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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.

MARCH 1866.

SPARGERE COLLECTA.

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

EDITORIAL DEPARTMENT.

OUR SYSTEM.

OUR system of making a good, practical and reliable agricultural and horticultural paper, is not as some editors do, to refuse to publish anything, unless it comes to them *original*.

The poorest agricultural paper, in our opinion, in this country, as regards *practical* value, is one in which little or nothing appears, but what is written by its *editors*. Editors of rural papers are out of their proper sphere, when they attempt to fill their papers entirely with their own ideas, however good they may be, because it is not *possible* for any editor, or corps of editors, to supply the farmers of this country with information from their own pens wholly, which is as valuable as that which comes through correspondents in part, and in part selections from other similar publications, with a sprinkling of editorial matter.

Take, for instance, the best farmer and writer in the Province, and give him a paper to edit, and require him to fill it entirely, from week to week, or month to month, with his own ideas, and what would it be worth to farmers, *after the first year?* He would have told all he knew in a few months, and then his paper would be merely a rehash of what he had previously written. Our system, therefore, is to select a portion of the best matter that is published in the agricultural and horticultural publications of this country; and with what our able correspondents, and what we write, we claim that we publish a paper for farmers, fruit growers, &c., on the *best possible plan that can be adopted.* Is it not reasonable, that our views are correct? We have about twenty agricultural and horticultural papers in the United States, in all of which some very good, practical information may be found, the *cream* of which we seek out, frequently among much that is worthless, and insert it in our paper what every farmer in the whole land may read with profit; and we contend that we publish in a year what is worth *ten times as much*, at least, to the working farmer as what is found in any similar paper that discards all matter but what is written especially for it.

FARMERS OUT OF DEBT.

THERE must be something radically wrong with the farmer that does not now free himself from debt. Never in the lifetime of the present generation will such another opportunity present itself. Every cultivated product of the temperate latitude bears a highly remunerative price. Every fruit of our trees finds ready market.—Every domestic animal that roams over our fields or feeds on the contents of our granaries, finds a ready purchaser. Animals, vegetables and fruits alike are in demand.

It matters not for the purpose of paying debts, whether the money received for farm products be fifty, sixty, ninety or more cents below par; a dollar cancels a dollar's worth of debt, contracted even in the good old days of specie for which men sigh. A few years ago it took, in many parts of the West, ten bushels of corn to bring a dollar. Everything else that the farmer produced by his toil and care was equally low in price. Then, indeed, were hard times, and a crushing load of debt settled down upon the shoulders of all—for the great mass of western farmers came here, poor in money; rich only in faith and hope.

If a man's crops and stock last year brought him $1,000 and his expenses were $500, this year his receipts will be $2,000, while his expenditures, even allowing them to have doubled—which they will not have done in one case in ten, will allow of a profit double that of last year.

And what is a year or two of economy now—economy of the most rigid kind, that shall cut off all the luxuries of life, compared with the years of happiness that shall follow when the homestead is free from encumbrance; when all the stock and machinery are the property of the landholders; when there is no account at the grocer's nor the dry goods merchants, nor the blacksmiths?

It will be a glorious epoch when the people of theses prairies own their own farms, and this we believe may at once be, if proper advantage be taken of the times in which we now live.—*Prairie Farmer.*

Three feet is the most economical depth for drains.

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Arthabaska	Arthabaskaville..	A. Stein.....	J. Garneau.....	B. Théroux, fils...	L. Blais, J. Juneau, E. Marcotte, G. Noble, P. J. Sheridan, J. Gibson, P. Lainesse.
Bagot	Ste. Rosalie.....	A. Beauchemin ..	F. Valcourt.....	P. S. Gendron...	J. B. Cadieux, J. Henderson, L. Choquet, J. Malette, J. L'Heureux, J. A. Cushing, O. Cordeau.
Beauharnois ...	St. Louis de Gonzague.	J. B. Scott.....	J. Symons.....	E. H. Bisson.....	L. Julien, J. A. Barbeau, J. Larocque, J. Cardinal, D. Benning, G. B. Duncan, P. Pitre dit Lagambe.
Beauce	St. Joseph.....	Hon. E. Duchesnay	L. Barbeau	F. S. A. Bélanger.	A. Fortier, J. Fortier, G. Lessard, J. E. Proulx, A. Bolduc, M. Cahill, R. Dallaire.
Bellechasse.....	St. Michel.....	O. C. Fortier	E. Forgues	P. Forgues.....	A. Goulet, H. Breton, C. Paquet, L. Tanguay, J. Lainesse, F. Fournier, L. Leclere.
Berthier.....	Berthier.....	P. G. Ferland....	F. H. Dézy.....	N. Doucet.....	M. Brissette, E. Ferland, E. Mousseau, F. X. Dezy, E. Perrault, P. Béliveau.
Bonaventure, No.1	New Carlisle.....	E. Martel.	R. H. Montgomery	G. Kelly	D. Kerr, T. Robitaille, A. Carcand, J. G. LeBel, C. Hamilton, W. McPherson, W. Phelan.
Bonaventure, No.2	Carleton	J. Meagher	J. Fraser.....	Mann & Meagher.	F. Cook, J. N. Verge, J. Campbell, S. Allison, R. Busteed, A. Chamberlin, J. Sellars.
Brome	Knowlton	F. Taber	G. H. Boright....	J. Lefebvre.....	N. Pettes, J. McLachlan, E. G. Ball, A. Bull, W. Crohurst, L. A. Hand, S. J. Blanchard.
Charlevoix, No. 1.	Malbaie	J. J. Reeves.....	C. Demeule	E. Angers.....	G. Tremblay, F. Tramblay, C. Contourier, S. X. Cimon, I. Blackburn, T. Villeneuve, F. Bilodeau.
Charlevoix, No. 2.	Baie St. Paul	T. Fortin.....	F. H. Asselin	S. Boivin.....	O. Simard, M. Fortin, F. Coté, V. Simard, L. Gobeil, O. Boily, E. Girard.
Chambly.....	St. Hubert.....	A. Willscam.....	P. B. Benoit.....	L. Trudeau.....	L. St. Germain, L. Lafontaine, N. Laporte, A. Larivée, X. Robert, L. Achim, L. Brousseau.
Champlain	Ste. Geneviève Bat	J. J. Ross	B. Roy.....	Robert Trudel....	F. Trudel, F. X. Trudel, A. R. Laflèche, F. X. Marchand, O. Montplaisir, E. Lajoie, P. Lahaie.
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Dorchester.....	St. Anselme.....	Z. Audet.....	A. Roy.....	F. F. Buteau.....	F. X. Roy, E. Audet, F. Audet, F. X. Coriveau, A. Plante, J. Morin, J. Audet.

