, and hope that the increased information it affords will prove a benefit to the Association, and be the means of enlarging the number of its subscribers, as it so much deserves.

G. WILGRESS.

Cobourg.

I am glad you have seen your way to the enlargement of the paper. It will help to popularize and extend the usefulness of the Association.

T. C. WHEATLEY.

Sarnia.

Have received the January number of the HORTICULTURIST, with which I am greatly pleased. It has been the means of diffusing much useful information both for the garden and orchard, and I much wish the usefulness of your periodical greatly extended. I have been much benefited myself, and am sure others also have profited by its perusal.

GEO. STRAUCHON.

Woodstock.

Enclosed is my subscription for the CANADIAN HORTICULTURIST. It is a little book I am well pleased with, and consider the money well laid out, for the information to be got from it is very valuable to those who take a delight in gardening, and I should be very glad to see it grow larger, even if it cost more. I look upon it as a cheap Dollar's worth.

ALLEN CHAPMAN.

Cayuga.

I will say that I think more and more of the good work done by the Fruit Growers' Association by every number of the *Canadian Horticulturist* I receive, and I look for it anxiously every month. I think it will be more interesting this year than ever, as it is so much larger than formerly; and it will help us to make our homes beautiful by what is shewn us in those colored plates. A great many of us must see to be convinced, and I believe there are a great many who have seen the plate in the January number who will appreciate the Gladiolus a deal more than they ever did before. What I have received from the Association has done well.

WILLIAM JONES.

Box Grove.

Your valuable "Report" duly to hand, also the CANADIAN HORTICULTURIST. These excellent publications are brim-ful of important information for the horticulturist, fruit grower and entomologist. Our Southern people know but little of the capabilities of the Dominion of Canada. Even the Northern States are excelled by you, especially in the *keeping qualities*

of fruits.

JAMES FRITZ.

Albermarle Co., Virginia.

I was very much pleased with the January number for this year, and I trust the Society will meet with further success. I wish I could make more farmers believe it is to their interest to subscribe. As the Society has now taken up the subjects of growing flowers and shrubs, I think the old members might make an effort and get a few ladies to join, or better still, subscribe for an extra copy, and make some lady friend a present of it.

CHAS. JAS. FOX.

Delaware.

I am glad to add my testimony with others to the great good the Fruit Growers Association of Ontario is doing throughout the country. The enlargement of the HORTICULTURIST is a step in the right direction, and the Directors are to be congratulated in their efforts to popularize it. Some of the articles on various subjects are of no mean order, and reflect credit on the contributors. The valuable hints given and experiences related through the HORTICULTURIST cannot fail to be justly appreciated by those who take an interest in a department so varied and replete with the choicest of God's precious gifts. Sometimes one is a little puzzled to arrive at a conclusion as to "*what to grow*," &c. The evidence as to what is the best is often very contradictory. Still there are a great many considerations which have to be weighed, such as soil, climate, drainage, &c. A certain kind of apple which would be quite successful at Toronto might be a failure at Barrie, or a Burnet Grape Vine fruitful at Niagara might be barren at Ottawa. In view of the extended operations of the Association, it might be in order for the Legislature of

Ontario to increase the grant from Government. A sum of money voted for such purposes and objects as are propagated by the Fruit Growers' Association of Ontario for the benefit of the people is money well spent. I am of opinion that the time will come when such a grant will be unnecessary. When the aims and objects of the Association are better understood by the people of this Province, then the Association can easily become self-sustaining.

JAMES STEPHEN.

Toronto.

ELECTRO-HORTICULTURE.

"As regards the chemical products, carbonic acid and nitrogenous compounds, it was thought these would prove rather beneficial than otherwise in furnishing the very ingredients upon which plant-life depends, and, further, that the constant supply of pure carbonic acid resulting from the gradual combustion of the carbon electrodes might render a diminution in the supply of fresh air possible, and thus lead to economy of fuel. The plants did not, however, take kindly to those innovations in their mode of life, and it was found necessary to put a lantern of clear glass round the light for the double purpose of discharging the chemical products of the arc and of interposing an effectual screen between the arc and the plants under its influence. The effect of interposing a mere thin sheet of clear glass between the plants and the source of the electric light was most striking. On placing such a sheet of clear glass so as to intercept the rays from the electric light from a portion only of a plant, for instance a tomato plant, it was observed that in the course of a single night the line of demarcation was most distinctly shown upon the leaves. The portion of the plant under the direct influence of the naked electric light, though at a distance from it of nine to ten feet, was distinctly shrivelled, whereas that portion under cover of the clear glass continued to show a healthy appearance; and this line of demarcation was distinctly visible in individual leaves. Not only the leaves, but the young stems of the plants soon showed signs of destruction when exposed to the naked electric light, and these destructive influences were perceptible, though in a less marked degree, at a distance of twenty feet from the source of light. A question here presents itself that can

hardly fail to excite the interest of the physiological botanist. The clear glass does not apparently intercept any of the luminous rays, which cannot therefore be the cause of the destructive action. Prof. Stokes has shown, however, in 1853, that the electric arc is particularly rich in highly refrangible invisible rays, and that these are largely absorbed in their passage through clear glass. It therefore appears reasonable to suppose that it is those highly refrangible rays beyond the visible spectrum that work destruction on vegetable cells, thus contrasting with the luminous rays of less refrangibility, which, on the contrary, stimulate their organic action."—Dr. C. W. Siemens, *in The Journal of the American Agricultural Association for October*.

