Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured covers/ Couverture de couleur
- ☐ Covers damaged/ Couverture endommagée
- ☐ Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/ Le titre de couverture manque
- ☐ Coloured maps/ Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- ☑ Bound with other material/ Relié avec d'autres documents
- ☑ Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- ☐ Coloured pages/ Pages de couleur
- ☐ Pages damaged/ Pages endommagées
- ☐ Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- ☑ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached/ Pages détachées
- ☑ Showthrough/ Transparence
- ☐ Quality of print varies/ Qualité inégale de l'impression
- ☑ Continuous pagination/ Pagination continue
- ☐ Includes index(es)/ Comprend un (des) index

  Title on header taken from:/ Le titre de l'en-tête provient:
- ☐ Title page of issue/ Page de titre de la livraison
- ☐ Caption of issue/ Titre de départ de la livraison
- ☐ Masthead/ Générique (périodiques) de la livraison

☑ Additional comments:/ Commentaires supplémentaires: Wrinkled pages may film slightly out of focus.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
							✓				

LOWER CANADA

AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER;

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES

PUBLISHED UNDER THE DIRECTION OF

M. J. PERRAULT,

Member of the Provincial Parliament for the County of Richelieu.
Pupil of the Royal Agricultural College of Cirencester, Gloucestershire, England
and of the Imperial Agricultural School of Grignon, Seine and Oise, France
Member of the Imperial Zoological Society of Paris, &c.

APRIL 1864.

SPARGERE COLLECTA.

OFFICE—TOUPIN'S BUILDINGS, PLACE D'ARMES,
MONTREAL.

AGRICULTURAL REVIEW.

APRIL.

Official Dep'nt.

Montreal, 1st April, 1864.

SIR,—I have the honor to call your attention to the following section of the consolidated Statutes of Canada, and trust that you will comply with its requirements.

"The Secretary and Treasurer of every "Agricultural Society shall be bound to "furnish security to the said Agricultural "Society of which he is the Secretary and "Treasurer, to the amount of Eight Hun- "dred dollars, to the satisfaction of the "President and Vice President of the "said Society; and it shall not be lawful "for him to receive any money from the "Board or Bureau of Agriculture, without "having first furnished a copy of such se- "curity to the Board of Agriculture."

You will therefore have the kindness to send to the office of this Board, and at your earliest convenience, an act of security for the sum of Eight Hundred Dollars approved by the President and Vice-President of your Society.

Your obedient servant,

GEORGE LECLERE,
Sec. B. A. L. C.

EDITORIAL DEPARTMENT.

SMALL vs. LARGE FARMS.

FARMING operations, like many others, are often attempted on too large a scale for the means of the operator. There is no fault more common than this. Our farms are almost all too large, and yet it is useless, perhaps, to speak of it, except to remind those who have small farms of the fact, and that they can, if they manage their business well, make more clear profit than is made by those who own too much land. It is all idle to pretend to lay down exact rules for the number of acres in each farm; but this may be assumed, that no farmer should occupy more land than he can cultivate thoroughly, and these kept in a constant state of improvement, as to capacity for crops. Its extent will then depend on the ability of each occupant, not only as to physical force, but this combined with other considerations, such as every farmer can estimate for himself. In other cases he would do this safely; but as to quantity of land, each one desires more! We have known many a farmer made *absolutely poor* by owning too much land, or *too large a farm;* and others become *rich* by owning *too small a farm!*

In proof of the above we will state that we once knew the owner of a very large farm in this State, of excellent land, embracing a village. He was a man of substance—one of our great farmers in the early part of the present century, having houses full of working people, and, as usual in those days, abundance of horses for teams, and plenty of negroes (slaves) to drive them. They used to summer fallow and sow with winter grain, one hundred or more acres, besides having immense fields of corn, oats, barley, buckwheat, and meadow, with pastures and great stock of cattle.

Some fifty years ago, an Englishman, a farmer, rented a small piece of ground near the village, say of forty or fifty acres, and had the audacity to call it a farm, and to tell the owner that he thought it such, and

large enough! A few years after, the owner informed the writer, and with wonder, that this English farmer actually made more clear profit every year from this small piece of ground, than he did from his farm of perhaps as many acres. This English farmer had the benefit of succeeding a very slovenly and neglectful tenant, and knew well how to use what he had neglected, immense quantities of well rotted manure. But the main secret of his success is, that he was careful to apply all his manure skillfully, at the right time and in the right place, so as to concentrate and condense his applied labors, manures and means of all sorts, that nothing should be lost by being spread too thin, extended over too much ground. If it were not for giving offence, we might cite instances of both kinds. To avoid this, let us invite every one to task his own recollection a little, and produce instances from his own observation. When he shall have done so, let each be a lesson to him.

A thrifty farmer generally persuades himself that he must be buying more land, a piece from this neighbor and a piece from that; and as readily persuades himself that those who sell must be unthrifty. Both positions may be true, and both may be false. The very idea, to most farmers, of selling off pieces of their land, is of the extremely repulsive kind, a sort of damper, mortally dreaded. Yet we have known men who had the courage to do it, because they thought it best, and who have never had occasion to regret having done so. In all neighborhoods, there are some men overmuch wise as to the business of their neighbors. Such men grow fat upon it whenever a farmer sells off some of his land, never once doubting that he who does so must be growing poor. Such are some of the reasons why the farms in this country are almost too large, and will be till diminished in size by pure necessity. Small farms lead to improved husbandry.

The prevalent fault of our agriculture is perhaps a disposition to run over too much land. Manure may be spread so thin as to lose all good effects from it. So also may labor, by which it costs more than it comes to. An eagle in the pocket of a farmer is not only a solid substance, but will exchange for any other that he may chance to want, as will gold in coin, because the representative of value of substantial things connected with the real wants and comforts of life. When beaten out to gold-leaf, however, though still gold, spread amazingly thin, it passes into an article for the use of the fine arts, the value of which depends not so much on the real as the imaginary wants of life, and its value is very uncertain.

The improvement in culture and agricultural implements has been steadily progressing, and the general state of "the art of all arts," as the printers call theirs, is vastly superior to what it was some fifty years ago, and is even improving every year. Yet not so much by "fits and starts," as many people seem to imagine, but by steady effort, solids acting on solids, minds on minds—grave, sedate, calculating, seeking certain profits, such as farmers are principally concerned about. Speculation will not do for farmers, your "slow and sure men," the real back-bone of social, civil, and moral order.—C. N. BEMENT, *in Country Gentlemen.*

PROFITS OF FLAX CULTURE.

THE extraordinary rise in cotton and woollen goods should have the effect to stimulate the production and manufacture of flax. When cotton cloth could be obtained at six to ten cents a yard, it was no object for farmers to cultivate flax; but now affairs have so changed as to warrant our farmers in turning attention to this branch of agriculture. A gentleman in Ohio, who raised three acres of flax last season, gives the result in communication to his local paper in these words and figures:

Product from three Acres.

1440 lbs. dressed flax, at 17 cents,	$214.80
70 bushels seed, $1.60	112.00
Total.....	$356.80

Cost of Raising.

2½ bushels of seed sown.....	$10.00
Plowing.....	4.00
Harrowing.....	2.00
Pulling, at $5 per acre.....	15.00
Threshing off seed and rotting.....	10.00
Dressing about 3 cents per lb.....	34.00
Total.....	$75.00
Profit.....	$281.80

This at present prices shows an enormous profit; but there is nothing fabulous about it. Two years ago flax brought only six cents per pound, and it is now seventeen, and besides this the reader will see that the farmer receives good wages for all he does. With only ten bushels of seed

and four hundred pounds dressed flax to the acre the product would be $84 to the acre.

If the season is favorable it is safe to estimate twelve bushels of seed to the acre will yield as high as nineteen bushels, and when the straw is good will yield 500 pounds dressed flax to the acre. Corn stubble is good for flax; it does very well on sod, if plowed early. The ground wants to be well harrowed and put in good order. Sow from three-quarters to one bushel per acre. Generally sow when you do oats. Early sowing has done best of late.—*Germantown Telegraph.*

SUGAR FROM THE BEET.

BEET-ROOT sugar can be made cheaper than maple sugar, even where the farmer has a good sugar orchard, for the cake left after the juice has been expressed from the beet will pay all the expense of raising the beet and making the sugar. An acre of sugar beet will produce not less than 15 tons of roots. The lowest yield of sugar is 7 per cent., and of molasses, or syrup, 3 per cent. more. An acre would yield of

Sugar	1050 pounds.
Syrup	45 gallons.
Cake	3 tons.

The money value would be

1050 lbs. sugar at 10c. per lb	$105.00
45 gals. syrup at 50c. per. gal.	22.50
3 tons cake at $10 per ton	30.00
Gross receipts	$157.50
Suppose we put the cost at	57.00

We shall have a profit of $100.00 per acre, without in anywise interfering with the regular business of the farm, or affecting its productiveness in any one branch.

Sod well manured in the fall, turned over in the spring, and planted to corn, and kept clean, would be an excellent preparation for the roots; and flax should follow the roots, and the ground might be seeded with the flax, so that two new and profitable crops will be added to the resources of the farmers.

THE AGRICULTURAL COLLEGE OF NEW ENGLAND.

THE Board of Trustees met at the State House on Wednesday, Feb. 3, and received a report from the committee appointed to examine the "Cary farm, at Lexington, which was favorable. Mr. Erastus Hopkins of Northampton, stated to the Board that he was satisfied the sum of $75,000 would be raised by subscription, and he offered that sum on behalf of the citizens of the town. He also said that ultimately nearly ten times that sum would be realized by the institution from the "Smith fund," in case the college were esatblished there. Hon. Charles G. Davis, of Plymouth, submitted to the Board propositions, conveyed by Prof. William S. Clark, of Amherst College, including votes of the town of Amherst appropriating and offering $50,000; also votes of the Trustees of Amherst College giving to the Agricultural College for ten years the free use of many facilities, and of much valuable property, severally on condition that the Agricultural College is located in that town. Mr. Phineas Stedman, of Chicopee, addressed the Board in favor of establishing the college at Springfield, and pledged $50,000 from that city in case the institution shall be located in that place or in Chicopee. He gave facts tending to show the advantages of that locality.

AGRICULTURAL COLLEGE OF PENNSYLVANIA.

WE have before us, through the polite attention of President PUGH, the Catalogue of this institution for the year of 1863. It contains the names of the officers and students of the College, gives the course of studies and progress of construction of the buildings. The number of students for the year was 142. We have read its pages with interest, and so far as the course of study is developed, think it judicious and practical, and one that will commend itself to such persons as are desirous of placing their sons in a position to learn agriculture and its kindred arts. The progressive step in the study, or laboratory, and in the field, are natural, and are so arranged as to attract and lead the earnest student into the intellectual regions of rural life.

In speaking of the peculiarities and advantages of the "course of study," President PUGH says:

"The student has the opportunity of seeing all the practical operations of the farm, garden and nursery performed in the most approved manner, with the use of the best manures, seeds, tools and implements; and, what is of more importance than this; he studies in the class room and laboratory the scientific principles involved in all he

does, and by becoming a scientific man and analytical chemist, he is enabled to protect himself and others against the frauds that are continually being practised upon the uneducated, by dealers who are themselves either ignorant of science, or who use it to impose upon the community. He learns how to study the geology, mineralogy and chemistry of the soil he cultivates, the botany of the plant he grows, and the laws of health and diseases of the animals he uses.

"In a word, he is made thoroughly acquainted with the laws and phenomena of the material world with which he is in immediate contact, and about which farmers are must deplorably ignorant, but a knowledge of which is essential to their material success or intellectual pleasure, in the pursuit of the duties of rural life."

KNOWLEDGE—ITS BENEFITS TO THE FARMER.

THE field of knowledge is infinite. Whether it be of professional knowledge, or of that which has no immediate application to the professional or industrial pursuits of man is competent, and no life sufficient but for the attainment of a small portion of it. So much as is attained by the most learned is only as a sand on the shore, or a drop in the ocean, compared to the whole field of knowledge.

Mr. Preston, one of the most eminent lawyers in England of our day, devoted himself, as the lawyers of that country do, exclusively to the study and practice of one department of the law—that relating to real estate, or the branch of law called by the lawyers the "real law." He was the author of several treatises on that part of law, considered the most accurate and learned among those written in that department. Yet, after thirty years' practice, and having won an enviable ruputation as a jurist by the publication of his works, he said that he did not comprehend fully the real law of England.

The man is not living in Massachusetts, —he has never lived there,—who has fully comprehended the whole volume of the knowledge that is contained in a blade of grass, or in a small piece of stone, or lump of earth. Yet are there many among our farmers who consider a suggestion that there are things in their art to be learned by them, as entitled merely to derision. So it is with other men in all the walks of life. Lawyers who have not a tithe of the knowledge to which Mr. Preston had attained in the "real law," would not speak so humble of their knowledge as he did—nor would they think so disparagingly of it.

The first step in the acquisition of knowledge is to lay aside this delusive idea that there is nothing to be learned—and in no art or pursuit is it so necessary as in agriculture; for the reasons, *first*, that the area of knowledge and science involved in that art is more extensive, varied and vast than in any other,—and, *second*, that the store of knowledge is of recent collection, and that vast accessions have been made to it since the birth of farmers now in life. Among these are the structures of the various organs of plants, their functions, the secretions, modes of germination, vegetation and annual increase and decadence, the elements of which they are composed, the fact that all these elements exist in the earth, that they are absorbed by the plant for its sustenance, and that inorganic mineral matter is thereby converted into organized vegetable substance,—that such vegetable substance has life and is subject, like the animals, to disease, and endowed with the faculty of reproduction by a mode similar to the continuation of the animal races.