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Drummond, No. 2.	Durham.....	G. S. H. Browne .	J. Bothwell.....	Jos. Bothwell....	J. Mairs, J. Atkinson, B. Reid, J. Trenholm, T. Brady, J. Royston, W. Burrill.
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Iberville.....	Election contestée				
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Joliette	L'Industrie	L. Levesque.....	G. de Lanaudière.	E. Guilbault.	C. Guilbault, J. B. Renaud, H. Daly, P. Comeau, F. Tradeau, J. B. Geoffroy, A. N. Bellerose.
Kamouraska.....	Kamouraska.....	Rev. F. Pilote ...	P. Dessaint.....	I. Dessaint.....	Dr. L. Têtu, E. Dionne, V. Taché, L. Miller, A. Casgrain, P. Pelletier, H. Paradis.
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Lévis.....	St. Joseph de Lévis	P. Lagueux.....	A. Carrier.....	F. M. Guay.....	T. Demers, J. Bisson, L. Dumas, P. Bilodeau, A. Plante, B. Monfette, H. Guay.
L'Islet.....	St. Jean Port Joli	C. F. Fournier...	J. B. Dupuis.....	P. G. Verreault..	A. Miville, E. Caron, S. Roy, L. Bois, L. Caron, L. Lebourdais, J. Aubert.
Lotbinière, No. 1.	St. Sylvestre	T. Walker	E. Montgomry...	J. Parke	J. Lefebvre, J. Brown, P. Stoken, T. Taylor, R. Lipsay, J. Loming, S. Wark.
Lotbinière, No. 2.	Ste. Croix.....	H. G. Joly, M.P.P.	J. Blouin.....	M. Couture.....	B. Garneau, J. Bédard, O. Frenette, L. Bibeau, N. Brisson, J. Méthot, G. Vidal.
Maskinongé.....	Rivière du Loup en haut.	M. Houle, M.P.P..	C. Gélinas.....	E. Caron.....	D. Caron, A. Lesage, T. Scheler, D. Gagnon, L. Bellemare, A. Dauphouce, X. Delaunais.

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Mégantic, No. 2. .	Leeds.....	J. Oliver.....	T. Scallon.....	J. Hutchison. ...	A. Dunn, W. Warcup, W. Church, H. Jameison, A. Ruthney. J. McLean, W. Fraser.
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Montmorency....	Château-Richer ..	C. Réaume.....	D. Guérin.....	O. Gravel.....	N. Simard, J. Gagnon, A. Paré, F. Caron, J. Cloutier, C. Huot, P. Vézina.
Missisquoi.....	Bedford	T. Wood	L. W. Decker....	H. O. Meigs.....	M. McFie, L. Johnson, N. M. Blim, J. A. Hogle, S. Baker, P. H. Krans, R. McKorkill.
Montcalm	Ste. Julienne.....	F. Foucher	J. Melrose.....	A. H. de Caussin.	B. Bertrand, G. Poirier, O. Poirier, M. Boucher, S. Richard, N. Bordeleau, M. Skelly.
Montréal.....	Montréal	S. J. Lyman.....	W. Evans.....	J. E. Pell.....	R. Springing, J. Nairn, J. Archbold, J. Midelton, S. Irving, J. H. Springle, R. Brodie.
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Nicolet, No. 2.....	Nicolet.....	C. Beaubien.	Rev. C. Z. Rousseau	G. David.....	L. Beaubien, S. Réné, F. Roy, A. Leblanc, F. Manseau, F. Décoteau, A. Champagne.
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Pontiac.....	Clarendon	A. Smart.....	T. Graham.....	G. M. Judson....	R. Kerr, J. Horner, W. McDonell, J. Duff, W. Russell, J. Meldrum, G. Hodgins.
Portneuf.....	Cap Santé.....	Hon. J. E. Bilodeau.	C. Arcand	D. Hamelin	J. L. Hardy, J. Morin, L. Leclaire, F. X. Frenette, L. Dessault, R. Bernard, F. X. Larue.
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Québec (Comté).	St. Roch (Québec)	J. Laurin.....	C. Réaume.....	J. B. Delâge.	J. Jobin, J. Bédard, G. West, J. Arteau, J. Hamel, F. L'Hérault, A. Scullion.
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Shefford	Waterloo	S. N. Blackwood.	A. Kay	G. H. Allen	J. Williams, S. P. Bunker, T. Ainslie, T. Rooney, J. Smith J. W. Watson, J. R. Sanborn.
Sherbrooke	Sherbrooke	J. G. Robinson	C. O. Malorey	C. Brooks	A. Stevens, A. D. Ball, W. McCurdy, H. Moe, H. Beckett, C. Lothrop, J. Lorning.
Soulanges	Côteau Landing	L. H. Masson	R. McDonald	G. H. Dumesnil	M. Bourbonnais, J. B. Lalonde, W. Reay, G. Bissonnette, A. Charest, J. Leroux, A. Lalonde.
Stanstead	Stanstead	C. Pierce	F. E. Wadleigh	L. K. Benton	W. L. Oliver, P. B. Wilcox, O. Bartlett, H. McGaffer, C. Ayer, J. G. Baldwin, J. G. Cristie.
St. Hyacinthe	St. Hyacinthe	A. Brunelle	J. Dufresne	J. O. Guertin	J. Faneuf, E. Mathieu, G. Laprise, E. Tessier, C. Larivière, P. Gadebois, N. Hébert.
St. Jean	St. Jean	F. G. Marchand	J. Borrowdale	E. Archambault	G. Winterbottom, L. Dupont, C. Bouchard, M. Deland, E. Bourgeois, P. Gagnon, J. B. Dépeltau.
St. Maurice	Yamachiche	L. L. L. Désaulniers.	Y. Hooper	F. E. Milot	A. Villemure, T. Bourassa, A. Martin, R. Dussault, A. Gauthier, J. Bellemare, P. Lacerte.
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Vaudreuil, No. 2.	Rigaud.	D. McMillan	E. Lalonde	E. N. Fournier	C. McGreevy, E. St. Julien, F. E. Cherrier, D. McGregor, D. S. Morrisson, I. Vipond, J. Fletcher.
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Verchères, No. 2.	St. Marc	A. Vandandaigue.	P. Shank	C. Robert	L. Brassard, A. Lambert, J. Bernard, M. Ducharme, M. Dansereau, F. Marcotte, E. Gaudette.
Wolfe	Dudswell	S. R. Andrews	J. E. Côté	G. Addie	R. A. Davis, E. Ivas, L. Gendreau, C. Ducharme, F. Milette, Z. Evans, G. Goodenough,
Yamaska	St.François du lac	J. Duguay	J. Lemaître	E. Boucher	J. M. Coté, J. G. Arcand, F. X. Lahaie, M. Fortier, J. B. Barbeault, J. B. Comeault, T. Maurault.

BEET SUGAR.

WHILE the sorghum has been successfully introduced within a few years throughout the west, the beet, as a sugar-producing plant, has not till recently been considered economical.

The present exorbitant price of sugar has, however, induced some enterprising cultivators in Illinois to attempt the culture of the sugar beet with great promise of success.

Perhaps there is no soil or climate more suitable for this than that of the rich and fertile State of Illinois, whose deep alluvial soil is particularly well adapted to these roots, and there is now no reason why great quantities of the very best sugar should not be made there.

The manufacture of beet sugar, first introduced into France by the Emperor Napolean I., not sixty years ago, has become an immense business there and on other parts of the continent.

The yield of beet sugar, in 1861, was 480,000 tons—being one-sixth of all produced in the world, and one-fourth as much as the cane sugar.

The sugar product of the world was as follows:

Cane sugar	tons...	1,950,000
Beet sugar	tons...	480,000
Palm sugar	tons...	100,000
Maple sugar	tons...	20,000
		2,550,000

Considering that we pay nearly $100,000,000 annually for foreign sugar, and that this may be made from the beet at less than half the present price of sugar from the cane, it would seem to be the part of wisdom in the government to encourage it in some direct form.—*American Paper.*

CONCERNING COUNTRY RESIDENCES.

WE do not propose to speak, just now, of the house and home of the ordinary farmer, who conducts all his operations for the simple object of gaining a livelihood; nor the dwelling of the villager, who owns a neatly painted "box" on the thickly settled street. But rather, the residence of a gentleman outside of city or village, be he farmer, or tradesman, or retired citizen, who lives in the country from choice, who makes country life attractive, who is drawn to it by his sincere love of rural beauty, and the refined pleasures of country life.