ASPARAGUS CULTURE.

To judge from the fact that we receive more inquiries about Asparagus than almost any other vegetable, it seems that although the mysteries and secrets which were formerly considered necessary for its cultivation have long since been uncovered and proved to be detrimental rather than otherwise, there still clings to the popular mind some mysterious halo connected with the idea of Asparagus culture. And yet it necessitates less labour and expense than almost any other garden vegetable. The roots cost hardly more than the seeds for other vegetables occupying the same space, and the first expense is the only one. While Peas and Lettuce and the whole list of vegetables have to be sown every year, Asparagus yields its delicious crop year after year, without replanting, for generations.

The most frequent cause of failure with Asparagus is too close planting. Favorable soil and good roots are, of course, necessary to obtain good results, but these can amount to but little unless sufficient space is given for their development. A deep, light, sandy loam is best, but with proper preparation any garden soil can be made to produce a good crop. If so heavy and wet that water stands on the ground during winter, under-draining and deep working will be necessary before planting. On ordinary garden soil, deep plowing or spading and the working in of enough stable manure—a coating of four or five inches would not be too much, although less will do—is sufficient. If this can be done during the fall or winter previous to planting, so much the better. Where practicable, it is far better to plant the roots in long rows on one side of the garden than in

short beds. A single row of one hundred and fifty or two hundred plants, set eighteen inches or two feet apart, will give an ample supply for a family of half a dozen, and, during the height of the season, some to sell or give away to neighbors who are not so fortunate as to delight in an Asparagus-bed. When more than one row has to be planted, they should never be nearer together than three feet, and unless forced into very narrow limits, a distance of four feet is to be preferred.

After the rows are marked out and the line stretched, a ditch with one side slanting and about twelve inches deep is dug with a sharp spade. Against the smooth side of the ditch the plants are placed, and the roots spread out so that the crowns are four or five inches below the level of the ground. A handful of soil is then drawn over the roots and firmly packed down; more soil is then raked in, so as to fill the ditch to within two or three inches of the surface. In a few weeks the sprouts will appear; the ground has then to be loosened with a cultivator or a hoe, and kept mellow and clean during summer. At each cultivating some soil should be drawn into the remaining ditch, so as gradually to fill it entirely.

Often it becomes desirable to plant Asparagus without sufficient preparation having been given to the soil. In such cases, a trench may be dug eighteen inches deep and twelve or fifteen inches wide. Rich stable-manure is put into the trench and trodden down so as to fill it one-half. A layer of three inches of fine surface-soil is thrown on the manure and shaped into a ridge, with its highest point in the center of the ditch; on this ridge the roots are placed at the proper distances, the rootlets evenly spread out toward the sides and covered with about one inch of soil, which has to be firmly packed down, especially over the lower ends of the roots; one-half of the remaining ditch is then filled in, and the rest not

before the shoots have grown several inches above the level of the ground. The subsequent cultivation is the same as given above.

During the second year, no care is required except to keep the bed clear until the stalks cover the entire ground. The third year, and not sooner, the cutting may commence, but if there are any roots which have not made a very strong growth it is best not to cut from these, and in fact as soon as any plants show lack of vigor the cutting should be discontinued. Many Asparagus-beds are ruined by too long-continued cutting. We have found it a good rule to commence cutting as soon as the first stalks appear, and stop with the beginning of Strawberry picking.

Immediately after the cutting season, when the roots are enfeebled by the severe tax of having produced many times more than their natural requirement of stalks, is the best time for manuring; yet an application of fertilizers does not come amiss at any time.

The stems, which, after the cutting season, shoot up with great rapidity, should not be disturbed until they die off naturally, when they should be cut and burned. Salt is, by general consent, considered a special fertilizer for Asparagus. We have during several years applied salt to one part of our bed, and not to the other, without perceiving the least difference in the respective yields. At any rate, salt can do no harm, no matter how liberally applied. Stable-manure, bone-meal, superphosphates, and in fact almost any kind of fertilizer, and plenty of it, are beneficial to Asparagus.—*American Garden.*

PURE NATIVE WINES.

On the occasion of the recent meeting of the Fruit Growers' Association, held in the city of Hamilton, we were invited with several of the members to visit the wine vaults of Messrs. Barnes & Haskins. We were quite surprised to find that this enterprise had attained to such extensive dimensions, and that already there was a varied stock of old native wines produced from grapes grown in their own vineyards near to the city. It would seem that these gentlemen have been quietly perfecting these wines for some years, until now they compare favorably with the best imported, with this decided advantage that they are pure, free from adulteration of every sort, and not strengthened by the addition of spirits. We all know how difficult it has long been to get unadulterated wines, and that much of the so-called wine of commerce is only spirits colored and flavored to imitate the wine whose name it bears; and now that the phylloxera has made such wholesale destruction of the vineyards of Europe, and thereby caused such an immense decrease in the quantity of wine produced, it will be next to impossible to obtain a gallon of pure wine from those countries. Indeed, the importation of American cheap spirits by the wine producing countries of Europe, to be manufactured into counterfeit wines and sent back for consumption in America, has reached gigantic proportions.