WHAT MAKES A BUSHEL.

THE following table showing the number of pounds in a bushel of the different kinds of grain, seeds, potatoes, fruit, coal, etc., will be found of practical benefit to our readers:

Wheat	60	pound
Corn, shelled	56	"
Corn, on the cob	70	"
Rye	56	"
Oats	32	"
Barley	46	"
Buckwheat	52	"
Irish potatoes	59	"
Sweet potatoes	50	"
Onions	57	"
Beans	60	"
Bran	20	"
Clover seed	60	"
Timothy seed	45	"
Hemp seed	45	"
Blue grass	14	"
Dried peaches	33	"
Flax seed	56	"
Castor beans	46	"
Dried apples	24	"
Coal	85	"

MONEY-MAKING IN FARMING.

IN a recent article under the title of "Concentrated Farming," the results to be anticipated from the application of increased capital in our Farm Management, were illustrated by a comparison between the profit of getting a certain product from fifty acres by good farming, or from one or two hundred acres farmed in the usual way. In a paper read before a foreign Farmers' Club a few weeks ago, under the title of "High Farming, and where is the money to come from?" a similar calculation was presented, when a warm discussion followed, and one of the speakers brought forward the common objection that it is well enough to give such advice, but "what will be the consequence if everybody follows it?" All the old-style farmers present took this to be a "poser." "If all the farmers in England go into the market at once," said the objector triumphantly, "for three pounds' worth of manure per acre, what point will the prices of these fertilizers reach?" and another of the same school of thinkers shortly after said, not less decisively, that a policy had been advocated "which, if carried out, would leave half of the country out of cultivation." Now this was up in the County of Cumberland, into which the spirit that animates the more productive and richer English districts, has not yet very deeply penetrated, and where moreover Mr. Mechi had not very long before made a visit, and so completely startled all the time-honored opinions of the inhabitants by some of his very biggest stories, that they were evidently taken by surprise when they found that any such heterodox doctrines should actually have sprung up in their own midst, and at the same time completely on their guard not to be "bamboozled" by figures or reasoning tending in the direction of the worthy Alderman's astounding statements.

Now we have ourselves heard the corresponding question frequently put—You advise us to farm fifty acres *well*, rather than a hundred badly—but what will become of the rest of the farm, and of the half of the State, that is thus abandoned? The answer that at once suggests itself seems to be purposely overlooked,—that but very few —it is astonishing how few—will really act in accordance with the spirit of the recommendation, and that those who do so will consequently profit by the slowness and negligence of their neighbors. When Sir Robert Brisco, the author of the paper above referred to, urged an increased expenditure upon artificial manures, he was very well aware that his advice was not likely to exert a perceptible effect upon their market value,—but, for the place, it was probably good advice for all that. And so when we suggest the application of increased capital, either in more labor, or in draining if necessary, or in buying better stock, or in any other requisite direction, providing it be judiciously done, the picture never presents itself to us of one-half or two-thirds of a farm suffered to lie wholly idle, nor of a large proportion of the State given up to the wayward control of Nature. On the contrary, we are reminded of cases in which men have put their energies and brains into the land, one field after another, recognizing the true economy of liberal expenditure to bring them into the right condition, and extending this process in a series of years, until, finally, not one-third nor one-half of the farm alone was yielding a proportionately liberal return, but nearly or quite its whole extent.

When we noticed the first chapters that came to us of Mr. Mitchell's entertaining narrative of experiences on his Edgewood farm, we did not know whether the sequel was to give the balance sheet of the undertaking or not, and since the book has been before the public, we have not before had an opportunity of alluding to the subject. Many of our readers have the work, and can consult it for themselves; but for the benefit of those who have not, let us examine very briefly what was there accomplished. The lesson of all that Mr. Mitchell writes on the subject "Does Farming Pay?" including a graphic picture of how it is generally made to pay by the "fore-handed" Yankee cultivator, viz., by the closest of economy and the 'cutest of bargains,—is this: that "the faculty of right-spending is at the bottom of all signal success in agriculture, and in other business pursuits." Like most men who have been accustomed to business habits—and, we may add, unlike farmers as a class—he has kept accurate accounts, and he gives them, fractions omitted, not to show that he has himself achieved "signal success," but to prove we presume that his experiment in farming has not been merely for amusement, and that instead of being discouraged by the investments required at the outset, he was on the way to an end that has shown the correctness of the principles on which he was acting.

He took the farm in a condition requiring great outlay in proportion to the immediate return, as will be seen by the following statement of the first year's results:

First Year—Edgewood Farm.

DR.

Valuation of live stock	$1,200.00
Interest on do.	72.00
Purchase of new stock	300.00
Labor	1,200.00
Hay and Grain bought	150.00
Seeds, Trees, &c	150.00
Manures	250.00
Wear and tear of Implements	100.00
Taxes, insurance and incidentals.	100.00
	$3,522.00

CR.

Valuation of stock at close of year.	$1,400.00
Sales do	250.00
do. milk	600.00
do. butter	50.00
do. vegetables	60.00
do. fruits	10.00
do. eggs and poultry	25.90
do. sundries	75.00
	$2,470.00
Balance—*Loss*	1,052.00
	$3,522.00

"First years of any adventure," he remarks, "do not offer a very appetizing show—least of all the adventure of restoring a neglected farm." But by the third year, there is evident a change for the better:

Third Year—Edgewood Farm.

DR.

Valuation of Stock	$1,500 00
Interest on do.	90.00
Purchase of new Stock.	200.00
Labor bills	1,100.00
Manures	150.00
Hay and grain bought	120.00
Seeds, trees, &c	50.00
Wear and tear of implements	100.00
Taxes, insurance, and incidentals	100.00
	$3,410.00
Balance—*Gain*	615.00
	$4,025.00

CR.

Valuation stock, close of year	$1,600.00
Sales do	200.00
do. milk	1,650.00
do. vegetables	250.00
do. fruits	125.00
Sales poultry	100.00
do. sundries	100.00
	$4,025.06

"This has a more cheerful look, but is not gorgeous," but the fields are improving as well as the receipts, and the capital begins to show. Next we have:

Fifth Year—Edgewood Farm.

DR.

Valuation of stock	$1,700.00
Interest on do.	102.00
Purchase of new stock	180.00
Labor bills	1,000.00
Manures	100.00
Grain purchased	130.00
Seeds, trees, &c	60.00
Wear and tear of implements	100.00
Insurance, taxes, and incidentals.	120.00
	$3,492.00
Balance—*Gain*	988.00
	$4,480.00

CR.

Valuation stock close of year.	$1,700.00
Sales of stock	230.00
do. milk	1,900.00
do. vegetables	250.00
do. fruit	150.00
do. poultry	130.00
do. sundries	120.00
	$4,480.00

In other words, he adds that the five years show an average annual

Outlay for working expenses	$1,800.00
Interest on total investment	1,000.00
	$2,800.00
Against	
Average annual cash sales	$2,600.00
Home composition and house rent	900.00
	$3,500.00

being an average net return of $700 per year for the first five years. Now we doubt very much whether this net return was ever equalled in the preceding history of the farm, even if it may have been under a manager who lessened the labor account from $1,000 to not more than $200 or $300 a year by his own muscular exertion, and that of his sons, and who sold all the best of what he produced so as largely to increase the proportion here borne by cash sales to the home consumption. These figures are, of course, the farm account by itself; whatever the author may have spent on grading

his lawns or "architectural dove-cots," or other "fancy" operations, he does not tell us, and expenses of that kind have nothing to do with the farm management.

Such figures as these will strike readers very differently, according to the various circumstances in which they are placed. What seems large to a New-Englander (outside of the most fertile valleys,) may have quite another look on the rich grain farms of Western New-York, and perhaps no meaning at all to the wholesale Prairie farmer. But taking an old farm, improving it as has been done, and adapting the products obtained to the nearest market—the example is a fair illustration of the idea with which we set out, that capital and foresight for the future are essential elements in profitable farming. To answer a parallel objection to that already noticed—"but we can't all of us live by selling milk, and if we tried to, who would buy it?"—we may add that the great problem for every wide awake man is to choose his own department and *excel in it*; if there is eager competition, to out-run his competitors, but of course to let the competition he is likely to meet have its due weight, with other considerations, in deciding the end he is to seek. And every such contribution as this to the recorded statistics of farm management, we would have studied and "inwardly digested," although we may be incurring the danger to which Mr. Mitchell alludes in speaking of the accounts that are published of many a prominent farm—that the neighbors of its proprietor, "when they read of him in their agricultural journal—if they take one—as a progressive and successful agriculturist, may laugh a little in their sleeves in a quiet way, and conceive, I am afraid, the same unfortunate distrust of the farm journal, which we all entertain—of the political ones."

HINTS TO THRIFTLESS FARMERS.

In almost every agricultural community are to be found men calling themselves farmers, who, to say the least of them, are not as thriving and prosperous as others would like to see them. For no well-wisher of his race desires to see his neighbors unthrifty. No one who cares for the reputation of his neighborhood, or the reputed value of his own property, wishes to see the property or the condition of those around him deteriorating. No lover of his country and of a sound political economy, likes to see the resources of his town or of the country unproductive from mismanagement. We are aware that many in all classes of business, meet with ill success and discouragements from ill health, from sickness or death in families, or from other unavoidable misfortunes. But we have no reference to these. We allude only to those whose ill success arises from causes within their own control.

Permit us just to allude to some of these causes in the form of a few practical hints. Perhaps it may help us

> "To see ourscls as ithers see us,
> *And thus frae mony a blunder frae us.*"

1. Live largely by borrowing, sagely concluding that you cannot afford to buy or make your own tools, till you get a little more "forehanded."

2. After years of experience in borrowing of accommodating neighbors, convince yourself that it is cheaper to borrow than to buy, and *keep on* borrowing. Never keep a supply of such common tools as harrows, plows, manure forks, and hoes, as long as you can get them by going after them; and if you chance to *break* one, return it in that condition, and say you think it must have been *cracked when you bor* rowed it.

3. Attend all the *farm auctions* you can hear of, and "bid off" all the old waggons and worn out implements that you think are "going" cheap, including "any quantity of old "trumpery" that the owners have long thrown by as useless. Should your new purchases need repairs, or break down soon, leave them in the roadside for future repairs; but do not disturb them again till they are rotten, scattered, and gone.

4. When any vehicle or tool *partially* fails, or shows signs of weakness, keep on using it thus, (thinking it will hold *this* time,) till it comes to a general "smash-up;" then throw it by till you can get it repaired, (which you should mind never to do,) and borrow your neighbor's till the next auction.

5. Never think of mending a tool till you want to use it. As you cannot stop to mend it then, leave it unmended till you are otherwise provided, and conclude not to mend it at all.

6. Keep the waysides along your premises filled up with pieces of waggons, carts, sleds, coal boxes, hay riggings, superannuated harrows, old boards, rotten logs, rails, and lumber.

7. Never do your haying till your grass gets "dead ripe," your neighbors through the days shorter, and labor cheaper. Never dig your potatoes till after one hard freeze up, thus losing part of your crop by the freezing of those near the surface. In short, never do any sort of work till you see you cannot put it off any longer.

8. Never have more than one load of wood up to your door at a time; nor any more of that cut, ready to use, than is necessary to last over night or "over Sunday."

9. Spend your stormy days in the bar-room or store, instead of putting things to rights at home.

10. Go to law when ever any one injures or disturbs you, and you think there is any chance to "get a hook" on them. Justice and right are too sacred to be left unrevenged.

11. Sell out and try another place as often as you find anything about your farm that does not suit you, instead of setting hands and wits to work to remedy its defects.

12. Persuade yourself that farming "am a hard road to travel; sell your farm or leave it to tenants, and go into peddling merchandize, or general speculation, until you run aground; then

Get back to farming as best you can,
A wiser and a better man.—*Go. Gent.*

COUNTY OF PONTIAC AGRICULTURAL SOCIETY.

THE annual meeting of this Society was held on 19th ult., in conformity with the act of the Legislature 20 Vict. Chap. 69, when the following report was read by the Secretary:

"The Directors of the County of Pontiac Agricultural Society have now to make their 7th Annual Report, and in doing so have to congratulate themselves upon the satisfactory progress which it continues to make. Its progressive improvement has become a well known fact, as was clearly shown at the last annual Exhibition, when stocks of all kinds and classes afforded so striking a proof of the great utility of an Agricultural Association.

"Your Directors have much pleasure in being able to state that the report of the Judges of growing crops was most satisfactory, both Spring and Fall Wheat being a full average crop, but Potatoes and Peas—which were otherwise an excellent crop—were much affected with blight and mildew. Oats and Barley were over an average crop.

"We are glad to report that Flax has been initiated in some parts, and the parcels inspected appear to have been most satisfactory. In this connection, your Directors have to state that a circular letter has been received requesting this Society to assist in nominating two gentlemen to represent the Society at the Board of Agriculture, whose special duty it will be to exercise their influence for the advancement of the culture and manufacture of Flax, and that Messrs. Joly de Lotbiniere and S. M. F. Ossaye, of Montreal, have been recommended to the notice of the Society for that purpose, we beg to call the attention of our successors thereto.

"Your Directors have much pleasure in noticing that the arrangements entered into at the last Exhibition,—particularly in reference to an increased accommodation for exhibiters—have fully answered the purpose intended, and seemed to give satisfaction to the large assemblage on that occasion.—Your Directors following the example pursued by other influential Societies, ordered an extra quarterly of the 'Lower Canada Agriculturist,' which they have distributed in prizes to many parties who were entitled to consideration, on account of the value of their products, animals or articles, and which the presently constituted Premium List did not reach. They recommend the same course during the current year as a good means of disseminating a valuable publication when it gives increased encouragement to exhibiters.