The tendency with the majority is in another direction. They cannot bear the quietude of the country; they want the excitement which comes from the conscious presence of a multitude, and from the stir and din of crowded thoroughfares. They love the show and brilliancy of the city, "the sweet security of streets," the smooth and clean side-walks, the gas-lights, and other comforts and luxuries which belong to town life.—And even the villager, whose house and shop, or store are hard by the post-office, church, hotel or railway station, affects a degree of pity for those who live a half mile or more "out in the country."

Yet it is not so with all. Not a few, and they persons of real refinement and education, feel a sort of healthy disgust for the effeminate life of the city; they do not like to breathe its tainted air, to hear its perpetual racket, to be the victims of its frequent excitements, to be subject to its many restraints of law and custom. They love independence, and freedom and ease. They have an inherent instinctive fondness for rural life; for the various operations of farming and gardening, for trees and flowers and fruits; for fine horses, and oxen and sheep, poultry and dogs.—They like to come in contact with the simple, unaffected inhabitants of the country, and to be the means, also, of stimulating and helping them in every good word and work.

For one who looks only at personal or family dignity and true gentility, it is in country life that he will best find it. The man who lives in the city is swallowed up in the crowd. He is only Mr. Smith, or Mr. Jones, living on such or such a street, at such a number, only one of twenty or a hundred thousand others around him. Whereas, if he lived on a country-place, with some amplitude of means, he would be known through all the region around, as the proprietor of the fine residence overlooking the town or village, and respected by all its inhabitants. Yet, to be truly happy in the country, one must really love it for its own sake.

The English understand this matter very well. Their best people of all classes live in the country. Men whose business or professions confine them to the city for a time, no sooner acquire a competence, than they hie to the country, and surround themselves with the comforts and attractions of a rural residence. In the time of James I. some of the gentry took up their abode in the city, that they might enjoy more of the

luxuries attending court-life. Their king was wont to dissuade them from this practice, advising them to go back to their country-seats. "Gentlemen," he would say, "at London, you are like ships at sea, which show like nothing; but in your country villages, you are like ships in a river, which look like great things." The gentry need no such royal advice now-a-days.

Our own country has now, and always has had, those who prefer rural to city life. Among eminent men, the mind at once reverts to Washington, on his country-seat at Mt. Vernon; to Jefferson, at Monticello; to Adams, at Quincy; to Webster, at Marshfield; and Clay, at Ashland; Irving, at Sunnyside, and many others. And among others in the walks of private life, there are multitudes in every part of the land who love the comparative simplicity, independence, and freedom of the country, above anything the city can give them. The Hudson river is lined with their residences; the region around Boston is full of them. The shores of many of our inland lakes and rivers, and the outskirts of many of our cities and large towns, are fringed with them.

Such facts go to show that the love of country life is a natural growth among us, and is not dying out. May it thrive and prosper, more and more! Let us see families, more and more, every year, removing from our cities to the country, attracted to it by an unconquerable love, willing to give up a few luxuries and soft refinements of the town, that they may enjoy the simpler and purer joys of the country, and may train up their children in circumstances more favorable to their health, happiness and morals.

THE FARMER'S HOME.

MANY farmers labor zealously and unceasingly to have their farms carefully arranged, with woodland and cleared field, occupying just the right space; their fences, and barns all in good repair; their meadows free from weeds and stones; in short, everything in praiseworthy order, till one comes to the centre round which all these minor interests revolve, and here, where should cluster all the attractions that render home loved and lovely, one finds more to repel than to attract. A small, dilapidated house, a relic of the olden time, with no airy, cheerful rooms to light up the family temper; no labor-saving appliances to cheer and lessen the ever-recurring daily toil; no pleasant door-yard with the refining breath of perfumed flowers to elevate and purify the affections; but all seems cheerless and desolate, sordid and selfish. Oh, for some magic power to *make* the owners of such homes feel how fatal to their *true* interests in such a state of affairs! If the aim is but firmly *fixed* on a better condition of things, the change can soon be brought about by united effort, and the added expense will be scarcely felt. The wife and children will work with double energy, for their hearts will be in it, if they know the *old* house is to be replaced by a better, and the tumble-down wall or fence removed to give place to a neat painted one of pickets or boards.—Each will be ready to dispense with the promised new garment, or other anticipated indulgence to add to the general fund; and each will gladly lend a helping hand to remove unsightly rubbish, pick up loose stones, destroy noxious weeds, and to set out shade trees and shrubbery, to make and trim the grassy lawn, and cultivate flower-beds; and as the work progresses, bright and happy smiles will take the place of sour and discontented looks, and the improvement in the serenity and cheerfulness of the family circle will keep peace with the exterior progress, so true it is that the inner life will, to a greater or less extent, like a mirror, reflect the impress of all its surroundings. In view of all this, parents should spare no effort, nor consider any sacrifice too great to make, to render their homes pleasant and attractive, and full of elevating and refining influences, if they would have their children grow up susceptible to all good and noble emotions —the blessing and crown of their declining years.

INFLUENCE OF WINTER UPON AGRICULTURE.

COLD, rugged, stern, stormy, winter is, in one sense, the handmaid of agriculture. The earth needs rest, and she will everywhere have it in some form. In northern latitudes the frosts of winter compel rest. Frosts act mechanically in the disintegration of the soil, riving asunder not only large masses, but minuter particles, thus creating more surfaces to be chemically acted upon. Without frost, many soils would *fleet* down, like heavy bread, so as to be impervious to light and air, and hence be comparatively barren. Freezing

does not sensibly contract or expand the stones; but the surrounding soil containing more or less moisture, which freezes or expands, and thus drives the particles asunder, and it is said the ground heaves or is "hoven." The stone, if in sight, appears to have settled down. When the milder temperature dissolves the frost, the particles do not fall back precisely as before, but lie loosely like unpacked stones or brick. The surfaces and subsoil, to some depth, are light, as is said; and air and light permeate through the pores or spaces, thus effecting by natural mechanics, what is done more completely with the plough or hoe. The influence of frost upon the forest trees is not very well understood. It is a well-known fact that the sap of the maple flows more freely after frost. It may have an important influence in its circulation.

But leaving for the present the subject of speculation, let me consider the agricultural bearing of the winter upon the farmer. It is his time of recreation and rest. The cities pour out their wealthy and professional men to rusticate and rest in "summer's sultry heat." But the farmer must go forth daily to his task under the broiling heat of July or August. He must "bear the burden and heat of the day" to gather in his early harvest. The dust and lassitude of "dog days" he cannot shun if he would. But winter brings a temporary release from the intense application of "seed time and harvest." He now reads and reflects. He digests the past and plans for the future. *This success* and *that failure* come up in review. No profession or business calls for more extensive reading, reflection, and ingenious planning, than farming. The long winter evenings, when the outward pressure is not so great, gives an excellent opportunity to invigorate himself physically and mentally for a "new campaign." The health and increasing intelligence of the agricultural community show plainly the good influence of winter upon farmers; and let me add that the rapid introduction of agricultural machinery, while it relieves the farmer from that physical exhaustion his calling formerly rendered necessary, now permits him to use his mind more. When his day's labor is done, he is not too jaded to read and think.

Domesticated animals, as well as man himself, need fresh air. Stables and byres should therefore be well ventilated.

ENCOURAGE THE BOYS.