We were assured by Mr. Haskins that the chief object of his firm is to produce wines that shall be pure and free from all adulteration, made from the juice of the grape only, and that for several years they have annually pressed many tons of grapes, all of which were of Canadian growth. Their experiments

in wine making have now extended over a period of some twenty years, so that they are able from the experience thus gained to make a really good wine from our Canadian grapes. The wines which were sampled on this occasion were pronounced by those who are competent judges to bear evidence of having been carefully handled and of being well matured. Until recently, grape growing and wine making by this firm has been a labor of love; but the excellence of their products has won for them such a favorable reputation that their business has already assumed considerable commercial importance.

This industry is doubtless but in its infancy. French wine makers, driven by the ravages of the phylloxera to seek more favorable opportunities, are turning their attention towards Canada as a probable place for the establishment of vineyards and the manufacture of wine. It is highly probable that before many years Ontario will produce pure and wholesome wines in sufficient quantity to supply the markets of our dominion, for we possess both the soil and climate eminently suited to the cultivation of many varieties of the grape. A wonderful impulse has recently been given to the cultivation of this luscious and healthful fruit by the introduction of new and choice varieties, some of them of surpassing excellence. The work thus auspiciously begun will doubtless go on, and each year will add some new variety of excellence, until we have native sorts rivalling in every valuable requisite the best grapes of the Old World. If one of the results shall be to give to our people a pure, undrugged wine in place of the fabricated wines now on sale, the thanks of our people will be justly due to these pioneers in grape growing and wine making who have shown the possibility of making a pure and palatable native wine.

THE CULTIVATION OF FOREST TREES.

There is no more profitable use to which rough ground, that cannot be profitably plowed, can be turned than to plant it to timber. But the profit depends greatly upon the kinds of timber planted. Some timber trees are of quick growth; some grow slowly; some are valuable and some worth little; some will best succeed on dry soil, and some best on wet ground, and some require certain conditions of climate. Thus, in swampy places, white cedar, tamarac, spruce and balsam fir will thrive excellently, but the last mentioned is valueless for its timber, while the others are salable at good prices for various purposes. Again, in some localities the otherwise useless white birch is in demand for manufacturing purposes, and will there pay better than any other kind. Hard maple of the bird's eye or curly varieties will grow best on rocky ground in a cold climate, while black walnut requires a warmer climate and rich soil to thrive well. Usually the timbers required for manufacturing purposes pay the best; such as walnut, chestnut, cherry, maple, and birch, which are in demand for furniture; elm, oak, ash, hickory, basswood, and some others, are bought by wagon, carriage, and sleigh makers; cedar, chestnut and locust are valuable for fencing, and in some places an acre of swamp covered with white cedar has yielded nearly a thousand dollars for the fence posts and rails taken from it.

Cultivated timber is worth much more than that which has grown wild, as much so as a crop of cultivated potatoes is more valuable than one self-sown and neglected. The timber grows more rapidly and in better shape, and there are more trees on the

same quantity of ground. Thus, one acre of cedars, planted four feet apart each way, would contain 2,722 trees. These trees, so closely planted, would grow tall and straight, and when four to six inches in diameter might be thinned to eight feet apart, and would yield about 2,000 poles, some of which would make fence posts, and the rest hop poles, the value averaging at least twenty-five cents per tree. This would produce $500 to the acre, leaving 680 trees to continue to grow until they become worth fifty cents to a dollar per tree for various purposes, such as fencing, vineyard stakes, &c. By cultivating the young trees the growth would be very much advanced, so that at five or six years the first thinning might be made, and a handsome income derived from the plantation, while, by ordinary natural growth, twenty years would probably elapse before any income would be realized, and then only a very small one. It is the same with other trees—at eight years old a plantation of chestnut timber has begun to pay a good profit, in addition to the whole cost, by the thinning of the trees for fence posts and rails. While the remaining timber is growing, the cut stumps sprout again, and by the time the former is ready to cut the latter are prepared to occupy the ground, and so an alternate growth may be procured without any planting. A grove of large chestnut trees, with about forty trees to the acre, has paid $120 yearly per acre, for many years, from the fruit alone, which usually sells at $3 a bushel, while trees so grown yield much larger crops than the wild trees; so with special kinds of timber, such as white birch, that is grown for making thread spools and toothpicks, and hickory, that is in demand for light buggy tires and bent furniture work, and other timbers required for furniture, as basswood for wooden seats for chairs and for the bent dashboards of pleasure sleighs, and birch and maple for the frames of chairs and tables. The fact is, one can scarcely go wrong if he will only plant such