"Your Directors beg further to report that they have made a revisal of the Premium List; have introduced a class for Flax seed and linen cloth, and otherwise made considerable modifications, and they flatter themselves improvement, in the Rules and Regulations of the Society.

"Your Directors, in presenting a statistical account of the affairs of the Society, beg to state that at the last annual meeting the number of subscribers stood at... 130
The past year shows..... 135
The available assets of the Society amount to $511.00. The entries in detail of all kinds are as follows:—Growing crops 148; agricultural products 72; horticultural products 17; dairy produce 17; woollen goods 35; implements 41; ladies department 78; live stock 247; draining 3; fencing 8; flax 5.

"Thus the entries for Agricultural products far exceed that of former years; that of Stock is exceeded by that of 79, and the other Departments shew a satisfactory in-

crease except in Dairy, which is hardly an average.

"The Ploughing Matches went off satisfactorily, their being 19 entries, divided into three classes. The prizes paid amount to $562 50, besides the distribution of the Agricultural publication above referred to, *amounting to $20.*

"Your Directors cannot close this Report without adverting to the apathy still existing in the cause of Agriculture, and feel surprised that many of our substantial farmers who, from their portion, could render affective aid to the Society, continue to withhold from contributing to its support. The beneficial nature of this institution is no longer questionable, and those who refuse to render *their aid, can only be considered as not* being awake to their own interest, or sensible of the importance of an Agricultural Association like the present.

" Your Directors, in conclusion, beg to call the attention of their successors to the recommendations, as embodied in the minutes of their recent meetings, and in particular to that of the 14th October last.

" Respectually submitted.

ALEX. SMART, *President.*

" G. M. JUDGSON, *Secretary.*

The following Gentlemen were then elected Officers and Members of the Board for 1864, viz :—

Alexander Smart	President.
Archibald Stewart	Vice-Pres.
G. M. Judgson	Secretary.
John Meldrum, Bristol.	Directors.
Walter Russell, "	
John Duff, "	
James Horner, Clarendon.	
John Dale, jun., "	
Wm. McDowell, "	
Geo. Hodgins, "	

At a meeting of the Board, subsequently held, it was

Moved by Wm. McDowell, seconded by Geo. Hodgins, and resolved.—That the Hon. P. M. Archambault, O. E. Casgrain, B. Pomroy, and Dr. C. Taché, be appointed to represent this Society at the Board of Agriculture.—Carried.

Moved by A. Stewart, seconded by John Dale, jun., That Messrs. Joly de Lotbiniere and F. M. F. Ossaye, of Montreal, be appointed to represent this Society in the Flax department.—Carried.

Moved by Wm. McDowell, seconded by Arch. Stewart, That Sealed Tenders be advertized for supplying accommodation to the Board for twelve months, to be sent into the Secretary within ten days from this date.

Moved by Geo. Hodgins, seconded by Wm. McDowell, That meeting do now adjourn until Saturday, the 30th day of January, instant.

G. (Signed) ALEX. SMART, President.
M. JUDGSON, Secretary.

N. B.—Members in arrears are respectfully requested to pay up without delay.

A YANKEE FARMER.

THE New York correspondent of the London Spectator thus expresses his opinion of the farmers of this country :

" Let me tell you about one of these *Yankees whom I know well, and in whose* house I have lived weeks at a time. He is a small farmer, tilling less than one hundred acres, which have been owned and tilled by his family for generations, and living upon that and a little money out at interest. He not only goes to the fields with his men, but works with them there. I have many a time seen him riding home on a load of hay, a good part of which had *fallen before his own well-swung scythe.* Now, what do you think that man's recreations are? Chiefly astronomy. A fine observing telescope is his hobby. He is up with it in the middle of the night, and before the dawn, upon all good opportunity. His library, not large, but well chosen, is so thoroughly and intelligently read by him, that some of the soundest and most pungent opinions I have ever heard upon *literature have come from his lips in Eng*lish, than which no better, according to the standard of Oxford and Cambridge, is spoken anywhere. His brother, the rector of the parish, the pretty stone church of which was built in a large measure by the contributions of their forefathers, was offered and refused the bishopric of his diocese. The word ' farmer ' conveys to you a certain idea or image. Does it convey the idea of *such a man as this? From my observation* I should judge decidedly not. And yet this man is only a Yankee farmer, and the son and grandson of Yankee farmers on both sides. But you will say that this man is a very rare and marked exception. But in that you will be wrong. Somewhat exceptional he is. But he represents a class very numerous and widely diffused; and he springs from and is in direct affinity with a class which is numbered by hundreds of thousands of men, besides women and chil-

dren. I have heard from his cousin the miller (a working miller, mind you, although he owns his mill,) as sensible and as well expressed opinions upon all matters (literature included) as I have heard from him."

FARM OPERATIONS.

NOTES FOR THE MONTH.

DREARY winter is over and gone, and the messengers of welcome spring are flapping their glad pinions and extending their benumbed limbs for the first time after their long hibernation. The golden sun now rises earlier and goes to rest later every day; and every day the denizens of the earth delight to bask in his enlivening beams.

The gentle breeze from the south, the summer clouds, the azure skies, and the leaping and murmuring waters, all tell that glad spring with her wonted beauty, will soon be with us once again.

Are you ready for Field Labours?

Are all your plans for spring and for the ensuing summer, with reference to your crops and the improvement of your stock, as judiciously laid as they can be? Are you ready to commence a renovating system of farm management? Or, if you have already commenced such a system, is it as complete as it may be rendered by a little forethought, or by bringing a little more science and a little good common sense to bear on every operation?

Have you observed the character of the soil of your farm, with reference to its adaptation to the kinds of crops that you have raised, or that you intend to raise, during the approaching season? Have you carried out all the suggestions that were made last month, with reference to farm improvements?

Judging from present appearances, hired help on the farms will not be readily obtained as it has been in years past. Therefore every farmer should improve every day during the month in preparing for the labors of the field, which will demand his attention in a few days.

Cleaning Seed Wheat.

If your spring wheat is not as clean and nice as you desire it should be, now will be the best time to attend to that. Therefore let every such item of business be entered on the agricultural docket, that they may be attended to during the stormy days of this month.

Spring wheat usually needs a great amount of cleaning in order to render it fit for seed. There, is in many instances, a large number of the kernels that are not really fit for seed, as it had never come to maturity before it was harvested. Then there is oats, and sometimes buckwheat, in it; and frequently there may be found a little mustard seed or winter cress seed in it.

In order to clean it thoroughly, let the barn floor be well swept; and then let the grain be run slowly through a good fanning mill twice, while it is turned rapidly enough to blow out all the small and light kernels, and also the most of the oats; and the mustard seed will run into the screen box. Then let the seed be deposited in a box or barrel, so as to be ready for use on short notice.

In order to expect a good crop of nice wheat, it is very essential that the seed should be of the first quality.

Seed Oats.

Farmers from all over the country complain, more or less, of light oats the past season. If light, half ripe oats be sowed, we cannot reasonably expect to receive heavy plump grain from such seed any more than we would expect large, and heavy ears of Indian corn from half ripe nubbins.

There are nubbins among oats—in one sense—as well as there are nubbins of Indian corn; and, in order to raise a good crop of plump and heavy oats, it is as essential to run the seed through a fanning mill, and blow out all the light and half ripe kernels as it is to select the fairest ears of Indian corn for seed.

During the month seed oats should be prepared for the field. If it is not done before they are needed in the field, they are very apt to be sown just as they were thrashed—the good and poor all together.

Flax Seed.

Now is the time to decide about sowing a field of flax, and to procure the seed in good time. The seed commands a good price, as well as the straw; and if wheat, barley, and oats have been raised in years

past, on certain fields, it would be advisable to try a crop of flax.

Seed may usually be obtained at most of our cities and country villages. But sometimes it would be most convenient and economical for a few farmers to order a sufficient quantity for their own neighborhood from a distance.

If the soil is clean and in a good state of fertility, a crop of flax will pay as well as almost any crop of cereal grain; and more than that, a crop of flax will not deprive the soil of its grain-forming constituents, as a crop of grain would, because a crop of flax requires quite different elements of fertility from what is required in raising a crop of wheat, oats, or barley.

Clover and Timothy Seed,

Many farmers choose to sow their clover and timothy seed during this month. If the season proves to be just right, it is best to sow it now, even if it be sewed on the snow.

If it were sowed this month, and there should be a few warm days in April, and the seed should germinate, and after this there should be freezing weather, the young clover would be liable to be killed. I have always found it the safest way to procure the seed in good time, and sow it in April or May.

In some portions of the country, some farmers order a number of sacks of timothy seed from the Western States, and clover seed from those counties where it is raised in abundance. If this item of business be attended to in the month of March, seed may be ordered from a distance before it will be time to sow it.

Making Pork.

It will pay to make pork now, at the present prices of grain, about as well as it did when the price was only half as much per pound as it now is. Therefore, now is the best time to look around the town for a brood sow, or for a sow and pigs. One can make good pork of May pigs that were farrowed in March or April—if they are properly fed—will make heavier pork, which will usually command a higher price per hundred pounds.

Peas and Beans.

These crops are too much neglected in our grain-growing towns. Farmers are beginning to learn, in many sections of the country, that a crop of beans is one of the most profitable crops that can be raised, especially when it constitutes one of the crops in a rotation. In years past, beans were raised only in small patches; but now it is no uncommon sight to meet with a large field of them.

Peas are being raised to a far greater extent than they once were, mostly for the purpose of fattening swine, or for giving them a good start early in the fall, before Indian corn has come to maturity.

Now is the most proper time to think about and decide whether it will not be best to obtain a few bushels of peas and beans to be sowed and planted, instead of some crop of cereal grain.

Care of Under-Drains.

These should all be examined, to see if the water is not doing damage to them in some way; and the outlets should be well cleared out, so that the water may have a free passage.

Early Plowing.

Many farmers plow sod ground in the latter part of March, for a crop of Indian corn. But sometimes it is bad policy, and sometimes it is good.

If the soil be deep and is covered with a clean clover and timothy sod, it will expedite the labors of the farm to start the plow in March for a crop of Indian corn. But if there should be blue grass, quack, Canada thistles, or any other such noxious plants in the soil, it would be best to defer plowing until the time for planting had arrived.

Spring Rye.

Every farmer should sow at least a rood or so of spring or winter rye, as both the grain and straw are excellent for many purposes. If the soil be dry and rich, sow in March or early in April.—S. Edwards Todd, *in Country Gentleman.*

CUTTING FIRE WOOD.

CUTTING fire wood is a subject of economy to the farmer of no small importance. The best season for cutting fire wood is undoubtedly in the winter, when there is the least sap in the wood, and the most leisure time for the farmer to perform the same. How many farmers do we see who depend on drawing up a little green wood at a time, and chop a little stove wood in the morning, and a little more at night throughout the entire year! What a lack of economy in time and money such management shows! In haying and harvest, when the most hurrying time comes with the farmer, to have to leave more pressing business, and spend one hour in the best part of the day peck-

ing wood with an old axe, is the extreme of folly. If you ask such farmers to sign for an agricultural paper, they will tell you that they cannot afford to take one, but they do afford to cut green wood every day, and burn it green, at an extra expense of the cost of a dozen papers. From an experience of fifteen years, I have come to the conclusion that burning dry wood is a saving of one-third, or 33⅓ over green wood.

Now, brother farmers, is the time to get your wood ready for the ensuing year, and have it seasoning in your wood houses. I believe from experience, that wood seasoned under shelter is worth much more than that which is seasoned out of doors, exposed to the weather. It is an old adage, "that a poor man cannot afford to burn green wood; but in nine cases out of ten they burn green wood from year to year."

I will make a little calculation on the cost of burning green and dry wood, by the poor man who buys his wood. Fifteen cords of green wood we will suppose will last him one year, which, at $6 per cord, would be $90. Now, if he buys ten cords of wood extra for the ensuing year, at $6 per cord, would be $60. The interest on $60 would be $4.20, which, added to $60, would be $64.20, which, subtracted from $90, leaves $25.80 as the amount saved for the ensuing year, which is worth saving by any man whether rich or poor. In the case of the farmer who supplies his wood from the forest, there is not so much money expended, but it is money's worth in both cases; and the same result in economy. It is well for us to look with our eyes open to our own interest, in this as well as other subjects.—M. R. DUNHAM *in Rural Amer.*

HOW TO GET A GREAT CROP OF POTATOES.

WHEN any of my neighbors raise better crops or get them with less labor than I can, I am apt to want to know how they do it. On the other hand, if they have extravagant theories, do a great deal of extra land, fuss a great deal with composting manures and thoroughly pulverizing the land, and still do not show any better crops than their neighbors, I am not particularly inquisitive to know or practice their theories.

Happening, a few days ago, to be in the cellar of Capt. S. Hayden, of Hollis, I noced his bins of splendid potatoes, and had the curiosity to enquire how he raised them. He told me that on ground plowed in the spring he furrowed as deep as he could without turning up the turf. He prepared his manure by putting in the green manure some loam, ashes and brine or salt not very strong. He cut his potatoes so that one as large as a hen's egg would be divided into three or four pieces, and put three pieces in a hill, the skin side up, in a triangle of about five or six inches apart. He then put a shovel full of manure on the top of the potatoes. The result was that his potatoes yielded at the rate of from eight to ten hills to the bushel of good market potatoes. He told me he took good-sized potatoes to plant. The potatoes he raised were large enough—would average as large as turkey's eggs. I shall try it, and if any of your readers would like to do the same, you may give them a chance.—*New England Farmer.*

MAPLE SUGAR.