TOO little encouragement is given to the boys engaged on farms, as a general thing. In imitation of their elders, they are eager to swing the scythe, axe, etc.; but seldom are they provided with suitable tools, or such as are made to correspond with their strength. Too often are they turned off with some tool which has been cast aside too poor, or too much worn for the use of those of more mature years; and the consequence is, after a short trial they are often discouraged, and unless of a particularly persevering disposition, become disheartened and uneasy, desirous of entering some other occupation. In some instances inconsiderate parents flatter, or drive them to labour with heavy, unsuitable tools, and while being thus trained their bodies are permanently injured. Implements suitable to the strength of boys should be provided for their use, if required to labour with tools; and by judicious instructions and encouragement they will perform more of certain kinds of work, in proportion to their age and strength, than their elders. A judicious parent will see that his son does not go beyond his strength in his labour. A little encouragement by way of giving him a small patch to cultivate for himself, will encourage habits of industry, and independence of judgment, etc. If agricultural societies would offer premiums for the best crops raised by boys, with tools suitable to their age, and have the identical tools exhibited with the samples of their produce, it might have a tendency to the more general use of suitable tools for boys; and also induce some enterprising manufacturer to engage in their manufacture, and the consequence would be a greater disinclination of boys and young men to leave the farm for the store and shop.

NOTES OF AN AGRICULTURAL TOUR.

SIR,—Having just completed an agricultural tour in the County of Brant, and addressed the various agricultural societies, on subjects relating to the improvement of their important pursuit, a few remarks relative thereto may be interesting to some, at least, of your numerous readers. I met and addressed the members of the following societies:—South Dumfries, Burford, Oakland, Onondaga, and Brantford, and enjoyed the pleasure of much private and social inter-

course with the leading agriculturists of the county. The meetings on the whole were well attended, and while I have obtained much valuable information, there is reason to hope that a stimulus has been given to these societies that will be productive of some good. My chief objects are to bring clearly before the minds of farmers, the provision made by our Provincial University, and the Board of Agriculture, for the study of the science of agriculture, and the veterinary art; to impart a new life, and open up a wider field to agricultural societies, by inducing their members, in addition to their annual exhibitions, to hold stated meetings during the comparative leisure months of winter, for mutual improvement, and the discussion of such subjects as have an immediate bearing on the improvement of their local agricultural practice. I am also desirous of collecting material for a Provincial Agricultural Museum, as ample provision has already been made by the Board in providing the necessary accommodation.

IMPORTED STOCK.

We are informed that Mr. John Snell, of Edmonton, has purchased from G. M. Bedford, Esq., of Paris, Bourbon Co., Kentucky, and imported to Canada, the short-horn bull "Duke of Bourbon. Calved December 31st, 1864; got by Clifton Duke, 3760; dam, Queen Mary 4th, by Duke of Airdrie, 2743. Also, a three-year old cow, Queen Mary 5th, by Grand Duke, 2933; dam, Queen Mary.

KENTUCKY AGRICULTURAL COLLEGE.

"Ashland," the homestead of Henry Clay, has been sold to the Regent of the Kentucky University for $90,000. It consists of 325 acres, and will the make the site of the Agricultural College of that State.

BRAINS FOR FARMERS.

DON'T mistake my meaning, fellow farmers, jumping to conclusion from a glance at the caption. Pray don't imagine I am advertising *my* brains for sale, as a dealer, does his mercantile manures—"warranted pure"—as I have nothing of the commodity to spare. But every one, almost, of us can, if we will, take our pens, and in a leisure half hour set ourselves resolutely about it, and write to agricultural journals, in just such language as God has been pleased to give, and suggest some idea that, energized and given practical shape in the brain of one, five, or twenty, perhaps, farmers and farmers' wives, shall become of practical utility and a public benefit.

That is an explanation of my meaning. As a rule farmers and farmers' wives, and the farmers' girls and boys, are as bright as any other class of community anywhere. It is not that we lack brains, that we permit others to think, speak, write for, and direct us in our avocations. It is only that we require a trifle more energy, activity of thought—more mental independence, if you please.

The man who repudiates *science*, is a constructive traitor to community; but science that is simply theoretical, is an agricultural blinder—not worth a fig to farmers. It is not the fine-spun, laboratorial guesswork, philosophical "fair views," nor principles purely chemical, that we require to benefit rural humanity to any appreciable extent. But let us have coupled with these, activity of brain, industry of home intellect, and practical perseverance, and we shall bring wealth from the idle waste, and energize and vitalize nature's bountiful resources, and carry ourselves with rapid strides towards that high, social, moral and pecuniary position to which we, in common with all the classes of humanity, have an inalienable right.

What we want especially, is *home-made* ideas, and sensible suggestions from practical men and women. Of all classes of mankind, we, of the rural regions, require *facts*, and experiments prosecuted to satisfactory results. A simple, single fact, coming in a plain, practical way from the working farmer or industrious housewife, may be of more worth to the community than a whole page or volume of unpractised theory, though couched in language flowery as Eden itself.

Reams of paper, upon which have been expended all the rhetoric and oratorical elegance the mind of man is capable of, have been worse than wasted—hundreds of columns have been utterly lost, and many a real meritorious journal was absolutely "*gone dead*," as they said down in Dixie, from too much mind without matter. Many an intelligent, practical farmer flings down in despair at the middle of the second paragraph of some essay, deemed by the author almost divine—his favourite paper, with a:

"Pshaw! Very pretty perhaps; but quite too high flight for my calibre."

Then, after awhile, gathering up the

discarded journal, he seeks out the signature to that rhetorical high-flier, and discards that author from his reading catalogue forever.

Now, fellow farmers, let us inaugurate an era of independent thought, and exercise our brains, interchange ideas, through agricultural journals, communicate facts, give results of successful and satisfactory experiments, speak what we have to say, right out plainly. No matter about flourishes; they don't make corn grow.

And withal, let us educate ourselves more universally and thoroughly; practically by all means, and as scientifically as we can. Natural Philosophy, Botany, Entomology, and fundamental principles, at least, of Chemistry, as applied to agriculture, are sciences by that to study, and we need the energetic action of our brains, turn them to good account.

If one of us has, or shall have succeeded, by experiments, in improving an animal, a grain, fowl, fruit or vegetable, let us be liberal, and communicate the fact; spread it broadcast, as far as we can reach, and that is a great ways, in these days of enterprising agriculture journalism. The useful intelligence that we communicate to our neighbors does not impoverish us, and it may benefit, not only them, but the community at large.

While merchants, tradesmen, artizans, our heroes in blue and almost all classes of mechanics, everywhere, are drifting into protective *unions*, in some form, "to raise the genius, and to mend the *mind*;" let us wake up, too, and put on energy, bring out *brain*, and seek by social union to improve ourselves and our fellow beings. Shout "PROGRESS!" till every hill, valley, and corner of our broad land, shall ring back their million echoes, while our watch-word is—"*Excelsior!*"

DOUBLE-MINDED FARMERS.

ONE great principle for success in business, is learning a trade well and then sticking to it. It requires a long time to know everything connected with successful business. An acquaintance, a seed-dealer, stated that for the first five years, he could not ascertain that he made anything. But he was learning. Before ten years, he was clearing five thousand dollars per year. Another was doing well in manufacturing ropes. But he was unstable in mind, and although his friends advised him to "*hang to the ropes*," he was not getting rich fast enough, but he meddled with business he had not learned sufficiently, bought a mill, bought grain, and then broke a bank by his large failure. Some farmers come to the conclusion that *cows* are the most profitable; purchase animals, erect buildings, and begin well. But being new in business, they do not succeed as they expected; they might, if they would stick to it. The next year they sell their dairy, and buy sheep. The price of wool is low that year; and they hear that much money has been made by raising tobacco. Thus they go on, changing from one thing to another, and never succeeding in any. Stick to your business.