timber as will thrive in the soil and situation he can devote to the culture, and this point is the most important to be considered in entering into the enterprise. The first thing to be done is to prepare the ground. This should be by plowing, if possible, or in some way by breaking up the surface. If no other way can be found, this should be done by grubbing a place for the young tree or the seed. Some kinds are not easily transplanted, and grow better when the seeds are sown where the trees are to stand. Chestnuts, walnuts and hickories succeed better when the nuts are planted in this way, and it is easy to plant the nuts and loosen the surface around them with a grub-hoe or a spade, if the ground is too strong, or too rough, or too steep for plowing. In planting nut-bearing trees, it is best to secure a supply of the nuts in the Fall, and plant them at once, if convenient, otherwise, to bury the nuts in the ground in a sheltered spot, and plant them early in the Spring. Trees of other kinds are best raised in the nursery. The seeds are sown in beds, in rows eighteen to twenty-four inches apart, and when the young plants are a year old they are taken up, the tap root cut off, and are then planted in their permanent places, in such a way as that they may be cultivated as a crop of corn should be, if the ground admits of it. Evergreens—as cedars, pines, spruces and hemlocks—require special care in the planting. The seeds should be sown in beds of fine soil upon the surface, and fine mold is then sifted upon them until they are covered not more than a quarter of an inch deep. The beds are then shaded with a screen of evergreen boughs and leaves, and need to be kept moist by frequent watering in dry weather. When a year old the plants are very small, and may be pricked out from the seed-bed to the nursery, and planted a foot apart each way, and still shaded by a screen of boughs laid upon laths or light poles, elevated a foot or two above the surface. When of proper size

the young trees may be removed to the permanent plantation, and the frequent removal will cause them to throw out a mass of fine fibrous roots which very much tends to secure their safe transplanting. For these trees close planting is advisable. This causes a straight, upright growth without lower limbs, and produces the most valuable kind of timber for use when it is small. For bean poles, hop poles, vineyard stakes, ladder poles, and many other such uses, straight, smooth spruce or cedar is worth much more than short, crooked branchy trees; indeed, it is difficult to say what use such trees as these are fit for, excepting firewood, and for this they are worth very little indeed.

There are some newly introduced timber trees which are considered very valuable. One of these is a species of catalpa (*C. Speciosa*), or the showy catalpa. This tree has a large leaf, and produces remarkably large, showy blossoms. It is hardy in the Northern States, Western Canada, Wisconsin, and Michigan. It is a rapid grower, and the timber is remarkably durable, of fine grain, and takes a handsome polish. The ailanthus is another valuable timber tree which is easily grown. This timber is very durable, and is especially valuable for railroad ties, as it holds a spike with great tenacity and bears a great strain without crushing.

The popular impression is that one who plants timber will never live to reap the benefit. This is a grand mistake. Profit, benefit and advantage are not always the personal securing of pecuniary results. One owes something to his children, to his neighbours, and to his countrymen. If there were no other advantages secured than the benefiting of these, it would be one's positive duty to plant timber wherever he could do it with advantage or success. But a comparatively old man may plant and live to reap the profits of his enterprise. Ten or twelve years will return the full outlay made with a larger interest than could

be secured as safely in any other manner of investment. Five years may begin to return the beginning of the harvest, and once begun the harvest is continuous for many years. We have seen fine saw-logs cut on the western prairies, where sixteen years before not a bush broke the view of the whole horizon; and in the Eastern States we have seen pine logs cut on ground that still shewed the traces of former corn-hills when the ground was abandoned to a natural growth of timber. Canada is too new a country yet to shew many such examples, but we have seen there trees of various kinds, fit for marketable uses, which had grown up during the occupation of the present owners of the land. So that for every reason the planting of timber should be made a business by those who have conveniences for it.—*Weekly Star.*

CLIMBING PLANTS.

There is a charm about these plants that always commends itself to the lover of the beautiful, and wherever we see a lover of flowers we are sure to see climbing plants, from those gems that greet us in the morning (morning glories), to the stately cobeas, bignonias, passion vines, or climbing roses. The number of sorts that can be grown is legion, and many good things have scarcely yet got into cultivation that are worthy of it, amongst which may be mentioned the Apios tuberosa or ground nut. This is a little gem; in July and August it is one mass of chocolate-colored, pea-shaped flowers, which is a very unusual color in flowers. Its leaflets are very pretty also.

It grows upon the low bushes of the Northern woods, and often lends a beauty to a hazel bush, which is rarely very fine itself. The Apios has a tuber, or a number of them, to one plant, like a potato, but smaller. They are nutritious, and would be a good substitute for some of the things we eat. This can be grown in a window, and would be a fine ornament if the tubers were started late in summer so as to throw its flowering season late in the fall, but as a garden climber it would be fine planted amongst tall-growing summer roses, as it would do them no harm, but lend a beauty to them after they had done blooming. Most people make a mistake in trying to grow climbing plants. They put up the most unnatural things for them to twine or climb up, and they have to be tying, nailing, and otherwise fixing their climbers all the time, when, if they paid some attention to these plants in a state of nature, they would learn a lesson. A few straight sticks, if placed upright in the ground amongst twining plants, will lead them up to other things, so that they can twine and go higher. A

barbed wire fence can be made pretty if morning glories, or even the echinocystis (wild cucumber), is sown along it, and a few sticks put so that the little plants can reach the wires above them. The best thing for making a fence of in a garden, to be ornamental, and for climbers or twiners to grow upon, is wire netting, with about four-inch meshes. This can be bought for about fifty cents a yard, and yard wide. It makes an elegant low fence if everlasting or sweet peas are sown along it; or it is improved by mixing in the taller kinds of nasturtiums or ipomea coccinea (scarlet morning glory). Everlasting or sweet peas do best when they are sown in the fall.