The season for making maple sugar is near at hand, and at the present prices how to manufacture this article so useful, to the greatest advantage, and how to get the greatest quantity of sugar from our trees, without injuring them, are questions of no little importance to the most of farmers. Every farmer knows how to make maple sugar, yet there are some that make much more in a season, and of much better quality from the same number of trees, than others. The principal reason of success is a strict adherence to the following rules:

1. When tapping the trees a spot is selected to drive the spile that is not above, beneath, or in the immediate vicinity of an *old scar.*

2. The buckets are large, clean and sound, so that the sap does not leak from them half as fast as it drops in.

3. The kettle or pan is set into an arch, so that it does not require one half of the labor, or quantity of wood to boil the sap; and so that it prevents sparks, burned leaves, coals, &c., from constantly falling into them.

4. If the sap becomes filled with dirt and leaves while standing in the store-troughs, or buckets, it is to be strained before it is boiled.

5. The fifth, and principal reason of success is in saving all of the sap. People in general do not realize the amount of sap that is wasted in a single day by carelessness.

A few years ago I procured a quantity

of four gallon buckets to use in my sugar place; but the number not being sufficient to supply all the trees I wished to tap, I used twenty-five six-quart tin pans. Several times I went to the wood to gather the sap, and gathered from the pans first and supposed that I was just in time, as they were full, but on going to the buckets I found that they were full also. I at once saw that from the twenty-five trees under which the pans were, I had lost at least 62 *gallons, or nearly 2 barrels of sap at a single run!*

Buckets of tin or wood, well painted on the outside, are the best vessels, all things considered, that we can use to catch sap in. and the bit is the implement for tapping, It wounds the tree much less than boxing with an axe, or tapping with a gouge. The spile when well-fitted to the bit-hole prevents the possibility of leakage, and also prevents in a measure, the wind and sun drying up the cut. The first tapping should be done with a five eighth bit, and inserted not over one inch and a half. The spile should be so tapered as not to be driven but a little way into the tree, before it becomes tight, as it will shut the pores of the tree and prevent the flow of sap. About the middle of the season, the tree should be rebored with a three-quarter bit, and the whole sunk a little deeper; then cut off the plug end of the spile a little, and drive again. Good spiles may be made of elder, or some soft wood; but farmers are, generally, so well posted in the art of spile-making, that remarks on that point are useless. I do not think it advisable to plug trees after the season is over, for as soon as the spile is removed the wind dries up the wound and the wood becomes hard, and the outer surface grows over, and no decay is produced; but when plugged, the moisture of the tree will eventually rot the plug, and the tree becomes infected thereby.

Great care should be used in collecting. spiles and storing them with the buckets and they may be used many years, and a little time spent gathering them, will save many hours of hard work the next season when they are wanted again. Every farmer intending to make sugar this season should have everything in readiness; much is lost by not being ready when the sugar season opens.

Loraine County, O.

Manure for the garden should be fine and rich compost. Nothing comes amiss if it be only well rotted.

MAKING MAPLE SUGAR.

Mr. Editor—Accept the following suggestions on this subject for the benefit of your numerous readers, many of whom, owing to the high prices, will doubtless engage in the business:

1. Trees should be tapped on the south side, as the thaw commences earlier and is more thorough here than on the opposite side.

2. In tapping bore the auger-hole slanting upwards to give the sap opportunity to run freely.

3. Form the ends of the spouts of spiles to fit the auger hole, so as to prevent the sap from wasting.

4. For boiling purposes dig a trench 18 inches wide, 2 feeet deep, and of a length to correspond with the number of kettles used taking care that it extends 2 feet past them each way, so as to admit the wood being thrust in at the ends, and to let a current of air pass to make the fire burn. The kettles are to be suspended over this trench, and so as to touch the ground by means of a strong pole, placed on stout crotches firmly fixed in the ground at each end.

5. To make fine grained sugar, stir it well with a stick or ladle immediately after taking it off the fire.

6. Then pour it out of the kettle, to prevent it from tasting of iron.

7. To make dry sugar, bore a hole in the bottom of the vessel into which it is emptied, to give all the molasses an opportunity to drain out.

These hasty hints will greatly aid inexperienced sugar makers in making good articles in a fast manner. They are given by one living in a maple country.

T. Ervin Richy,

Scottsville, Ky.

DOES FREEZING INJURE MANURE?

The above is a question which many farmers will answer in the affirmative—some express doubts concerning it, while others will perhaps give to it a decided negative reply.

Would not the consideration of this question by farmers—among themselves—in their clubs, and in their correspondence, elicit much valuable information?

The economic value of our manure cellars is gauged by the answer given to this question; so also is the intrinsic value of

the manure itself in the spring decided by it; and the economy of the method of spreading manure late in the fall, or dropping it in small heaps, to lie through winter and be spread the ensuing spring, and many other like practices, that we often see.

So long as the manure and compost heap is regarded as the "farmer's bank," it ought to be invested in a way to realize the largest dividends. So much four per cent. stock is held by farmers that it requires the closest observation, the most careful experiment combined with experience, to make it in any degree a paying business.

And if the frost like a stealthy thief, enters the "farmer's bank" to destroy or injure, it is best to arouse the stockholders to look after their interests.

In deciding this question we need, besides experiment and observation among individuals, the aid of one versed in chemical science to extend these researches farther and unfold the secrets hidden in the subtle book of Nature.

We would know the effects of cold and heat and other contingent forces on animal and vegetable tissues in their various combinations, and many other matters in this connection.

For such an important work we do not care to have "Prof." prefixed to the person's name who will do it, provided it be done clearly, concisely and satisfactorily taking *facts* for date.

Theoretically and plausibly it might be argued that freezing would not hurt a potato inasmuch as it is evident to the eye, said potato neither gains or loses anything thereby; or for a like reason, that it could do no harm to freeze one's hand or foot, or even be frozen all over. But of such a theorist we should be tempted to say as did Lord Byron on a slightly different subject:

"When Bishop Berkley said "there was no matter,"
And proved it 'twas no matter what he said."

If we divide the so-called "farmer's book" into three parts, viz: First, urine; second, vegetable tissue or fibre: and thirdly, animal tissues, or what is the result of the animal body, does frost prove detrimental to or change the nature of either one of these, taken separately or when combined?

Will not some one who is conversant with the subject, and knows whereof he affirms, enlighten those of us that are in ignorance, giving us therewith the whys and wherefores?—*Country Gentleman.*

WE SHOULD RAISE MORE CLOVER.

CONSIDERABLE experience in feeding out forage, and more observation on the subject, have brought us to the conclusion that we should raise more clover in Maine than we do. We are aware that we shall be met with the objection that it is a coarse, bulky hay crop,—that it oftentimes lodges and wastes on the field—that it requires more barn room, ton for ton than hay from fine grasses, and that it is not so saleable in the markets.— Grant all this, and still we say its superior value as a forage crop, more than counterbalances all the objections alone raised, except the last. If we raised hay to sell, rather than feed out at home, it it would be better to raise other kinds of forage that would meet a readier sale. It may be observed here, that clover is not a grass, but a leguminous or food-bearing plant, and, therefore, its habits of growth are more of the vine order—more trailing and spreading than the grasses proper.

This causes what is called lodging, when the growth is luxuriant, and in warm, wet weather there is a tendency to fermentation, and decay among the lower leaves, and smaller branches next the ground. This may be in a great measure obviated by sowing more seed, thus producing thicker growth, with a smaller and less spreading stalk. Clover requires less work, less stirring and manipulating when mowed than grass does, in order to get it ready to put into the barn. Indeed, if the same labor of spreading and stirring, be spent upon it, that there is upon grass, the thin, broad leaves become dried through before the thick succulent stalk does, and they fall off and a severe loss of a good portion of the crop is the result.

It is true that it requires more barn or stack room to store up a ton of it, than it does for fine forage; but, as an offset to this, you get more nutriment in a ton than in most other kinds of forage. We will enumerate some of the advantages of it. All neat stock, and also hogs will eat it in the hard or dried state, and thrive upon it. So we suppose that it should be fed only to horses, because being coarser than the grasses, they are better able to masticate it than neat stock. If the clover be cured right, all kinds of cattle eat it readily. We have fed it to calves, yearlings, and other young stock to good advantage, and sheep were not only particularly fond of it, but we found that they did better on it than they did on

the best of upland hay made up of herdsgrass and red top. According to the carefully conducted experiments of Mr. Lawes, the celebrated English Agricultural Chemist, at Rothhampstead, there is another advantage in feeding clover, and that is the manure made from it by feeding it out to cattle, is greatly superior in fertilizing properties to that made from any other hay. Acording to his analysis, placing the worth of a ton of manure derived from feeding wheat straw, at $2. 68, that made from English hay was worth $6.43, and that from clover was worth $9. 64. These prices, to be sure, would not be obtained with us, but the proportional value will be the same. Put the manure from wheat straw at what price you please, that from clover will be worth more than three times as much, and fifty per cent. more than that from good English hay. We have said that swine would eat it readily. Our neighbor, John Keser of East Winthrop, when in the swine breeding business, a few years ago, used to make clover quite an item of winter diet—chaffing it up by threshing it with a flail, or any other way, and giving it to them dry. They were very fond of it.

It has often been recommended as an excellent preparatory crop for wheat, and is extensively used in some wheat growing districts by being plowed under as a dressing for that crop. It always proves beneficial when used in this way, but it has been suggested by good authority, that a much better mode is to feed it out to stock, and apply the manure thus made to the crop. You not only thus obtain growth, or sustenance for your stock, which you would not, from this source at least, if plowed under, but you also obtain probably as much fertilizing material by the manure.

Joseph Harris, Esq., editor of the Genesee *Farmer*, in an excellent article on stall feeding cattle and sheep, published in the last report of the Commissioner of the Department of Agriculture—speaking of some of the crops essential to improving or fertilizing the soil, says: "Next to the turnip, red clover is the most enriching crop, it is far better suited to our climate than the turnip, in fact there is no country in the world where red clover flourishes better than throughout a large section of the United States. It is pre-eminently the renovating crop of this country. It is almost impossible to grow too much of it, provided it is consumed on the farm. It makes the best hay for sheep, and as we before said, the manure from it is nearly as valuable as that from corn; far more valuable than that from ordinary hay."

EARLY POTATOES,

THERE is a large class of persons who value good, well-ripened *early* potatoes, more than any other vegetable. The potato is a universal favorite. We have never met more than half a dozen people who did not like it. It is easily raised, cheap, and has just about the proper proportions of *bulk* and *nutritious* properties to make it one of the most wholesome articles of diet that comes upon the table. In cases of sickness, where the patient is convalescent, a roasted potato that is mealy, and eaten as soon as cooked, is highly relished, and is as harmless, perhaps, as any food that can be taken.

As the common, every-day food of the table, the potato stends next to bread. When well cooked, most children will take half their entire food of the potato, especially if they can have a little milk or cream with the mash, and will become vigorous and free from humors after a year's use of them cooked in various forms.

Every family,—in the country at least,—should have them plentifully by the first of August, and by taking some pains may begin to use them by the fourth of July. The first thing to be considered is the soil. It should be comparatively dry and sandy soil, rather than a wet, black loam. A *fresh*, or *new* soil is greatly preferable—one recently covered with grass, or what is still better, scrub oaks, sweet fern, blackberry and huckleberry bushes. Such a soil when well plowed and harrowed, will be light, and will abound with the alkalies and alkaline earths that the potato requires. The situation selected should be an open, but a warm, one—along the side of an old fence or wall, where bushes have been growing for half a century, or less, and exposed to the morning sun. On such a soil, and in such a situation, the plants will start early and come to maturity rapidly; and if the variety planted be a good one, the tubers grown will have a sweet and agreeble flavor. Some of the varieties used for early planting are the *Jackson White*, *White Chenanjo*, which come quite early, the *Early Blue* and others. Burr says the *Ash-Leaved Kidney* is one of the earliest varieties, and that the *Early Blue* is

one of the earliest of the garden potatoes, of fine quality, and one of the best for forcing for early crops. If the ground was not prepared last fall, it should be made ready as soon as the frost is out, so that it can be plowed six inches deep, and the potatoes planted.

In order to facilitate the crop, some persons set a barrel of seed by the kitchen stove about the end of March, where they remain until sprouts have started half an inch in length. In this case the top of the potatoes must be covered with loam or a cloth to keep out the light. Others lay a bushel or two of seed upon grass ground, in some warm spot, and cover them with horse manure sufficiently deep to keep warm. They will sprout readily in this condition if they are kept moist and warm, and can be got at to plant more easily than from a barrel. Others, still, who only require a few, start them in hot beds.

Planting should take place just as soon as the soil is dry enough to admit the working of it. Plant, if there is a dry surface sufficient to cover with, even if the frost is a foot deep below. Before planting, prepare liberal holes and fill them with a shovelful of horse stable manure. Cover this with a sprinkling of fresh, damp mold, and place the "set" or seed on this, and cover three inches deep. Mr. J. Knight says that if the "sets" are placed with their leading buds upward, a few and very strong early stems will be produced; and if the position be reversed, many weak and later shoots will arise, and not only the earliness but the quality of the produce be depreciated.

By putting the above suggestions in practice, every person may expect a fine dish of nearly ripened potatoes by the Fourth of July with his roasted lamb and green peas, and an abundant supply after the 20th of the same month. How can the farmer add to the comfort and health of his family in a better way?

THE CANADA THISTLE.