WRITING FOR THE PRESS.

THERE are thousands of excellent farmers in our country, who are capable of penning communications that would be read with interest and profit. It is not to be expected that the man who has always been accustomed to wield the plow and spade, and other implements of husbandry, will be able to pen an article squal to the man who has never done but little else in his whole life but write.

We desire to have our young farmers try their hand a little. If they fail, it can be no worse for them. Writing one communication will greatly facilitate the task of penning another. Farmers have a great deal of leisure during our long winter evenings; and it would be an excellent way to spend a portion of their time to write communications on subjects connected with their business. Let us suggest a few thoughts to aid young writers:

Write briefly. You can pen a communication of good length on one page of foolscap paper. Record facts which have been interesting and profitable to yourselves, and you may rest assured that your writings will be perused with interest by others. Young writers sometimes think that if a communication does not cover three or four pages of foolscap paper, it will not be acceptable to an editor. Nothing is more erroneous. Editors usually prefer short articles to long ones. Four short communications would be much more likely to prove acceptable to editors, and to be published, than one long one.

If there is any subject on which you have made discoveries, or on which you have thought that would be likely to be

profitable to other farmers, sit down and write upon it, but confine yourself to that subject alone—*e. g.* the management of cows, or sheep, or other animals.

Many farmers have certain modes of performing different kinds of labor, which, if described in proper language, would be of great value to beginners. Let our young men improve their talents in communicating their knowledge to others.

While engaged in manual labor the mind may be employed in the investigation of some subject to write on, after the labors of the day have closed.

FARMERS NOT AT HOME.

IT seems strange that so many farmers are of the opinion that theirs is about the poorest business that a man is employed in. Hence many are on the constant look out for something to turn up, and so drag on through a weary life: such will even work out, or leave home and family perchance, when tempted by nominally high wages. Let the discontented farmer whose eye falls on these lines, resolve, that for better or worse, "I'll stick to farming." Then if he acts up to this he will not hunger or hanker for other work or business. In confirmation of this we may add, that in a late conversation with a well-to-do farmer, who had been troubled, as indicated above, he remarked, that not long since he resolved to live a farmer, not only, but on the farm he now owns; and he added, "I enjoy my work and business as I never did when on the look out for something else to do that should pay better than farming." Discontentment with a man's calling or business in life, be that what it may, is the source of misery not only to himself, but it serves to make all connected with him on life's journey wretched also. In fine, allow us to add, that every farmer should resolve to be at home on his own farm, and then he will be happy not only, but make others so also. Try it if you doubt it.

FARM OPERATIONS.

THE CULTURE OF SORGHUM.

IT has been for several years an open question whether or not this crop could be successfully cultivated in our section. For a few years this has been done, we are aware, profitably in many of the Western States; but the past season has, we think, fully demonstrated that it is to be done even in bleak New England. In our town—the northwestern in the State—some 2,000 gallons have been manufactured, seemingly of good quality and giving a fair yield per acre, varying from 100 to 200 gallons, according to strength of soil and the treatment it received while growing. The syrup is uniformly of light color, and of fair thickness, or well-bodied, as it is termed, and, we think, can be used to supersede in part, if not almost wholly, the West India molasses of commerce. Its light complexion gives it favor in the eyes of our housewives, who like to have their pastry, when baked, look fair-flavoured, and not dark, as is the case when some varieties of foreign molasses are used.

These being facts,—that it can be advantageously raised in our vicinity, and is of a quality that will cause it to take the place, to a great degree, of the West Indies or New Orleans article,—we do not see why the question may not be settled among our agriculturists.

As to the profits of the crop, there can be no doubt. An ordinary crop is from 100 to 140 gal. per acre, and the cultivation is in every respect similar to that of corn until the crop is matured and ready to be harvested, when the stripping of the leaves from the stalk is more laborious. The product, say 125 gallons per acre (a low average in our region the past season), and allowing one-half the crop for the manufacturer, which is done occasionally, and worth $1 per gallon, gives $60 per aere. The manufacturer in our town gave his customers, who brought their cane to him, their option, to pay him 40 cents per gallon, or one-half the crop,—most of them prefering the former.

The proper way to commence the raising of this crop in a new locality—at least the course taken in our town, and in other instances we have heard of—was, for a gentleman who owned a power or mill privilege to obtain in the spring a quantity of the seed, and canvass the town, and ascertain positively how much the farmers will agree to raise the ensuing season, and if a sufficient quantity is promised (in our town 20 acres were required), he agrees to put up a mill and all necessary fixtures for the

manufacture. It is understood the expense here was some $800 to $1,000 for putting up the necessary rollers, evaporaters, and all requisite fixtures, and that he made about 2,000 gallons of syrup, which, at 40 cents per gallon, would amount to $800; so that he probably received the greater part of his outlay back the first season. I mention these facts in order to give your readers some idea of the manner of introducing the cultivation in new localities.

That it can be successfully and profitably raised, and that it may be made to supersede in a great degree the molasses of commerce in the New England States, has been to my mind fully proved the past season. The rapid increase in the amount raised in the Western States show that the thing is fully settled with them, and we see no reason why it may not here.

As regards the quality of soil requisite, we need only to say that it needs good, warm, corn soil; and that in a section where the corn can be successfully matured, sorghum will do well.

It requires planting about the same time, the same distance apart in the row, the same number of stalks to be left standing in each hill; though in some instances it is sown in drills, but this is not desirable.

Our advice, therefore, to our agricultural brethren is, to give this crop a trial, wherever enough can be found in the same township to engage in it as to encourage the erecting of a mill for its manufacture. It is really no longer an experiment, but the practicability of the thing has been fully demonstrated.

The taste of the syrup is perhaps not at first agreeable to all; but most persons are fond of it at once in its raw state. As previously stated, it is of very light straw color, and fair thickness, and universally preferred on warm cakes to New Orleans molasses.

MODERN GREEN MANURING.

THE inhabitants of Flanders, (now Belgium,) in Europe, were the first among modern nations to sow and grow suitable plant and grass crops to be ploughed down into their soils for manurial purposes, to wit, such as red clover, spurry, sanfoin, &c. They were driven to the use of this kind of manure through "necessity, the mother of invention;" for their soil generally consisted of white, loose, and porous sand, ill adapted to the growth of wheat. Their soil was naturally very much like the sandy district of our sea-coast in New Jersey and Maryland, and the sandy plains sometimes occurring in the valley of the Connecticut river.

But the Flemish gradually converted this barren land into a most fertile loam; they at first cultivated these districts to a depth of only three or four inches, but by degrees ploughed deeper as their soil became enriched by the application of manures, until they at last secured for themselves a very deep and loamy soil upon these ancient sandy barrens. In 1819 their average farm crops per acre were said to be, of wheat, 32 bushels: rye, 32½ bushels: oats, 52 bushels; potatoes, 350 bushels, &c. From the beginning of the 16th century down to our own day, the Flemish have continued models of neat, economical, and profitable farming. They have also the honor of being the first nation that adopted a *regular rotation* of farm crops, or which is commonly called the *alternate system of husbandry*.—It was a leading principle with them to make their *farms closely resemble gardens*. And to do this they had *small* farms and aimed at three grand points, to wit: 1. The accumulation and careful use of the manure. 2. The destruction of weeds; and 3d, the frequent and deep stirring or pulverization of the soil. Few crops were of more importance to them than red clover; for, as many of them had no *natural* meadows or grass lands, red clover was not only relied on to supply them with sufficient fodder for their cattle, but also to make much manure for keeping up the fertility of their soils. Radcliffe, in writting about them says: "*Without clover no man in Flanders would pretend to call himself a farmer*"— a maxim worthy of adoption by our American farmers. Their clover was generally given to their cattle in a green condition; but whenever they had more clover than could be used in this way, it was cut off with a reaping hook and converted into hay.