The Celastrus scandens (Rocksbery wax work), or commonly known as the bittersweet, is one of our best twiners, and to find a full-grown plant of it in its glory of fruit, in the winter, in our woods, is enough to make everybody want to grow it who sees it. Occasionally one can be seen in the woods north of Evanston, that the woodman's axe has spared. It has grown up some trees twenty feet or so, and has spread as wide. It will be loaded with its bright red berries, which is simply a sight to gratify all lovers of the beautiful, if seen when snow is on the ground, bright, glossy leaves of the Celastrus are another recommendation for growing it as a choice out-door twiner. It grows abundantly on the Illinois Central railroad from Thirty-fifth street, south of Chicago, but is rarely seen in fruit until we reach Indiana. Our old stand-by, the Virginia creeper, or Ampelopsis, is a valuable plant to put upon walls or trellises, but it finds difficulty in getting up if it cannot find something like a piece of wire or nails to take hold of. The Rhus Toxicodendron, or poison ivy, is often found as a climber, and were it not for its poisonous nature it would be a good thing to plant against painted or brick walls, as it will cling like the English ivy. Its poison is more feared than is needful, for if it

affects any part of a person's skin it is instantly neutralized if a little soil and spittle, or a drop of water, with a little ammonia in it, is rubbed on the parts affected. (The writer has collected fifty pounds of leaves at one time, and cut them up fine for medicine, but did not suffer, though all was done with the hands bare.) Hoping the reader will excuse him, the writer wishes to say that most vegetable poisons on the skin, the sting of bees or wasps, can be instantly rendered harmless, or the pain removed, by rubbing the parts affected with any kind of soft mud.

The tender aristocratic twiners and climbers, such as cobea scandens, eccremocarpus, Madeira vine, maurandias, physianthus albens, lophospermums, and the solanum jasminoides, are very fine, but ought to be in conspicuous places, as they are choice, and ought not to be subject to the rough winds that we sometimes get here. These, not being hardy, have to be kept in-doors in winter. There is one of the ipomeas that blooms at night, and has flowers as large as a saucer, or six inches wide. They are pure white, and very fragrant; it is called Noctophyton, or Bona Nox. The seeds of this will grow if sown in a window about May first, and be ready to plant out about June 10th, which is early enough. It grows to a great height, and is very interesting when in flower at night in the summer months.

Both our native and the Chinese Wistaria are splendid twining plants, and ought to be grown more than they are. They are hardy enough, but the most climbers that the writer has seen growing about residences are cheated, and the growers have "sunk the ship for a bucket of tar." They have not given their plants a fair chance, for most of these plants, in a state of nature, grow in good beds of vegetable mould, and we see them trying to grow near houses in the poorest of stuff, like trying to make a silk purse out of a sow's ear. The Celastrus, and many vines,

will grow in the sand and gravel of the lake shore, but see the same vines growing in the rich woods and they will surprise many who are fond of climbing plants.

Our various park commissioners have an opportunity to show what can be done with twining and climbing plants, instead of going in the old ruts of putting a plant or two in vases or on trellis work. Let them devote an acre or two to these kinds of plants. The thing could be done in an ornamental manner, without much expense, if the right spirit was put in the matter. Many of the residences of gentlemen would be made more attractive if there were a greater number of twining and climbing plants about them. It is not always the wisest plan to crowd a place with the showy things. Many interesting twiners grow in the woods not a great distance from Chicago.

Our farmers could easily have lots of interesting places about their homes, especially near wood lands. A pile of old stumps can be covered with creeping, twining, or climbing plants, and though it brings nothing back to the purse, it will often give more pleasure than money can buy to their wives, little ones, and friends.

Many kinds of climbing plants have some curious things about them. One of the Passifloras opens its flowers with loud noise, hence probably its name. The menispermum, or moon seed, has a curious shell that partially covers the seed. It looks like half of a hazel nut shell with the nut in it. The ladies of the South collect them to make rustic frames for pictures. The Aristolochia has a curious pipe-like appendage to the flower, hence it is called Dutchman's Pipe. The Loasa is covered with hairs that will sting like a bee's sting if touched by any tender part of a person's body.