THIS is probably one of the most troublesome plants with which the farmers have to contend. Owing to its almost universal dissemination and wonderfully prolific character, the quantity of seed annually produced is so immense that no region can reasonably be expected long to escape its presence. The only remedy, indeed, which can, under the circumstances, be even partially successful, is to watch its first appearance, and carefully eradicate the roots. Where this is done, the thistle soon disappears, and if not perpetuated by the dissemination of fresh seeds from neighboring or distant plantations, will cease to give annoyance. Where lands have already become foul with this production, the best method is to cut them about the time the seed begins to fly. At this period the large stalks are hollow, and if the tops are removed just before a rain the water will assist the work by filling the tubes and causing rot at the roots. Some prefer cutting while the plants are in full bloom, and after sowing on fine salt, turn in sheep or other animals, whose partiality for that mineral induces them to gnaw down the stumps, into which it has entered, till the injury caused to the roots, produces death, and prevents further trouble.

On the subject of mowing, a writer says: "Let the thistle grow in all its luxuriance till about the time seed begins to scatter with the down. At this time it will be found on examination that the stalk is hollow. Mow the thistles just before a rain, if possible, and the wet, by entering the hollow stalk, descends to the root and effectually destroys it. I have known large fields of thistles almost entirely killed in this way by one cutting. The effect depends on the decomposition which takes place in the root, effected by the admission of moisture through the stalk. The experiment can easily be tried by cutting part of a plat of thistles just before they bloom, and the remainder after the seed has become hard and the stalk hollow."

It is frequently the case that no efforts whatever are made to curtail the spread of this pest when it has once obtained a foothold upon the soil, and it is permitted to spread and mature its myriad seeds with as much indifference to the result as though its influence upon the soil were harmless, rather than the reverse.

When soils are to be laid down to grass, the presence of thistles should be considered as an important drawback upon their fertility, and no effort should be spared to render them at once and thoroughly free from the pollution. Hay, fouled by thistles, is never marketable, and is, indeed, nearly worthless as feed, unless when the animals are compelled to eat it by the impulse of hunger.

BREEDERS' DEPARTMENT.

UNSOUNDNESS IN BREEDING ANIMALS.

HOW often do we hear the expression used in regard to some stock animal: "He must get good stock, because he is descended from pure blood," or is "thorough-bred." Yet the very purity of the animal's blood may make him anything but desirable to breed from, in consequence of some unsoundness or defect in his organization, that will be more likely to be perpetuated in his stock than a similar defect would be in some less pure-bred animal.

Why do we value a pure-blooded animal? Simply because we can depend upon the progeny of that animal being true to its kind, or like its ancestors,—the very reason, one would suppose, why we should not breed from a good-blooded animal that is defective, either naturally, or by accidental causes. Ignorance of the great influence these last-named causes exert upon succeeding generations has been a great drawback upon successful breeding, and has given us families of animals among whom soundness is the exception rather than the rule.

I have seen a breeder of celebrity coupling a mare and a horse that were both sprung in the knees, and be surprised that the produce should be foaled with the same defect, when the sire and dam were from so good blood. This foal never recovered from this but became so weak in the limbs as to bring only five dollars when two years old, and at that was a hard bargain to the purchaser. Both sire and dam in this instance had become unsound from hard usage.

Another case that came under my observation, proved this influence of accidental injury very strongly. A cow soon after calving received an injury that destroyed the use of one teat, or one-fourth of her bag. Her next calf was a heifer, which after calving her first calf, proved to have precisely the same portion of her bag affected as her dam, giving but very little milk from it from the first, and losing entirely, finally.

Such defects do not always appear in the second generation, but are very apt to in succeeding ones; and many instances can be remembered where they have appeared *many* generations after, the same as some taint in the blood may lie dormant through many generations, but become active and finally appear in an unwelcome form by the production of an animal with strong likeness to the stock from which the taint came. It is important that breeding animals should be well bred, having their characteristics so fixed in their blood that they may produce their valuable qualities, but quite as important that they should be free from unsoundness or defects. In no way will blood be more sure to *tell*, than in transmitting the undesirable qualities, if they are possessed by sire or dam. That blood only is valuable that comes through a sound, perfect system, not that which flows through a deformed or vitiated one.—*Boston Cultivator.*

SPAYING COWS.

THE following article on "Spaying Cows" is taken from a number of the New England *Farmer*, furnished by a correspondent of that useful Journal for the benefit of its readers. We have not heard of any of our farmers spaying (castrating) their cows; but if any of them have tried the experiment, we shall feel much obliged if they will acquaint us with the result:—

"I have in my herd 13 cows which have at different times been subject to this operation for the purpose of rendering them permanent milkers. Sufficient time has not yet elapsed to enable me to learn whether all the advantages which which are promised as the results of spaying will follow, such as a duration of milking, fattening, etc.

"I will, however, lay the matter before your readers, and let them judge for themselves, whether it is for their advantage to have their cows spayed, or let them remain bearing calves, as is the usual custom. Of course this will depend on the purposes for which cows are kept, whether for milk, butter and cheese alone or for raising stock.

"It is now a year since the first three cows were spayed, one in July, and four in October last, and five on the 11th of the present month, The ages of these cows vary from five to thirteen years, and in every instance the younger the cow, and the greater her natural milking qualities, the more favorable have been the results. They have all continued to give an uninterrupted yield of milk, varying with the season and succulency and richness of food. A slight improvement in the quality of the food immediately increases the quantity of milk.

"As I sell my milk in the Boston market, I have but slight opportunity of testing its quality, except through my customers, and in every instance where I have been enabled to supply them with milk from spayed cows, it has given entire satisfaction. In June last, I made one experiment in making butter, and from forty three quarts (wine) of the milk of three spayed cows, which before the operation were not noted for their butter qualities, were made 5 1-4 pounds of butter. This is not equal to the reputed yield from Alderney or Devon cows, but I believe it is much better than the average of cows in the State. None of the eight cows have given at any time during the winter less than six quarts of milk per day, and the youngest and best not less than eight quarts.

* * * * *

"None of these have as yet shown any tendency to fatten. If milk is the object desired, we wish all the food given to cows to go to milk, and it is not to be expected, nor is it desirable, that cows giving a full yield of milk will take on flesh very rapidly. I know of one instance, however, where a spayed cow, after having given an average of over eight quarts per day for three years, had become exceedingly fat.

"There is no danger whatever attending the operation. The cows require moderate feeding and good care, and in four weeks the wounds are entirely healed, and there is generally but slight loss in their yield of milk immediately after the operation. Three of the cows spayed on the 11th instant gave respectively 10, 13 and 19 pounds of milk the evening previous, and 71-2, 9 1-2 and 15 pounds of milk twenty four hours after the operation, and have given a larger quantity at each milking since. The fourth was more affected, and did not do so well, while the fifth was a farrow cow, spayed for fattening alone.

"I am so well satisfied with the result of my experiments, that I intend to have most of my cows spayed as they come into full-milking, and I can especially recommend any one who keeps a single cow for family use to do the same, as there can be no doubt of the superior quality and wholesomeness of milk from spayed cows, especially for children.

"For the information of any one wishing to try the experiment, I will state that the usual time for spaying cows is from three to six weeks after calving."

E. R. ANDREWS.

HOW MY BOYS BREAK COLTS TO THE HALTER.

TAKE three-eighths cotton cord, (a piece of bed cord will do,) make a tight loop, just large enough to pass around the lower jaw, and pass the cord over the neck, bringing the cord down through the loop. Then, standing by the animal's side, give him a sudden check. Then pass on the other side and do the same thing. This manœuvreing for a short time will learn him to turn without a check. Then stand in front, and with a gentle pull the colt soon follows. If he does not follow, give the colt a few more checks, and in a few minutes the colt follows with a slack rope.— *Country Gentleman.*

CARE AND MANAGEMENT OF POULTRY.

POULTRY raising is very interesting, and it is exceedingly convenient at all times to have chickens, which can be killed and put on the table so quickly on the arrival of unexpected visitors, or in case of sickness. What a delicacy for the invalid or those in a state of convalescence, while for a party how well the turkey of 20 pounds and the goose of 12 or 15 pounds sets off the hospital board, besides the profit of having, at all seasons, varieties for sale.

Like all other kinds of live stock, early reared young ones pay best, for spring chickens make double the price of later ones, and the pullets saved for laying will commence when eggs are scarce, and as they do not molt the first fall, will, with good feeding keep on, and where it can be contrived for the hens to roost over any warm place, as for instance where by tubes or natural ascent the breath of cattle will go to their apartment, they will not cease laying entirely in the coldest spells.

By managing to have the young broods where none of the old fowls resort, and not confining them to the same spot of ground after they have soiled it with their dung, very pleasing results will follow, for more than half the losses of the feathered tribe occur through keeping the coops so close together, and so long in one place—have no bottoms in them, and daily move on fresh ground; then the broods will be sweet and clean, always healthy, and will grow as fast again.

When the hen deserts her young it is best to have them roost apart from the general stock of old fowls, to escape the perpetual

pecking and worry which occurs when chickens first go among the hens; any place that is safe from vermin will do by placing a few sticks for them to roost on, as their welfare is the same in a common shed as in the finely built poultry-house of the wealthy, and very much greater than in many gentleman's places where the range is limited. Where great numbers of cattle are wintered, the buildings are extensive and the premises have litter, horse dung, &c., here and there in different parts—it is at such homesteads poultry may be kept ten times as numerous as where they are restricted to particular quarters, for it is their own droppings which to them poison the ground and the atmosphere, but the more of other animal manure they have access to, and the less of their own lying about where they feed and resort, the better.

Don't coddle the young turkeys too much; don't have any kind of fowls always round the kitchen door; a few steps further to feed will be well taken, and don't begrudge food and give too much sop to young or old. The digestion of poultry is stronger than a millstone. — *Country Gentleman.*

APIARY FOR THE WINTER.

Bees that have been kept in the cellar, or in a special room, may be removed to their summer stands, from the first to the last of the month, varying with the degree of latitude. If the weather is very severe during the month, or the locality is far north, perhaps it would be better to wait until April before setting them out. Let them occupy the old stands as far as possible, as some of the old bees will be apt to remember their former location. But if the bees were crowded near together, it will be better to give them more room. Better not place them less than six or eight feet apart. Choose a warm, still day to remove them. Set out the hives that are to stand a considerable distance apart first. After they have nearly ceased flying, place out other hives between those already out, if the day is still fine. Large numbers of bees set out at one time; and placed near, often become confused, and enter the wrong hive. Thus some hives will get more than their share of bees, while others may be nearly depopulated. If there is snow on the ground that is not firm enough for the bees to get a good foothold, it is better to wait until a warm day has settled it. If a light snow falls, shade the hives so that the bees will not be tempted out and lost. On a cool pleasant morning, quietly remove all the filth from the bottom-boards and about the hive. If the bees are disposed to be irritable, quiet them with a very little smoke, while performing the operation. While you are doing this, it will be well to examine and see whether they are still well provided with honey. In movable comb-hives, it is easily ascertained by lifting out the combs. In bar-hives look between the bars at the top of the hive, where it can usually be found. Box-hives invert in a cool, bright sunshine morning, letting the rays of the sun fall directly between the combs. If there is still a supply you will usually see the ceiled honey near the top and sides. We have sometimes ascertained, by running a knitting needle down into the combs, through the holes in the top, or honey-board. If any *sealed* honey is found, there is little danger of their starving for ten or twelve days. The cold of the past winter, and the poor season (in many localities) for 1863, will be quite likely to render the supply of honey altogether too short to carry them safely through, and furnish a supply for raising brood. The inexperienced should avoid feeding as long as possible, as it may induce robbing, and increased production of brood, which may cause the destruction of the stock. After you once commence feeding, repeat the operation from time to time, as the needs of the hive demand, until the bees get a supply from the flowers.

How to Feed.

Place honey, in combs, in the cap or top of the hive: strained honey or sugar syrup, in empty combs or shallow dishes. If dishes are used, place cut straw or shavings on top of the honey, to prevent drowning. If the weather is very cold, bring into a warm room to feed, confining the bees with wire-cloth, or thin sheeting to give plenty of air.

To prevent robbing, close the fly-hole so that only one or two bees can enter at a time. Also incline the bottom-board. In this condition, bees will usually defend themselves.

To equalize stocks, let a strong stock change stands with a weak one. This will usually make all right, the bees mixing peaceably.

Many bee-keepers claim that early breeding can be assisted by furnishing the bees with unbolted rye or wheat flour as a sub-

stitute for pollen. It should be fed early before flowers are in blossom. Put it on a comb, and place it in the cap of the hive. Or, place it in a dry, sunshiny spot, where the bees of the whole apiary can readily obtain it.

If water, slightly sweetened, is placed in the cap of the hive, either in a sponge or piece of old comb, it may save a great loss of bees in cold, windy days. They must have it, in order to raise brood, and if the apiarian does not supply it in some form, the bees will seek it abroad though they perish by thousands.

If any colonies are queenless, give the bees to some other colony. If there is brood in the combs, there is a queen present. If you have any doubts about the presence of a queen, drive the bees away from their cluster between the combs, with smoke, and look for sealed brood. Take care of hives containing comb, but no bees lest they breed moth worms.

If swarms issue this month, they are queenless, or are starved out. Return and feed, or unite with some other stock.

The foregoing remarks are especially applicable to the box-hive, as the mass of bee-keepers throughout the country usually retain it in use. In the movable framehives, many of the operations may be much simplified. Feeding, for instance, is easily accomplished by taking a card or two of stores from a hive containing a surplus, and give it to the needy stock.

L. I. FAIRCHILD.

ENGINEERING DEPARTMENT.

IMPORTANCE OF MACHINERY.

THIS is an age characterized beyond all others, in the numerous inventions to facilitate labor in every department of industry. To relieve agriculture of its slow process of human labor, and elevate it into an employment that can be pursued in a business-like manner, have engaged the minds of men not the least ingenious among the many who have given attention to machinery.