This cut clover was tied up in bundles of seven or eight pounds weight and set up against each other like grain-sheaves, to dry properly. The mowing and turning of it, as we make cloverhay, caused them a loss of too many of its leaves and fruit-buds. Upon *all* soils that would produce clover the cultivation of red clover formed a part of the course in every rotation of crops, as this clover was sown with every sort of grain—with wheat, rye, barley, oats, and flax. They did not grow spurry much

except on very dry and sandy grounds, where the red clover failed to grow well. Here they had recourse to spurry to obtain the necessary fodder for their cattle during winter. Spurry answers very well upon such soils, as it springs up readily, and ripens its crop in about six weeks.

The alternation of crops—that is, the growing of a regular series of different farm crops upon each and every field in successive order—is an essential requisite to good farming. It was this, in connection with their green manuring, that then gave the Flemish husbandry such great and acknowledged pre-eminence over that of every other country. Long before their system of husbandry was introduced into England, Flemish farmers insisted upon it, and their success in farming justified them in the opinion, that land *does not need rest, or fallowing*, where this system is practiced. Radcliffe, if I remember rightly, says he saw the operation of harvesting grain, and the ploughing of the ground, and sowing of turnip-seed, all going on at once on one and the same field in Flanders; the ground was ploughed up and resown with another and a different crop as soon as the grain or other ripened crop was cut off and removed. It is by the same or similar alterations of crops that the farmers in the county of Norfolk, and of other sandy regions of England, once very poor and unproductive, have converted them into the most fruitful, wealthy, and populous districts of England. This same system has wrought similar changes of agricultural improvement in Scotland and Germany, and it will, if properly and perseveringly pursued, produce equally beneficial effects in our own country. There is nothing in farming that requires a nicer judgment, and nothing on which the farmer's profits more depend, than upon the order in which the various farm crops cultivated are made to succeed each other upon our fields. It may also be proper to say here, that the Flemish kept large quanties of cattle; *one beast for every three acres of land was a common proportion;* and in very small occupations, when much of the farm work was done with the spade, the proportion of cattle was still greater. Their cattle were fed on turnips, potatoes, carrots, &c., which were chopped together in a tub with their leaves, and mixed up in boiling water with rye or buckwheat meal, about two pailfuls of which were given to each cow per day.—*Agricultural Report.*

ROOTS RENOVATE THE SOIL.

FOR many years we have urged upon farmers the importance of cultivating more roots as a part of the winter feed of stock. Our convictions of their importance are strengthened as our experience is extended. The introduction of root culture in British husbandry was considered "as important in increasing the products of the soil, as the application of steam had been to the improvement of the manufacturing arts." A portion of an article in the Edinburgh Encyclopedia says:

"The introduction of turnips into the husbandry of Britain occasioned one of these revolutions in rural art which are constantly occurring among husbandmen, and though the revolution came on with slow and gradual steps, is completely established. Before the introduction of this root, it was imposible to cultivate light soils successfully, or to devise suitable rotations for cropping them with advantage. It was also a difficult task to support live stock through the winter and spring months; and as for feeding and fatting cattle and sheep for market during these inclement seasons, the practice was hardly thought of, and still more rarely attempted, unless when a full stock of hay was provided, which only happened in a very few instances. The benefits derived from the turnip husbandry are, therefore, of great magnitude; light soils are now cultivated with profit and facility; abundance of food is provided for man and beast; the earth is turned to the uses for which it is physically calculated; and by being suitably cleansed with this preparatory crop, a bed is provided for grass seed wherein they flourish and prosper with greater vigor than after any other preparation."

The sheep and wool-growers understand their importance, as a few of them attempt to winter sheep without their aid. Cows give more and better milk for a feed of half a bushel of several kinds of roots, each day, such as turnips, mangold wurtzels, beets, carrots, parsnips, potatoes, and ruta bagas. They will save meal in fatting cattle, and horses are kept in better health, their hair is softer and brighter, and they will perform more labor than if fed on hay and grain, without roots. Something seems to be needed in their food, besides mere nutriment, and roots, properly prepared and fed out, to supply that "something," and

the animal thrives as it did not on the hay and grain.—*N. E. Farmer.*

WOOD LANDS.

IT is about time that our farmers should look about them, and begin to consider what the generations that come after us are to do for fencing materials, and not be quite so free in cutting down their timber, to be sold for the paltry price of $4 to $6 a cord. We say "paltry" because wood lands are going to be worth many times their present value, in every section of the Union, and the farmer who leaves a wood lot legacy to his children, leaves them a gold mine.

You all know the condition of England, as regards wood lands, and we are to be in the same condition, in the next century, with wood lands worth $500 per acre!

Farmers, there is no mistake about this, and we advise you to cut sparingly of your forests, and leave them as a legacy to those who are to come after you.

INDIAN CORN FOR FODDER.

ONE of the most valuable crops a farmer can grow is an acre or more of Indian corn for fodder for his stock in the fall. Some farmers sow it broadcast, but it is better to sow it in drills, about two feet apart, so that a cultivator can be run between the rows. It may be sown with any good seed-sower, or beanplanter. First furrow out the drills for the seed with a one-horse plow, about three inches deep, and cover the seed with the plow, which will leave the ground in ridges; and as soon as the corn has well sprouted, and is about to come up, if the ground were level, take a one-horse harrow and invert it —teeth up—and draw it crosswise over the patch of corn till the ground is made smooth. This operation gives the corn a week's start of the weeds, and it will require nothing, as after cultivation, but the cultivator.

The curing should be done by cutting up the corn, leaving it a day or two to wilt, then bind it, stock it, and when dry stack it; or, if you have room to set up the sheaves on your hay mows, it will be better than to stack the fodder; but do not lay the bundles on their sides, unless you are willing to have them mould, and become worthless.

Such a crop of corn should be fed to stock in the green state, when pastures are short, and the surplus only cured and saved for winter feed.

We are compelled, at this season of the year, to publish matter that cannot be immediately acted on; but our readers should preserve their papers, and look over their contents at a future time, in order to avail themselves of the good hints and rules that we may publish.

PREPARATION OF THE LAND FOR FLAX AND OTHER SPRING CROPS.

THE unusual dryness of the weather during the past autumn has given every facility to effect that great desideratum in modern husbandry—the autumn cleaning of the land; but though we may say modern, the best practical men of more remote times have insisted upon it as the best and most effective time to effectually cleanse the land for future cropping; and the only excuse offered for not doing so, both then and since, is the want of time and absence of good weather to effect it. As very few of our farming friends can make such excuses now, we trust that many of them have done so, which will tell immeasurably in their favour during the next season's campaign. Some we know and have seen to do so, and have gained large heaps of stubble, &c., which has and will turn to much profit in bedding their cattle, and the consequent manufacture of large quantities of manure; and, judging by the tenour of the numerous queries in our columns, many that we have not seen have done so also.

The cleansing of the surface of the arable lands having been effected, the next operation to perform is ploughing the land, which should be effected at once, and as deep as possible. For flax and green crops 9 to 10 inches deep is necessary, if the staple of the land will afford it. It should be left in the rough state during the winter to enjoy the ameliorating and enriching effects of the winter's frosts, snows, thaws, and rains.