Our climbing roses are known to everybody, but they, strictly speaking, could not be called climbing, for in their

native state they have to work their way over other things, even their own old limbs. They are, more strictly speaking, reclining plants, and the writer would like to see some one who would have the courage to treat them as such. Any one who has seen Rosa setigera, or the wild Michigan rose, so-called (it grows in many parts of Illinois), that our "Prairie Queen Rose" was raised from, must have been struck with its great beauty when growing in a state of nature. The writer saw one bunch of it thirty feet through, or in diameter, the past year, with thousands of flowers upon it. If the writer prevails upon some one to try and grow the Prairie Queen as it grows wild, he will feel thankful.

In concluding this paper, it is wished that some one may take pity upon our woodbines or honeysuckles. Though not all climbers, they are worthy our attention, and deeper, better soil than we usually see them in, in gardens.—A Peramбulating Gardener, *in Prairie Farmer*.

LETTUCE.

Among the many vegetables which are usually found growing in any well-stocked kitchen-garden, there are none that are more highly prized than one, two, or three varieties of Lettuce. This vegetable is always in season, and always a welcome relish for those who are fond of the choicer productions of the vegetable garden. The wonder is that a vegetable so easily grown, and one that is so highly valued, is not more generally seen in the gardens of the many, instead of the few, for this seems to be the case. In large centers of population, the demand for Lettuce extends the year through, and it is one of the leading crops raised by market gardeners, in the winter under glass, and in the spring and summer as an out-of-door crop. In former years, the bulk of the winter production of Lettuce was raised in hot-beds and cold frames, for the winter and early spring supply. But now a large part of the winter supply is grown in houses, constructed and heated in the same way that the ordinary greenhouses are; and this latter plan is a great improvement on the old-style method. In these houses there are three crops of Lettuce raised between the first of December and the first of May. This plan enables large hotels and first-class restaurants to have Lettuce on their bill of fare at all times through the year. For family use, an early spring supply can easily be raised by planting in a hot-bed at any time that the bed is ready, setting out sixty plants under each sash of 3 × 6—the usual size—giving air in mild weather, and frequent waterings with tepid water. The market gardener always sows the seed for the following year's crop in September. In November, these young plants are "pricked" out close together in an ordinary

cold frame, where they are kept until planting time, in March or April.

The plants for the crop of early cabbages are set out in rows two feet apart, and a row of lettuce is set between each two rows of cabbages. The lettuce comes to maturity and is marketed before the cabbages are half grown, and, by economizing ground, a large quantity of produce is raised from a comparatively small surface. When the lettuce plants have not been kept over through the winter, then sow a small quantity of seed in a hot-bed at the time of sowing tomatoes, egg-plants, and other seeds wanted to stock the garden. Seeds sown in this way may be planted in the open ground, in the latter part of April, and, unless checked by cold, frosty weather, will grow rapidly, giving some for table use in five weeks from the time of planting. Cold-frame plants can be set in the open ground three or four weeks earlier than hot-bed plants; and to gain this advantage in time, and lengthen the season, it is a good plan to buy two or three hundred of plants from some market gardener or seed-store. These can be planted in the garden as soon as the ground is fit to work, and as a matter of course, will give lettuce for table use four or five weeks earlier than hot-bed plants. There is one fact that should be borne in mind, that is: to grow crisp and tender head-lettuce, the *soil must be mellow and rich*. One of the pleasant features of raising lettuce for home use is to have it come in succession, and this can only be attained by planting at different times, three or four weeks apart. The way to get early lettuce has been briefly outlined. The later crops come from sowing the seed in the open ground, in some sheltered spot, as early in the spring as it will do to work the ground. The seed-bed should be made mellow and smooth, and the seed may be sown broadcast or in shallow drills, covered very lightly by raking over the bed with a wooden rake,

drawing the rake in the direction of the drills. The latter method is preferable, from the fact that, while the plants are small, the spaces between the rows may be disturbed with a hoe, and the growth of the plants hastened, as well as the weeds kept down.

There is now a long list of varieties, and, unless one has had some experience in raising lettuce, it is rather difficult to choose and not make an error in the choice. Among the very best sorts to select for family use, one that is widely and favorably known is the "Early Curled Simpson." This lettuce is a favorite with market gardeners, and is extensively grown in the vicinity of New York for that market. When planted on rich ground it grows into a large head, that on the table will be found crisp, tender and of good quality. Another and very excellent variety is the "Hanson" lettuce, which grows to a large size, forming a solid head, crisp and of fine flavor, and very popular among the consumers. "Tennis Ball," "Boston Market," "Early Butter," and other sorts, are prized on the table, when grown on ground that is in good heart. There is neither profit nor pleasure in attempting to grow lettuce on poor, thin soil. In planting in the garden, set the lettuce one foot apart each way, and then keep the ground mellow and free from weeds—*American Garden.*

GAS TAR WATER FOR INSECTS.

BY D. M. DEWEY, ROCHESTER, N. Y.