And now a great many implements have been brought to such perfection, that "improvement can no further go." The ordinary tools, as hoes, rakes, and pitchforks, are now made upon such an adoption of mechanical principles, as to make them light, and at the same time strong. We do encounter a venerable farmer occasionally, using his crotched stick instead of the light steel hay-fork, and heavy domestic manufactured rake instead of the light machine-made one; but we pity his prejudices, and know that his sons will not inherit *them* at any rate.

Every one whose mowing fields are clear of stumps, should have a spring tooth horse-rake. A man and horse with this implement, will do as much as five men with the common hand rake. A rake which on rough bottoms is superseding the latter on account of being easier to work, is one called the piano rake. The teeth are made of wood, and each one is separate, so that should it meet with an obstruction it can jump over it; but the whole can be lifted at once by the pressure of the foot on a bar to clear the winrow. This rake moves on wheels, and the man operating it rides on top. The revolving wooden toothed rake is only adapted to meadows that are perfectly smooth; but it gathers the hay with less dust than the other kinds, and is valuable on this account.

But the mowing and reaping machine is the great assistant in expediting and lightening the labors of haying and harvest times. These machines are constructed after a great many different designs; and some of them have been brought to such perfection, that they may be considered almost perfect in their arrangement of gear, facility of operating, ease of draft, and lightness compatible with strength. We would not, however, advise the indiscriminate use of even the mowing machine, nor would we like to say how extensive a farmers business should be to warrant them in their use. This is a matter we prefer leaving to the judgment of the individual. We will give, however, a New Brunswick farmer's experience as to the economy of using one, leaving each to make the application for himself.

In the Summer of 1859, a farmer, not a hundred miles from where we write, was obliged to pay two men to assist him for a month in haying, at the rate of six pounds per month, and board. With them and his own assistance, and that of a boy, he gets his hay, but he thought the wages more

than he could afford to pay. The next year he accordingly purchased a mower for one hundred dollars; and with the assistance of one man, at ten dollars a month, and a boy, he gets his hay as well and as quickly as he did the year before, at a cost of ten pounds less, putting board at £2, and charging interest on the cost of the mower. His hay crop, too, was somewhat better than the year previous. Another party with whom we are acquainted, cut 4 3-4 acres of oats in 5 hours and 40 minutes. The grain was laid in bundles, which could be tied if necessasy. Another useful implement in haying, is one called by the high sounding name of a "hay-elevator." It is a fork, twice or more, as large as a common manure-fork. The fork when in use is suspended over the mow by a rope running through a pully attached to a rafter, then to the floor, and reeving through a block fastened there. To the end of the rope is fastened a hook. When a load of hay is driven into the barn, the horse or horses are taken off, and the whipple-trees hitched to the fork. The man on the lead takes hold of the fork and plunges it into the hay—the horses start, and up goes two or three hundred weight. When it is drawn over the mow, the man lets go a small rope which holds the handle of the fork down, and the hay is deposited in the mow. A fork of this description is used by a farmer of our acquaintance, who says it answers the purpose admirably, especially when the hay has to be pitched over the *upper girt*.

Another thing we should like to see more frequently on the farmer's premises, is machinery for thrashing grain, and for sawing wood. The tediousness of flail thrashing sometimes deters farmers from raising as they might, could they get their thrashing done expeditiously. In the case of buckwheat, this is of more consequence than oats, for unless the day is clear, and the air dry, this is a very tedious grain to thrash with a flail. But in the matter of preparing wood, a machine is nearly indispensable. Our winters being long, a great deal of wood is constantly required, and the slow process of cutting it up with the axe is too often a portion of the daily work through the summer. They cannot be too strongly censured. Our season for out-door farm labor is not so long that any of it ought to be done in preparing fuel.

Windmills are in use in several localities for sawing wood. They cost but little, and for this purpose answer pretty well. There is no contrivance in those we have seen to regulate the speed; but if the saw goes fast or slow it is sure to cut.

We hope the use of machinery will come to be more used, year by year, by our farmers. It dispels somewhat the monotony of farm life. It enables more to be done in a given time. It gives to the youngsters an idea that there is brain as well as hand necessary in the labors of the farm; and it enables one to drive his business, when without its aid, his business might drive him.

SHINGLES VS. SLATE.

HAVING noticed some observations in the Cultivator relating to the value of sawed shingles, I thought my experience might be of some benefit to the public. It is 25 years since the east side of the roof of one of my buildings had to be shingled. The shingles were sawed pine, and decayed in 12 years so much that if a shingle was raised up by taking hold of the lower end, it would break off five inches from the end, all above that being rotten. These shingles were sawed out of the best of heart pine. It is now 27 years since I built a dwelling-house, and shingled it with sawed pine shingles. When the shingles were laid, the workmen were directed to throw out every knotty, shaky and decayed shingle. In laying 14,000, 2000 were thrown out. The roof lasted, with very little repair, 24 years, when it was renewed with rived spruce shingles.

I have laid on some of my roofs, sawed black-ash, elm, red-oak, and hemlock shingles. The hemlock have proved better than either of the other kinds above mentioned; but none of them lasted more than 15 years without repairs. In the year 1838 I put a new roof on one of my buildings, and as sawed chesnut shingles were at that time highly recommended, I procured 10,000 with which the roof was shingled. In 16 years it was necessary to repair the roof on the south side, and in 20 years the south side was again shingled. The north side of the roof still remains, and has been repaired but little.

As good pine shingles in this vicinity are now valued at between four and five dollars a thousand, and there cannot be a supply at that price, quite a number in this place, who have had occasion to renew the roofs of their buildings, and those who

have built new houses and barns, have procured slate, which is delivered at the nearest depot and laid on the roof,—the purchaser drawing it to his building from the depot,—for $5.50 for 10 feet square, which is only a small sum more than good pine shingles cost; and when any person wishes to repair or make a new roof, and the distance from the depot is not too great, it is in my opinion best to procure slate. With many of the buildings that take fire and are consumed, the fire commences on the roof, and if the roof had been of slate, the building would have been secure. This consideration alone should induce all who can procure slate, to use it in preference to wood.—DAVID FISHER, *in Boston Cultivator.*

THE FARMER'S WORKSHIP.

The neat farmer has not only his neat woodhouse, well filled with dry, sound wood; but he has his workshop, where he keeps his carpenter's tools and timber for use. This is not full of chips, save when he labors. It is neatly swept and every tool in its place, and he knows, though in the dark, where to find it. You can see at a glance that he takes pride in it. And his tools are in order. He lends; but not to every one. This is right. Some people are as careless about other people's tools as their own, and a man does not want to have a thing destroyed. The sluggard, the slattern should not be trusted too far, or he will make a sluggard of yourself. Bad neighbors, at the best, are a pest, and the less you have to do with them generally the better. At least keep your toolshop in order.

"Well, now, there is no use; I cannot keep my tools in order; others will have the handling of them."

This shows you lack grit. The right kind of man *will* have his premises—all relating to them—in good order, though he should sacrifice the good will of the slovens. The farmer's workshop is often a place to lounge in, in idle weather, when the little tinkering is done by the owner.

HORTICULTURAL DEPARTMENT.

BUYING CHEAP FRUIT TREES.

No man can obtain anything valuable without paying its full price. If he makes a purchase of a fine horse for a small sum, he will probably either find that the horse has some hidden disease—heaves—founder—spavin—ring-bone, or else that he has obtained the name of a cheating horse dealer, which is still more undesirable. If he attempts to build a house at a lower contract price than the builder can afford it, he will ultimately discover that a good deal of bad material has been used, or that he has a long string of "extras," which, by dexterous contrivance, have been thrust in. It is so in buying fruit trees. If the purchaser finds "a lot" offered at low retail prices, he will probably discover that they have been badly grown, neglected, stunted, moss-covered—or have been badly dug up with chopped roots—or consist of some unsaleable varieties, or have been poorly packed, or the roots left exposed till they have become dry and good for nothing. There are various other ways of rendering trees of no value, which need not be enumerated.

Now suppose a purchase is made of one of these trees at five cents below the regular market price among the best nurserymen. The owner congratulates himself on having effected a saving of the sum of five cents. Now let us see how much he is likely to lose. If the tree is stunted, it will be at least three years before he can attain the vigor of its thrifty compeer. In other words, he sells three years of growth, three years of attention (if it gets any), three years of occupancy of the ground, and three years of delayed expectation—for the sum of five cents. Or suppose the tree has been purchased below price because it is the last in a pedlar's wagon, and has been dried or frozen. The owner digs the hole, pays for the tree, and sets it out—it will probably die—in which case, he only loses what he has paid, the amount of labor he has expended, and one year of lost time and expectation. He has gained nothing, as in the last instance. If the tree happens to live, the previous estimate will then apply. Or, again, suppose that he buys a tree, and saves five cents as aforesaid, because the quality of the sort, or the honesty of the dealer, as to its genuiness, may be questionable. After several years of labor and waiting, it turns out to be a poor sort, and the tree, being left unchanged, continues to

bear this poor fruit for thirty years to come. The fruit being unsaleable, will in no case bring more than ten cents per bushel. In thirty years the average annual crop will be about three bushels, or ninety bushels in all —equal to nine dollars total value. Now, suppose, instead of this miserable specimen, the purchaser procures at full price a tree of one of the most productive and marketable varieties, such, for instance, as the Rhode Island Greening or Baldwin. The crop will always sell in market for at least twenty-five cents, and sometimes for fifty cents a bushel; and for the whole thirty years, will average at least eight bushels annually—sixty dollars for the thirty years at the lowest computation. Deduct nine from sixty (or the products of the first tree from those of the second), and we have fifty-one dollars, the difference in the profits of the two trees, being the amount lost by the purchaser of the first in his attempt to save *five cents*.

We wish to be distinctly understood. It is not the largest or finest looking trees that are the best. In fact, the eagerness to procure big trees at the expense of a full proportion of roots, which it is impraticable to take up with such trees, often results not only in the loss of the trees themselves by death, but it frequently requires years for them to recover and regain their thrifty state. Neither is it necessary that the tree be as straight as a candle, for a few years' growth fills up the crooks in a trunk, and makes it as straight, or nearly so, as any other. The three great points are: To have healthy trees—to take them up with as perfect roots as possible—and to keep these moist and uninjured till they are set out again. These three requisites cannot be easily secured by taking large trees, while those of moderate or rather small size will readily furnish them all. Small trees are easily dug without mutilating the roots; they are packed for transportation safely and with facility; the labor of digging and packing and the cost of transportation are much less than with large trees; and they commence growing immediately, with little check in their vigor; and, if well cultivated, make the largest as well as the best trees at the end of five years. The late Dr. Kennicott, who was a successful nurseryman as well as orchardist, said, that of the trees which he sold to his customers, the full-sized symmetrical ones never grew so well as the smaller ones, possessing less beauty of form. The reason was a curious one—he could never succeed in persuading the owners to shorten-in the heads of the handsome trees, while he could induce them to prune or cut back the others according to any directions he might give.

To sum up—procure small, healthy, well-dug and well-packed trees of the best proved sorts only from reliable nurserymen; let them be well set out and well cultivated for successive years, and they will afford a profitable as well as satisfactory result.—*Country Gentlemen.*

THE CULTIVATION OF THE STRAWBERRY.

TO secure the best results in the cultivation of this plant, a thorough preparation of the soil is necessary. I often hear people say the strawberry will not grow on their ground, and invariably find the difficulty to be the hard packing of the soil. In soils of an adhesive nature, a mechanical change must be made by adding manure, composed of vegetable substance. Concentrated fertilizers have little or no value for this purpose. A well rotted compost of muck and barn-yard manure will have the desired effect, and whatever can be done to make the soil lighter is especially indicated for the strawberry. Nearly all soils will be much improved by deep working. Trenching with the spade is the most effectual, but for a large area, the subsoil plow will do the work cheaper. The ground should be plowed twice in opposite directions, the subsoil plow following the common plow in each furrow both ways. This deep stirring of the soil will admit a supply of air and moisture so necessary for the growth of this plant.

It is of but temporary benefit to stir a strong soil, unless something is put into it to keep it open. I have met with good success in the use of leaf, mould, and can recommend a compost of equal parts of leaf mould, swamp muck and barn-yard manure —the compost to be applied the fall before planting, and plowed in. I have grown at the rate of 200 bushels per acre of Wilson's Seedling, by using nothing but a heavy dressing of leaf mould and wood ashes.

In regard to system of cultivation, and choice varieties adopted, I think the Wilson's Albany the most profitable market variety yet known. The Triomphe de Gand is a fine fruit, but produces from one-third to one-half less fruit than the Wilson, and will prove a profitable market variety where they will bring a correspondinly higher price. The Jenny Lind has been re-

commended by some for an early variety, but with me has not been enough earlier to make it any object. Fruit good and fair size, but will not produce half as much as the Wilson.

If the hill system is desired, the rows may be 2½ feet apart, and the plants are set out 20 inches from each other in the rows, allowing each plant to strike a runner between leaving the plants ten inches asunder in the rows. If the horse hoe and cultivator is used, a greater distance between the rows will be required. My experience is that these implements disturb the roots of the plants too much, and that the hand hoe should be substituted in their place.

The Triomphe will hardly be successful under any other than the hill system; they stand the drought well, and with me are quite hardy. The Wilson will exhaust themselves in one season whatever system is adopted, which is no objection with me, as I prefer to start a new plantation every year. I have planted the Wilson in rows 5 feet apart, and set the plants 2 feet asunder in the rows, allowing the runners to take possession of the ground, except an alley between the rows. Where the soil is heavily manured and deeply worked, a large crop may be obtained. Mulching should be done in the fall, and may remain on till the crop is gathered. Straw is the best protection, but must be thrashed clean. I have seen crops nearly ruined from scattering seed. Declare war against all weeds, work the soil deep and manure well, and success is certain.—*Country Gentleman.*

GARDENING BY THE LADIES.