As the production of flax is now becoming an important item in farmer's crops, and as it requires a deep, friable soil, of equal composition and texture, not too loose, on this account it is inimical to the flax crop to plough the land deeply again in the spring. A single grubbing or good harrowing, not more than three inches deep, is sufficient; for if the soil below that depth is loose and unconsolidated the flax plant will not have sufficient root-hold, and will be likely to lodge prematurely, to the great detriment of the crop. A compact, homogeneous, deep

soil, with a well pulverised, fine surface, is therefore, necessary to grow the plant to perfection ; and when this is obtained the seed should be sown, and covered with three turns of a light, fine harrow, first one way, then across, and finished angleways, to ensure an even distribution of the seed.

In like manner, in preparing the land for roots crops, the land should, after the first deep ploughing, be left rough all the winter, to get ameliorated and disintegrated, and enriched by exposure to the weather; and early in the spring, as soon as it is dry enough, the harrows and grubbers should be put to work, to level and pulverise the surface, to be followed immediately after by the plough, lest wet weather come on between the harrowing and ploughing, which would run the surface together and render it most difficult to pulverise again. Should the land in the necessary subsequent grubbings, harrowings, and ploughings, turn up rough and lumpy, the use of a roller of sufficient weight facilitates the operation. The subsequent ploughings for land intended for root crops, contrary to that intended for flax, should be deep, but not quite so deep as the first or autumnal ploughing, in order to ensure a deeply pulverised soil for drilling, the even deposit of the seed, and close covering, without which an even or perfect braird cannot be expected.—*Irish Farmer's Gazette.*

BREEDERS' DEPARTMENT

HOUSING AND FEEDING CATTLE.

ALLOW me through the medium of your valuable journal, to offer a few remarks to the farmers of Canada, on the subject of housing and feeding cattle. This matter is one which deserves more attention from stock owners than it receives, and any one who devotes a little attention to the future of our country cannot fail to see the importance of taking immediate and energetic action towards inaugurating a reform of the very loose system which prevails just now. I have recently seen the most approved and efficient modes of housing and feeding stock which exist in Britain, and it is from my experience of these that the following remarks are drawn. The British farmer has found that it is a most essential part of treatment in feeding his stock, to have them cleanly kept, and warmly housed. So well and so widely has this become known, that there is not a farm of any size, either in England or Scotland, but is provided with substantial weather-proof offices for cattle. On some farms it is a perfect treat to inspect the byres where cattle are being fed. The most scrupulous cleanliness is observed. Fresh litters of straw are provided every day or at most every two days, the old ones are carefully preserved to augment the manure pile. The flooring of the byre is so arranged as to slope at a slight angle towards the centre, where a drain occurs running in a longitudinal direction and carrying away all the liquid manure into tanks erected at each end of the house for its reception. When the floor becomes dirty a copious supply of water is applied which cleans it effectually. A due regard is also paid to ventilation; in short, so thoroughly are these matters carried into practice that the visitor runs no risk either of getting soiled or of being disgusted with any disagreeable odours.

Of course, in a new country like Canada, it is not to be expected, nor is it possible in the nature of things, that such rapid strides can be made in this respect, as in a country like Britain, where every possible facility exists for their adoption and practice; but, while we cannot as yet equal our cousins, we should emulate them, and emulate them in such a manner as will show our hope of being one day their equals, if not their superiors. To this end, our farmers would do well to keep a watchful eye on the progress of farming in all its details, where these are carried on in the best and most perfect state. By doing so, a vast number of useful hints will be gathered—hints that may prove very profitable.

The subject of cattle feeding, and the different agents used in the process are, I am sorry to observe, not nearly so well understood in Canada as in the old country. Were they so the toughness of a Canadian beefsteak would soon cease to be used as a proverb. Cattle require a proper admixture of fodder and roots in order to thrive, and it is an essential matter that their food be properly prepared. We do not intend, however, to treat just now of the common food given to cattle, nor of the many artificial or manufactured compounds, prepared by commerce such as rape cakes

condiments, decorticated and undecorticated cotton seed cakes, locust, &c. We will confine our remarks to linseed cake, which is at once the most valuable, and best known of all the artificial foods in existence. Linseed, whether in the form of seed, or of meal, or in cakes is the most fattening substance known, and is used to a large extent by old country farmers. Some prefer the pure seed, as in that they have the entire substance, oil and all. Others prefer to use it in the form of meal, after the oil has been expressed, but the great majority find it most convenient and profitable to use it as cake. The seed is of great service in rearing calves, where milk is scarce, and also in putting a silk healthy looking coat on beasts intended for sale. When the latter effect is derived the preparatory treatment begins six or eight weeks before they are taken to market. The effect of a dose consisting of one pound of linseed administered in equal proportions at three different times a day during the period above named, is often marvellous. Gaunt, bony, shaggy, raw-looking animals are transformed into sleek, thriving-like cattle. They have just the appearance the buyers wishes to see, and consequently change hands immediately on entering market, and realize such prices as amply repay the owner for his extra trouble and outlay. While seed is employed for such purposes, cake is the general form in which the article is used. Much differences of opinion prevail as to the quantity which should be given, per diem, to adult cattle—the quantity ranges from a quarter to half a pound, with an average of say three-quarters of a pound. All agree, however, in believing that the quantity cannot be too small at first. It has a laxative effect and the doses must be increased by degrees. Some maintain and with great show of reason, that the beneficial effect of linseed in any form, is due to the cleansing effect it has on the system of the animal; but it is generally allowed that its great nutritive ingredients have a direct effect in fattening. Many kinds and qualities of this cake are made and much adulteration is practiced. There are no less than ten different foreign kinds besides what is known as English cake, sold in Britain. Pure St. Petersburg, according to Professor Anderson, is the best kind of all. Next comes English, next Swedish, and then American—the intermediate Dutch and Danish cake are decidedly inferior, owing to the large admixture of bean meal and other cheap ingredients in their composition. The reason why Russian cakes are superior to those made in England, is owing to the circumstance that Calcutta seed (which does not possess nearly the feeding qualities of European seed) is employed in their manufacture. I have not yet had an opportunity of examining the Canadian cake, but I understand it is a very creditable article, alike to its makers and to the country of which it is a production. In closing my remarks, I would urge our farmers who have not done so, to try the effect of linseed in whatever form they may find it most convenient, regularly for some time, and if this experiment is once fairly and fully tried, I am convinced they will find its systematic use very much to their advantage.

COLIC IN HORSES.

IT is not easy for an experienced person to tell the difference between an attack of ordinary spasmodic colic and inflammation of the bowels. John Johnston writes me on the subject, and says:

"I will tell you how you can know inflammation of the bowels from colic in the horse. In the former the pulse is hard and wiry; in the latter it is full, large and elastic. The best place to feel the pulse is inside the jaw bone, a little below the broadest part. By passing the finger up the inside of the jaw any novice can feel the pulse. I studied diseases of the horse with much care, and from the best authors I could get. I have always found spirits of turpentine—about one gill for a dose—diluted with a pint of warm water, an instantaneous cure for colic. Nothing but bleeding to the fullest extent, even to fainting, will relieve inflammation in the bowels, and perhaps not that. Injections are good, but very free bleeding first."