In conversation to-day with a farmer friend, I got from him what I think every planter should know. As he is a reliable man, I give you his statement, believing you will confer a favor on many of your readers by publishing it:

Gas Tar Water Sure Death to Potato Bugs. Mr. S. R. Hart, of Brighton, N. Y., near Rochester, has for two years past used on his potato vines water which has been impregnated with gas tar. One gallon of gas tar in a tub, and fill the tub with water; stir it up well, and let the tar settle. Then sprinkle the vines with the water from a sprinkling pot. This has proven more effective than Paris green. He has also tried it on currant bushes, and finds it equally effective. It is inexpensive and perfectly reliable, and will prove equally sure death to insects of every kind on trees. This gas tar can be had at 75 cents a gallon, and one gallon would suffice for many acres of potatoes or a nursery for the season. I give you this information believing your readers will find it a great desideratum in these days of insect pests.

It has long been known that tar applied to trees destroys the worms; but until now there has been no method of applying it to shrubbery or vines. Gas tar possesses chemical properties not found in ordinary tar. Water, strongly impregnated with gas tar, is found to be sure death to insects, worms and bugs.

FAMILY SUPPLIES OF FRUIT.

The *Country Gentleman* replies to those who wish to know how they can obtain an early supply of fruits for their families, and for what portion of the year these supplies may be obtained by means of a suitable selection, as follows:—

In the Northern States, the first ripening sorts begin early in June with strawberries. Of these there will be a difference of about a month in their season, the earliest productive sorts being the old Wilson, and the newer Crescent, Duncan, and not always productive Crystal City. These are followed by the Cumberland, Seth Boyden, Sharpless, Kentucky, &c. As far north as New York City, these different sorts should give a good supply every day for the table, from the first of June until early in July, with beds well cultivated, covering three or four square rods of ground. Half a dozen or more of cherry trees will begin to furnish ripe fruit from the middle of June till the middle of July, if they can only be allowed to remain on the trees till ripe—which, between the birds and the family, is rarely done. Early Purple Guigne and Belle d'Orleans are the earliest; then Coe's Transparent, Black Tartarian and Rockport; and later the Dukes and Morellos. Early Richmond is generally reckoned an early sort, but if allowed to hang a month it is greatly improved.

Then come the currants and gooseberries, the raspberries, and blackberries; but before these are all ripe the early pears and apples are on hand, and, where they will succeed, those delicious early fruits, the apricots. The first peaches and plums are not much behind, and the first grapes ripen before the end of summer.

Plenty of delicious fruits run through the entire autumn. We

have peaches and plums till frost; and apples, pears and grapes throughout. There are so many sorts, and of such ranging quality and character that every person may be suited. Grapes and pears may be kept through winter, and apples into June. No one who has an acre or two of land to plant need be without a plentiful supply for a single day in the year. He will need, however, to observe three requisites—first, to make a good selection of sorts for his particular locality, much of which may be learned from his successful or experienced neighbours, if he has any; secondly, to give his garden and orchard the right cultivation; and thirdly, and very important, to have a good, cool fruit room to keep his winter sorts and long keepers in. Carelessly thrown into a common cellar, apples may all rot by the first of April; in a carefully attended fruit room (without ice) we have kept such common sorts as the Baldwin fresh into July.

It will be borne in mind that while it is necessary for profitable marketing on an extensive scale, to select the most favorable localities for soil, aspect and other influences which shall give uniformly good crops, a good home-garden may be had almost anywhere, which will give satisfactory returns, with a proper selection of kinds adapted to it, and with good cultivation. It is always safest to choose dry upland, and to avoid low or mucky soil. If necessary, it must be well underdrained, and before planting, especially for small fruits, it should be made mellow by previous cultivation, in order that the young plants may be easily set and kept clean. Some enriching by manure is nearly always essential, but at least a part or the main portion may be applied afterwards by successive autumnal top-dressings. For standard fruit trees, this top-dressing is better than trying to make the ground very rich on the start, a clean and mellow surface being the great requisite for young or newly set trees.

In order to facilitate frequent cultivation after the plants and trees are set out, everything should be placed in rows so as to admit the passage of a horse in doing the work. There is nothing more essential to success with small fruits, and with large fruits, while the trees are young, than constant clean mellow cultivation. If the work is to be all done by hand labor, it will be sure to be neglected, and a hard crusted and weedy surface will result in nearly total failure. If annual manuring is given in autumn, crops of vegetables may be taken from among the larger trees.

The inquiry will naturally be suggested by occupants of new places: "How many years must I wait before I can have plenty of fruit?" Under the usual management you may have a good supply of strawberries next year from plants set out this spring, and raspberries will begin to bear next year, and more freely a year later. Currants and gooseberries will require about the same length of time, and grapes will come into moderate bearing nearly as soon. Dwarf pears will begin to furnish a fair supply the third year, if you select early bearers. Even standards of some sorts will be nearly as soon in coming into bearing—such, for instance, as the Bartlett, Washington, Summer Doyenné, &c. Much will depend on the treatment they receive.

SEEDING ORCHARDS.

As to the treatment of Apple orchards, we know that when they are established on light gravelly or sandy soils they require periodical applications of manure, that the ground should also be kept loose by shallow plowing, and afterward to be surface-stirred with the harrow or cultivator—all of which is requisite to maintain a proper degree of fertility.