A CORRESPONDENT of the London *Cottage Gardener*, describing the residence of Mr. Justice Haliburton, the "Sam Slick" of literary notoriety, says:

I paid a visit to these gardens about a year since, on the occasion of a fancy fair for some charitable purpose, and never do I remember to have seen bedding done so well, or so choice a collection of plants brought together in a place of so limited an extent. I was given to understand by a florist of some celebrity who was present, that the arrangements of the beds and the selection of the plants were in the hands of the lady occupier herself. The taste for the harmonizing of colors I consider natural in all women of refined education, only unfortunately many of them display their taste in decorating themselves more than ornamenting their gardens. But if ladies were to follow gardening more usually than they are apt to do, how much oftener we should see the cheek resemble the rose in place of the lily; and how soon also we should perceive the lighter tints made use of in decorating the inside of the bonnets. They would soon be aware that glaring coloring was not suited to their complexions so well as the more subdued shades. Moreover, God has given us health that we may enjoy the blessings He sends; and depend upon it that where a lady gardener resides, it is there the physician's carriage seldom stops.

OUR LEADING NURSERYMEN.

AMONG the Nurserymen in Rochester the firm of ELLWANGER & BARRY take the lead. In fact, they are the largest Nurserymen in the United States, and their trade amounts to hundreds of thousands of dollars annually. They commenced business in a small way, and by giving it their personal attention, added to shrewd, careful management, they have reached an enviable position among the business men of the city. Both have built palatial residences, and they conduct their business with a wise liberality that insures its success. They have about 500 to 600 acres of ground covered with every kind of fruit and ornamental tree. They employ a small army of men. Their trees are finely grown, and are sold over a wide range of territory. Their nurseries are located near Mount Hope, and are visited annually by thousands of people.

FROST & Co., of the Genesee Valley Nursery, have also a large nursery, embracing between three and four hundred acres. They do an extensive business, and ship trees to Canada and every portion of the United States. This firm employ a large force, and rank high among the nurserymen of the country.

We give below a list of the principal Nurserymen of Rochester and vicinity, and the number of acres they are reputed to have under cultivation for the growth of nursery trees and stocks:

Samuel Moulson, 250 to 300 acres; C. J. Ryan & Co., 200 to 250 acres; Hooker, Farley & Co., Brighton, 200 acres; T. B. Yale & Co., Brighton, 200 acres; W. M. Hoyt, Brighton, 150 acres; Gould, Beckwith & Co., Brighton, 150 acres; Moore Brothers, Brighton, 150 acres; H. E. Hooker & Co., 130 acres; Robert Donnelly & Brother,

Greece, 100 acres; C. S. Mills & Co., 100 acres; Fellows & Co., Penfield, 80 to 100 acres; S. Boardman, Brighton, 75 acres; Wright & Davis, Irondequoit, 75 acres; Foster Hoyt, — acres; Howe & Lewis, Brighton, 75 acres; D. McCarthy & Co., Brighton, 75 acres G. G. McKinster, Irondequoit, 75 acres; C. W. Seelye, Central Nurseries, 75 acres; Thomas Hayward, Pittsford, 50 to 75 acres; Fish & Bro., Gates, 40 to 50 acres; A. C. Wheeler, Brighton, 50 acres; J. B. Norris, Brighton, 40 to 50 acres; Salter & Anthony, 40 to 50 acres; Dryer, Nash & Co., 50 acres; S. B. Kelly, Brighton, 35 acres; B. W. Fassett, Brighton, 25 acres; B. Millard, Pittsford,— acres; Lyons & Fisk,— acres; Huntington & Co, 25 to 30 acres; Asa Anthony, Gates, 25 acres; J. Wentz, Brighton, 15 to 20 acres; Wm. King, 10 acres; Brooks & Co., 10 acres; Geo. Cooper, Irondequoit, 10 acres; C. F. Crosman, 10 acres.

In addition to the above, there are a large number of smaller nurserymen, whose names we are not familiar with, and probably some larger ones whose names have escaped our memory. Suffice it to say, the nursery business in this county is yet in its infancy, and is destined to reach still greater proportions. It already affords employment not only for a vast amount of capital, but to a large number of laborers, and has been the means of adding largely to the material wealth and prosperity of our people. It has adorned and beautified our pleasant city, making it one of the finest in the State. It has fostered among our people a love of the beautiful, added to their material wealth, and led many to adorn and beautify their houses, which always increases and intensifies the love of country and patriotism of a people. It has educated the people to a higher standard of refinement and taste, and its benefits and blessings have been countless and beyond measure. May this business, which has been the means of doing so much good, long continue to prosper.—*Moore's Rural New-Yorker.*

HORTICULTURAL NOTES.

Use of Stones under Apple Trees.

"MR. OLDBUCK," in Scott's Antiquary, chapter the fourth, "failed not to make Lovel remark that the planters of those days were possessed of the modern secret of preventing the roots of apple trees from penetrating the till, and compelling them to spread in a lateral direction, by placing paving stones beneath the trees when first planted, so as to interpose between their fibres and the subsoil. "This old fellow," he said, "which was blown down last summer, and still, though half reclined on the ground, is covered with fruit, has been, as you may see, accommodated with such a barrier between his roots and the unkindly till."

Garden Shelter.

The importance of garden shelter is by no means enough considered. I do not indeed name my own method (hemlock hedging) as the best to be pursued; flanking buildings or high enclosures may give it more conveniently in many situations; a steep, sudden hill-side may give it best of all; but it should never be forgotten that while we humor the garden soil with what plants and trees best love, we should also give their foliage the protection against storms which they covet, and which in almost equal degrees contributes to their luxuriance.

To the dwarf fruit, as well as to the grape, this shelter is absolutely essential; if they are compelled to fortify against oppressive blasts, they may do it indeed, but they will in this way dissipate a large share of the vitality which would else go to fruit. Young cattle may bear the exposure of winter, but they will be pinched under it, and take on a meagre look of age, and expend a great stock of vital energy in the contest."—*Mitchell in "My Farm at Edgewood."*

Dwarfing Trees.

It is reported that good strong canvas spread on a tree grafted low, soon after it putteth forth, will dwarf it and make it spread. The cause is plain, for all things that grow will grow as they find room."—*Lord Bacon's Natural History.*

Inscriptions on Fruits.

It is a curiosity to have inscriptions or engravings in fruit or trees. This is easily performed by writing with a needle, or bodkin, or knife, or the like, when the fruit trees are young; for as they grow so the letters will grow more large and graphical. —*Id.*

Moss on Trees.

"The moss of trees is a kind of hair; for it is the juice of the tree that is exuded, and doth not assimilate. In clay grounds all fruit trees grow full of moss, both upon body and boughs, which is caused partly by the coldness of the ground, whereby the

plants nourish less, and partly by the roughness of the earth, whereby the sap is shut in, and cannot get up to spread so frankly as it should do"—*Id.*

Covering Seed.

As a general rule the depth of covering should not exceed two or three times the shortest diameter of the seed; this plainly involves so light a covering for the lettuces, parsley and celery, that a judicious gardener will cover by simply sifting over them a sprinkling of fine loam, which he will presently wet down thoroughly, (unless the sun is at high noon) with his water-pot—medicined with a slight pinch of guano.—*Id.*

Dressing for Strawberries.

Supposing the land to be in good vegetable condition, and deeply dug, I know no dressing which will so delight the strawberry, as a heavy coat of dark forest mold. They are the children of the wilderness, force them as we will; and their little fibrous roots never forget their longing for the dark unctuous odor of mouldering forest leaves.—*Id.*

Garlicks and Onions.

Those skilled in simples, Eastern as well as Western, praise garlick highly, declaring that 'it strengthens the body, prepares the constitution for fatigue, brightens the sight, and by increasing the digestive power obviates the ill effects arising from change of air and water.' The old Egyptians highly esteemed this vegetable, which, with onions and leeks, enters into the list of articles so much regretted by the Hebrews, (Numbers, xi. 5: Koran, chap. 2.) The modern people of the Nile, like the Spaniards, delight in onions, which, as they contain between 25 and 30 per cent. of gluten, are highly nutritive. In Arabia the Wahhabis bear a prejudice against onions, leeks, and garlick, because the prophet disliked the strong smell, and all strict moslems refuse to eat them immediately before visiting the mosque or meeting for public prayer.—*Benton's Mecca.*

DOMESTIC ECONOMY.

STRAY HINTS FROM MY KITCHEN.

BEING in season, or more properly *not* being in season, is one of the greatest trials a woman has. Now, young wife, allow me to give you a few hints about this matter. Hurry your work, but don't let your work hurry you. Do to-day's work to-day—don't let it go until to-morrow. Commence getting dinner half an hour too early rather than five minutes too late—for what woman wants her "better half" and all the hired men sitting round, while she is dishing up the dinner, and wondering what makes her so flushed and nervous?

Who would not be nervous to know a scowl was on the brow of the lord of the house, and no sentiment of pity lurked in his heart for the poor tired wife, just because she was belated. Man never will pity a woman who is behindhand—so let me say again, be in season. Do things right. Some wives seem to act as though they thought if a thing was done, no matter how it was done. Remember the old adage, "Whatever is *worth doing*, is worth doing well." Let your meals be always nicely prepared, and your food well cooked, even if your husband is an "easy man," as I have heard wives say, and never "finds fault." If a man never complains, it need not be taken for granted that he is suited with anything, no matter how poor. Man has much penetration, and knows even better than some women suppose when things are done in "apple pie order." He may not openly complain, but he feels more for saying less.

If soup is in the order for dinner, let it *be soup*, not a mixed mass of meat, bones, potatoes and water. Don't throw the ingredients into a pot, boil them up a spell and pour them out expecting to find a dish worthy the taste of an epicure. To cook well, and make palatable food, great pains must be taken, and strict attention paid to work. We cannot stand in the street door and gossip half an hour, and expect all things to work right in the kitchen. We cannot sit down to read a fascinating book an hour and find the soup all seasoned for the table, when the monitorial clock rings out the hour of noon. No, no; we must attend patiently to our work, and little by little find it to be right. The proper way of making soup is thus:

Put the meat into cold water and set it over a slow fire that it may boil gradually;

by that means the goodness is extracted Pare your potatoes and *half* or *quarter* them—not slice them. Slice onions, if they are used, and put in when you do the potatoes. Season the soup before you put in the potatoes, by putting in pepper and salt, and tasting till found right. After the potatoes and onions begin to boil, lightly drop the dumplings upon the top, and cover the top closely that the steam may cook them. The nicest way to make them is to take one pint of flour, one teaspoonful of cream tartar, one half teaspoonful soda dissolved in hot water, a little salt, and milk enough to wet them up. Make them stiff; divide them into about four dumplings, and if good they will be plenty for a family of four or five. Don't cook them more than twenty or twenty-five minutes.

Make a soup exactly according to these directions and you will have the satisfaction of *knowing it is good*—if no one else speaks of it. Thus it is with all our labors; if we do well, we know it ourselves, if others do not seem to. Have a rule for doing everything, which rule you can obtain by marking how you do a thing one time when wrong and doing different till perfect, *remembering* only the perfect trial. There is monotony about woman's work that is very tiring and discouraging. Day after day and week after week, she must go over the same routine of duty, and she must indeed be a poor pupil who cannot learn to do well. SARAH.

REMARKS.—Excellent. It is wonderful how smoothly and pleasantly life passes along when a proper regard is to be paid to all the little details of our business, whether it be in the construction of an oration, the building of a house or a ship, or making a good soup or loaf of bread. Read this brief article, girls, as it may tend to secure a life-time of domestic happiness. The comforts of a life have often hung on a more slender thread than this. When our correspondent speaks of the special duties of *men*, we may take the liberty to speak as freely of them.

WASHING FOR FAMILIES.

Keep the clothes over night in tubs of clean water. On the next day make the following mixture: One pint of lime water, seven gallons of soft water, one ounce of scraped soap and one ounce of soda. Put these in a boiler with the clothes; boil half an hour; then take them out and beetle well in soft water; then wring them out and rinse very clean. To make the lime water, put half a pound of quick lime to one gallon of water; break it up and stir well and let it remain till clear. This solution is not good for flannels. The suds from the boiler is good for prints, &c.

TO SAVE COFFEE.

Boil a quantity of clean wheat and dry it. Then to give it the flavor of coffee, brown it in an oven with an equal amount of the latter. The beverage is then made, of the two, in the same manner as common coffee.

WHISKEY VINEGAR.

Put one pound of sugar and a quart of good whiskey in a two gallon jug and fill up with rain water. If kept in a warm room it will become vinegar sooner than otherwise.

TO DESTROY BED BUGS.

These troublesome creatures can be effectually removed by occasionally applying a small quantity of turpentine, by means of a feather, to all parts of the bedstead usually infested by them.

LOAF CAKE WITHOUT YEAST.

One and a half cup of butter, three cups of sugar, one cup of milk, five cups of flour, four eggs, one teaspoonful of soda, three teaspoonfuls of cream-tartar, raisins, nutmeg, and a glass of wine or brandy.

Various Recipes for Housekeepers.

Mrs. E. A. Call. of Fabius, N. Y., sends for the Country Gentleman, the following recipes from her "*Young House-Keeper.*"

Sausages.

Take fat and lean meat, cut off the rind and chop very fine, and season as follows: To twenty pounds of meat put eight ounces of salt, four ounces of sage, and pepper to suit the taste; mix thoroughly with the hand; fill tin pans two-thirds full, spread a cloth over the top of the meat, and a board over the top of the pan, and set in a cool place.

Chicken Pie.

Boil two chickens tender; season with butter. pepper and salt; thicken the gravy with a very little flour; make the doughas for short biscuit, and roll it out as thick as your hand, large enough to line a small tin pan; dip in the chicken and a part of the gravy; put on a top crust and pinch it down well; make an opening on the top

with a knife, an inch or two long, and prick it with a fork. Veal and beef answer every purpose for this pie. The gravy left in the pot take to the table in a gravy dish.

Fried Cake.

One cup of sugar, one of sour cream, one of butter-milk, one teaspoonful of soda; and a little salt and a little ground cinnamon or spice; mix into a stiff dough, cut in strips and fry in lard.

Fruit Cake.

One pound of flour, one pound of sugar, five eggs, half pound of butter, one pint sour cream, one pound of raisins, a large teaspoonful of ground cinnamon, one teaspoonful of soda, frost and trimmings. The raisins should be chopped a very little.

Buckwheat Cakes.

Take one quart of buttermilk or sour milk, and one of water, one-half tea-spoonful of soda; and a little salt; stir in buckwheat flour enough to make a thinnish batter; and let it set over night; in the morning add another half teaspoonful of soda and a little more flour; bake on hot griddle. When done they should be put into some kind of a dish where they can be covered without the cover resting upon the cakes, as it has a tendency to make them heavy.

Frosting.

Beat the white of an egg to a stiff froth; afterwards stir in ten teaspoonfuls of pulverized white sugar. The above quantity will do for a common sized cake. Spread on while the cake is hot.

A SOAP CHAPTER.

WILL you please publish the inclosed receipes, and oblige one who hates a humbug. They are sold through the country for five dollars:

TO MAKE WASHING SOAP.—One gallon soft water; 2 lbs. hard soap, made of palm or olive oil and soda ash; 4 oz. sal: soda; 2 oz. borax. Put all in a clean kettle, bring to a gentle boiling, and in ten minutes put inthree tablespoonsful of burning fluid and two of hartshorn. Simmer till well blended, then pour off.

TO MAKE TOILET OR SHAVING SOAP. One gallon water; 4 lbs. hard soap, as above; 2 oz. borax; 2 oz. sal soda. Color with a teaspoonful of Chinese vermillion, dissolved in 2 teaspoonsful of warm water. Streak through the mould, while warm stirring in flavoring, also, at the same time.

TO MAKE TRANSPARENT SOAP—Shave very fine the soap used. Use the same soaps as above,—Colgate & Co.'s Opodeldoc soap for the white, and common bar and chemical soap for the fine transparent. Put best alcohol in a vessel deep enough to be safe on the stove. When it begins to simmer, put in the soap shavings; 1 lb. of soap to 1 pint of alcohol, is all the soap the alcohol will cut; pour off as soon as dissolved. Keep from fire. If it should take fire smother it.

TO MAKE HONEY SOAP.—Shave and dissolve two pounds of yellow soap in a vessel suspended in boiling water. Then add one-quarter pound each of strained honey and palm oil, and three cents worth of the oil of cinnamon. Useable when cold.

TO MAKE ONE BARREL OF SOFT SOAP INTO TWO.—Put one barrel of soft water to a barrel of soap; add five lbs. sal soda, a half pint of hartshorn, and a half pint of burning fluid. Green soaps must be kept from freezing; if frozen, melt over.

Now I submit that men that can sell these receipes for from $2,50 to $5,00 *can make one barrel of soap into two*, of every *soapy* customer they meet.

Yours, truly,

JOHN JONES.

Buffalo, N. Y., 1864.

TO KEEP EGGS.

To preserve eggs, they should be removed from the nest daily, and packed as fresh as possible.

MANUFACTURING REVIEW.

THE PATENT LAWS OF CANADA.

The following is a copy of a petition just presented to the three branches of the Legislature of this province, for amendments to the laws relating to patents for invention:

The petition for the Board of Arts and Manufactures for Upper Canada humbly sheweth:

That in the present state of the Patent Laws of this Province, none but *British subjects who are actual residents* in Canada,

can obtain protection for any invention or discovery they may produce:

That your petitioners consider this unjust towards British subjects non-resident of Canada; and more especially towards such as are subject to the Patent Laws of the Imperial Government, which makes no distinction as to the country to which the applicant or inventor may belong, in the granting of Patent Rights:

That in respect to the Inventions of Foreigners, the Patent Laws of this Province are not based on those principles on which the Patent Laws of almost all other countries are established, that is, the absence of prohibitions and discrimiating fees in the granting of Letters Patent:

That the Patent Laws of the United States have recently been so modified as to do away with all discriminating fees, on the condition set forth in section 10 of an enactment of the American Congress, of the 2nd of March, 1861, as follows:—"That all laws now in force fixing the rates of the Patent Office fees to be paid, and discriminating between the inhabitants of the United States and those of other countries, which shall not discriminate against the inhabitants of the United States are hereby repealed:"

That under said enactment of the American Congress, citizens of Canada are, in consequence of the prohibitory laws of this province, altogether excluded from the benefit of taking out Patents in the United States, unless by payment of a fee of $500; inhabitants of other countries being subject to a fee of only $35 for a similar privilege.

That the absence of "Provisional protection to parties for a limited period while perfecting their inventions, is frequently a cause of injustice to them, and of imperfections or incompleteness in the articles patented:

That a provision for furnishing copies of the Drawings and Specifications of Patents issued, of a uniform size for binding to the free Libraries of reference of the two boards of Arts and Manufactures of the Province, would conduce to the interests of both the inventors and the public.

Wherefore your petitioners humbly pray, that your Honorable House will be pleased to pass such an act as to your Honorable House may seem best adapted to carry out the views of your petitioners, in doing away with all prohibitory or discriminating laws for the granting of Letters Patent in this Province; for granting "Provisional Protection" to Inventors; and providing for the transmission of copies of Drawings and Specifications to the respective Boards of Arts and Manufactures, for reference.

And your Petitioners will ever pray, &c., &c."

COMMERCIAL REVIEW.

THE GUANO TRADE.

AN intelligent gentleman, who has been employed in loading a ship with guano, at the Chincha Islands, coast of Peru, has communicated to us some interesting information with respect to the trade. He has been at the Islands, at three different times, and nearly six months in all. The last time he was there was in the fall and summer of 1855. He says that he found at times five hundred sail of vessels together loading with guano, generally large ships. One ship was 4,500 tons burden. Not less than three hundred sail were at one time at the Islands, loading for the United States, Spain, Portugal, France and English and German ports. Some cargoes are sent to Constantinople and some to Russian ports in the Black Sea. This was before the war in the Crimea. The Russian trade will now open again, both from the Black Sea and the Baltic. Freights are high. £6 10s. are often paid per ton for Liverpool and Hampton Roads. Generally, ten shillings more a ton freight is paid to Europe. At the rate at which guano is now shipped from the Chincha Islands, it will be exhausted in six to eight years—not a ton will be left. Twenty thousand tons are sometimes removed from the islands in a single day.

These islands are about one hundred miles north from Callao. The longest of the group is two miles in length and a quarter of a mile wide, but contains only a small quantity of guano. The most northerly island is the smallest, being about a mile in length by half a mile in breadth. Guano on this island is two hundred and fifty feet deep. The island contains a Chinese settlement of coolies, about a thousand in num-

ber, who are employed in digging guano and loading the vessels.

A task is given them each day, and if the gang fail to get out the given number of wagon loads, of two tons each, a day, their bondage is continued a longer period, to make it up; so many months or days being added as wagon loads are wanting.

The Coolies are cheated into the belief that they are to be shipped from China to California and the gold diggings, and are further deceived by the offer of a free passage. The knowing Chinese or the Mandarins ship them. The ship-master carries them to the Peruvian coast, and sells the cargo of living Chinese to the Peruvian Government for his freight money, All this time the Chinamen are kept in irons and confined below in the hold of the ship. The Peruvian Government purchases the cargo of living Coolies, paying the Yankees or English captain a round sum for his care, diligence and labor, in stealing Chinamen from their homes, to be sent into the guano mines of Peru for life, or five to seven years, and to be held in bondage or peonage, to pay their passage to the glorious land of the *Mexs*.

The guano is hard, and can only be broken up with the pickaxe. It is then broken and shovelled into the wagons, and rolled from the shutters into the vessel. No person can go upon or come away from the islands without a pass, as they are guarded by more than one hundred armed soldiers belonging to Peru.

The Peruvians send all their prisoners of State into the guano mines, say about two to three hundred, where they are let out to work by day, and at night are shut up in their cells, with only two meals per day.

These prisoners are generally provided with wives or female companions, who have been permitted to go to the islands, and hire themselves out for work and prostitution. They are mostly Indians, natives of the country. There is no fresh water on the islands, and each vessel is compelled by law to carry a ton of fresh water there for every hundred tons burden of the ship. The oldest Captain in the fleet from each nation is appointed Commodore, and hoists his flag as such on his ship, where all disputes are settled. Indeed, the municipal laws of the islands and the fleet are decidedly of Yankee origin.

The islands are about ten miles from the main land, and are composed of new red sandstone. The guano is not all bird dung, but is largely composed of the mud of the ocean; that brought from Peru, is so, at least. When anchors are hoisted into the ship from the holding grounds of vessels along the Peruvian coasts, large quantities of mud, of a greenish white color, are brought up, and this mud when dried, makes guano equally good with the guano taken from the islands.

The birds and seals come upon the island when the people are not at work, but it does not appear that their dung or decayed bodies are more than a foot deep on any of the islands. Fish are taken in great abundance about these islands, as are also seals, which come there in large schools. Sea lions also abound. The composition taken from the islands, called guano, is stratified, and lies in the same form it did before it was lifted up from the bottom of the ocean.

Our informant says that a geological examination of the islands will satisfy any man that the guano ships are bringing away from these islands a very different thing from the dung of birds or decomposed animals.

Gibbs & Bright of Liverpool, have a lease of the Guano Islands from the Peruvian government for five years. This house pays the Peruvian government about $4.50 a ton for the privilege of taking all the guano from the islands, the government furnishing the men to dig the guano. The ships that load at the islands are mostly ships chartered to carry a cargo, or are sent there by the owners to take away a cargo, bought of Gibbs & Bright, who have the entire monopoly of the trade.

MONTREAL MARKETS.

Potash, per cwt.,	$6.10 to 6.15
Pearlash, "	6.85 to 6 90
Flour, Fine, per 196 lbs.	4.00 to 4.10
No. 2 Superfine,	4.20 to 4.25
No. 1 "	4.30 to 4.40
Fancy "	4.50 to 4.70
Extra "	5.20 to 5.30
S. Extra Superfine	0.00 to 0.00
Wheat, U.C. White, per 60 lbs.,	$0.90 to 1.02
" U.C Red, "	0.90 to 0 91
Peas, per 66 lbs.,	0.70 to 0.71
Indian Corn, per 56 lbs.,	0.55 to 0.56
Barley, per 50 lbs.,	0.80 to 0.85
Oats, per 40 lbs.,	0.47 to 0.50
Butter, per lb.,	0.15 to 0.16
Cheese, per lb.,	0.08 to 0.08¼

CATTLE MARKET.

Extra Cattle, $7.00 to $8.00. First Quality Cattle, $6.00 to $6.50; Second and Third, $5.00 and $4.00. Milk Cows, $15.00 to $200; extra $30.00 and $35.00. Sheep, ordinary, $3.50 to $5.00; extra, $7.00 to $9.00. Lambs, $2.50 to $4.00. Hogs, live-weight, $5.00 to $5.50.

MINERAL LANDS.

DEPARTMENT OF CROWN LANDS.

REGULATIONS for the sale of mineral lands approved by His Excellency the Governor General in Council.

1. That the tracts shall comprise not more than four hundred acres.

2. That the dimensions of the tracts in unsurveyed territory be forty chains in front by one hundred chains in depth, and bounded by lines running due North and South, and East and West, or as near to these dimensions as the configuration of the locality will admit.

3. The applicant for a tract in unsurveyed territory must furnish a plan and description thereof by a Provincial Land Surveyor.

4. The price shall be one dollar an acre, payable on the sale.

5. That a tax or duty of one dollar per ton be charged on all ores extracted from the tract, payable on removal from the mine.

This condition applies to all Mining lands sold since the 1st day of April, 1862, and is in lieu of the Royalty of two and a half per cent. chargeable on the ores from these lands.

6. That in surveyed townships, lots, presenting indications of minerals, be sold on the above conditions, but at not less than one dollar per acre in any township, and at the same price as the other lands in the township when it is more than one dollar per acre.

7. That not more than one tract of four hundred acres be sold to one person.

8. The above regulations do not apply to mines of Gold and Silver.

9. All previous regulations inconsistent with the above are cancelled.

☞All Locations of Mineral Lands on the North Shores of Lakes Huron and on the adjacent islands, which, on the 15th March, 1861, were liable to forfeiture for non-performance of conditions of sale and location, and which have remained liable to forfeiture to the present time, are forfeited.

The locatees, and their assignees, provided the assignments were made before the date hereof, are allowed to apply the payments they may have made on any location, over and above the deposit, or first instalment, towards the purchase of the same, or any other location which shall be open for sale at the date of their application to have the same so applied; but such application shall be regarded as a new purchase, subject to existing regulations and must be fyled in the Department of Crown Lands on or before the FIRST day of NOVEMBER, A. D., 1864.

WM. MCDOUGALL, Com.