We have learned that to sow grass on the surface of the orchard planted in such soils is simply the first step toward the destruction of the trees, so far as regards their fruit-bearing capacities. Of course, we are now considering ordinary condition and management, for it is quite practical, merely considering it as a question of possibility, to so enrich the surface of even the lightest of soils as to obviate necessity of further surface culture.

On the other hand, we may imagine the case of an orchard placed in a condition of things very much the reverse of the one we have considered. In this the soil is a strong, rich loam, perhaps with a preponderance of clay in its composition, and the trees are growing vigorously, and for some years have been making a great quantity of wood and but very little fruit.

When a case of this kind occurs, we know that in order to produce fruitfulness we must, by some means, weaken the growth, and the most available means is to cover the orchards with grass. This will have a tendency to check the growth of the shoots, and as a consequence favor the production of fruit. This is in accordance with the general law that "whatever tends to weaken a plant favors the production of flowers and fruit, and whatever tends to the luxuriant growth of leaves and branches is

unfavorable to the production of fruit."

Therefore it is that the question as to whether orchards should be kept in grass or cultivated like a corn-field cannot be answered with regard to orchards in general; but when the question is applied to any particular orchard it admits of a definite answer, the condition of the trees (and soil) indicating what the answer will be.—WILLIAM SAUNDERS, *before the Potomac Fruit-Growers*.

ADVENTURES OF AN ACORN.[1]

The following lines were written by a Scotch horticulturist, to illustrate how curiously seeds are sometimes scattered over the earth. The story in this case is literally true, and what makes the circumstance the more interesting to Scotch botanists, is the fact that the oak thus strangely introduced into that country is of a kind different from any hitherto growing there:

In the far off wilds of Canadian woods,
Where the red man lives and dies—
Where the wild turkey hatches and rears her broods
Unseen to the white man's eyes—
There fell to the shot of a gun one day,
To the sportsman a glorious prize,
A turkey, whose flight lay over his way,
A bird of a royal size.

This turkey was sent to old Scotia's shore,
As a Christmas treat to a brother,
And never on Christmas board before,
Had the Scotsman seen such another.
And deep in the "crop" of the bird he found
(Now here is the pith of the story)
A seed of a tree whose name is a sound
Of renown in old England's glory.

The acorn was planted in mother earth,
And soon to new life awoke,
And fresh from the ground there issued forth

A sapling of royal oak.
Now wise men all, I pray you please,
To mark the curious ways
By which the seeds of plants and trees
Are scattered in our days.

Discovery of Extensive Pine Forests.—The recent exploration party of Colonel Mercer up the Spanish River, in the province of Ontario, is said to have discovered vast pine forests, containing upward of 24,000,000,000 feet of a superior quality of pine lumber, with facilities for getting it to market equal to the best.

Keeping Apples.—G. F. Newton, in a paper read before the Ohio Horticultural Society, describes an experiment in keeping apples, by which he had Tompkins King with fresh flavor and bright color in April, and Rambo and Peck's Pleasant in July. The secret of success was a constant low temperature. They were gathered in September, heaped on the barn floor till cold weather, carefully assorted, barreled, and kept in a cold cellar. The uniformly low temperature was preserved by opening the ventilators of the fruit-room in cold, and closing them in warmer weather.—*Country Gentleman.*

Shortening-in the Peach.—Those who have made an actual trial with shortening in the shoots of the peach, do not find it to require the amount of labor which the inexperienced suppose necessary. A. C. Younglove, of Vine Valley, N. Y., shortens back his orchard of 600 trees, performing the work expeditiously, and he finds it profitable, greatly improving the fruit. In answer to the frequent inquiry as to the best time for performing the work, late summer and early spring may be given. If done late in autumn the trees are made tenderer for withstanding the cold

winter. If done before the leaves drop and while there is still some growth, the wood ripens well and is prepared for the cold. —*Country Gentleman.*

PRESERVING AND MARKETING—OVER PRODUCTION.—If any one will take the trouble to look into the facts about the comparative price of the different kinds of fruit grown in this country they will see how foolish is the idea that the country is in danger of being overstocked. The price of apples, peaches, pears, strawberries, grapes, etc., for forty years, dividing that time into four periods of ten years each, and statistics show that on an average the price of fruit has constantly increased. In strawberries and other small fruits this has been very marked. Production has grown rapidly in that time, but prices have constantly advanced. Occasionally we have a year of great abundance of apples, and prices are low. But farmers generally do not seem to have realized yet that the surplus in apples may be very profitably utilized in fattening both hogs and cattle. The best of meat may be made with a little corn and plenty of apple food. In older countries it is well known that this kind of feed cooked and mixed with ground grain is very healthful for all kinds of stock, and it is doubted that hogs would have the disease known as cholera if fed this kind of ration frequently. So we see that in years of abundance the surplus fruit, when the price is low, may be profitably fed to stock, and thus we may realize a good price for it. There is no danger of planting too many orchards, or of getting too much fruit.—*Indiana Farmer.*

[1]

> These lines, by "Patriarch Peter" penned,
> My less romantic tale amend.

W. M.

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- Inserted a table of contents, with links in HTML and ePub versions.
- Corrected obvious printer errors, leaving inconsistencies and spelling variations unchanged.

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