I know that Youatt, and other good authorities of the old school, recommend bleeding for inflammation of the bowels, and there are cases, perhaps, where it is necessary. But as a general rule the horse will need all the vitality he has, and it is manifestly unwise to reduce him by bleeding. Eternal blisters and doses of laudanum is the best treatment, and certainly the safest. Give no purgative; keep the horse perfectly quiet; bandage his legs; blanket him; give him a little warm oatmeal gruel; and give laudanum enough to ease all pain. Do

not be afraid of it. Give two tablespoonfuls, and if that does not quiet the pain in a quarter of an hour, give four tablespoonfuls, and deep giving doses of two tablespoonfuls often enough to keep the horse quiet.—*Joseph Harris.*

TO RELIEVE CATTLE WHEN CHOKED.

TAKE half a pint of soft soap, one quart of sweet milk, mix them together, and then let the strongest man, who is at hand, place his hip firmly against the creature's shoulder; then put both hands over the head, between the horns. Now take hold of both sides of the upper lip, with a good grip, and raise the nose to any desired point; then with a bottle or horn pour half the mixture down the animal's throat, a little at a time, then drive the animal around, and if not relieved in a few minutes, give the remainder. I have never known this remedy to fail, and it is excellent for the bloat. How much easier, safer, and more humane it is to use a remedy like the above, than to run a stick down the throat, and kill the animal as is often the case.

WINTER CARE OF CATTLE.

HOW many farmers there are who, towards the close of winter, complain of being short of fodder, and are compelled to purchase hay at high prices to carry their stock through until pasture time. I know from experience what it is, and find it does not pay.

There are two causes and also two remedies for this state of things, namely, too heavy a stock, and too wasteful feeding. For the former, the remedy is obvious; for the latter, a great many farmers have not yet discovered a preventive, but go on in the old way of feeding, in common square racks in the yard, either corn fodder, straw or hay. Here is where the loss occurs; and did every farmer know the great gain there would be in cutting up everything he feeds, instead of feeding it whole, there would be no more complaints of short fodder. I have tried it, and find that I can winter ten head of cattle on cut fodder now, where I only wintered five head last year, and what is more, keep them in better order. I use a fodder cutter (worked by hand or horse as the case may be) and feed in the yard in troughs six feet long, eighteen inches deep and two feet wide at the top, sloping to one foot at the bottom. My cattle eat it up clean—hard butts, stalks and all; and one ordinary bundle of fodder such as would be given to a steer at one meal—lasts an animal a whole day.

Another advantage is that my manure is all short, easily handled in the spring, when I heap it up under the sheds, and I am not bothered by the long corn-stalks all through it. Cattle prefer their fodder cut, and will eat it more quietly.

The same saving may be accomplished in the stable by cutting the hay feed to the horses, cows, &c. They soon learn to like it better than long hay, and then they can waste none.

Let every farmer who has not tried it, and who has been worried to know how to get his cattle rightly through the winter, without buying hay, try this plan, and if he does it right, he will never regret the outlay for the cutter. My saving of fodder in one winter will, I think, pay for my cutter.—*Germantown Telegraph.*

TOO MUCH STOCK.

FARMERS lose a great deal every year by keeping more stock than they can properly feed and take care of. They commit a great mistake by keeping more than they can keep well. To keep stock well, they must be kept in a constantly thriving condition. In summer they should have abundant pasturage, and in winter warm shelter and all the good nutritious food they will eat. Stock thus managed are always profitable—always improving and increasing in value—rarely, if ever, become sick or die, and afford one pleasure to look upon.

To illustrate: suppose a farmer should keep twelve cows, even in tolerable condition, and make butter through the winter. Now, if he would bestow the same care, attention and food, upon eight, and we might safely say six, of the best of his cows—providing them comfortable quarters, and keeping them healthy and thriving—he will make much more butter from them than he would from the twelve. Or if he will keep a less number of any kind of stock, and feed better, they will at any time sell for more money than a greater number of small, scrawny, half-fed animals. It is good care and good feed that makes good animals. And farmers who overstock commit a great error. If you have plenty of feed, keep all the stock that you can feed well—but keep

no more; but it will pay farmers to feed better, and to provide better shelter than they are in the habit of doing for all domestic animals. No animal can thrive well even upon all the food it will eat, exposed to the inclement weather. Warm shelter is indispensable to stock in winter, and those who provide no better roof for their stock than the blue heavens above, should lose no time in changing their policy of keeping stock. It can only be attended with loss.—*Rural World.*

AN ALDERNEY HERD.

Being in Belmont this week, we looked in upon John Cushing's beautiful herd of something over 20 head of Alderneys or Jerseys, probably the best one in the United States. One cow was pointed out that made about twelve lbs. of butter a week in the summer, and another that gave 19 quarts of milk a day, both on grass. This is the most fawn-like herd in appearance we have ever seen. This race of cattle seem particularly nervous and excitable, and the bulls are likely to be vicious, as Mr. Cushing had two that are caged. The stable where they stand is over a barn-cellar, but owing to the steam and stench incident to depositing the droppings thereinto, they are wheeled into the yard and there composted. The herd was well bedded and there seemed to be less of stable scent in the barn than is usually the case, where so many cattle stand and are fed.

A DUTCH HERD—HORSES, SHEEP AND GOATS.

In the same town we visited W. W. Chenery's Dutch herd of 16 thoroughbreds, and several grades, which, like the Alderneys, are deemed remarkable good for dairy purposes, especially for cheese making. We also observed 17 Angora goats, a pair having been sold last week to go to Missouri. Mr. C. has a stud of over 40 horses, nearly one-half of which are thoroughbreds; he also has over 30 Texel, or long-woolled sheep. The manure from his cattle-stables is dropped into his barn-cellar, as is most generally done by farmers who have cellars under their stables. There can be no doubt that, so far as the manure is concerned, this is much more economical than Mr. Cushing's practice; but as it concerns the healthful state of the cattle and the palatable condition of the fodder in the barns, let every farmer judge for himself in regard to these two methods. Mr. Chenery sold a Dutch bull and heifer, last week, with a grade, to go to Essx county, Mass. These above two herds, as lately recommended by a Hardwick correspodent, pass most of the time in their stables during the cold season.

HORSES.

HORSES I learned to govern by the law of love. The relation of friendship once established between man and horse, there is no trouble. A *centaur* is created. The man wills whither; the horse, at the will of his better half, does his best to go thither. I became very early, Hippodamos, not by force but by kindness. All lower beings—fiendish beings apart—unless spoiled by treachery, seek the society of the higher; as man, by nature, loves God. Horses do all they know for man if man will only let them. All they need is a slight hint to help their silly, willing brains, and they dash with ardor at their business of galloping a mile a minute, or twenty miles an hour, or of leaping a gulley, or pulling tonnage. They put so much reckless, break-neck, frenzy in their attempts to please and obey the royal personage on their back, that he needs to be brave indeed to go thoroughly with them.—*John Brent.*

HENS LAYING IN WINTER.

PERHAPS the nearest approach to the ever-bearing theory, is attained in some of the popular breeds of domestic fowls. It is a nice thing to have a fresh egg in winter, and a practice not to be discouraged to coax the motherly hens into a generous yield of the coveted articles; but the fact is not to be disguised, that a hen which is forced into great winter laying for the table is not in the best condition to get up a nest full of eggs for spring hatching. An egg for the table is one thing, and an egg a for future chicken is another thing; the difference may not be appreciable on the table, but it will be in the brood, when the sickly little things drop off with gapes, roup and other ailments which a feeble constitution has not vitality enough to survive.

The philosophy of all this is just here: Nature must have her seasons of rest, and if these are encroached upon, she revenges herself by a faulty production.—We should rather be satisfied with a fair crop of the best quality in its season, than to force a perpetual production out of its season, at

the risk of a worse quality and a fatal drain upon the source of our supplies. This is about what we set out to say under the head of Great Expectations, which oftener end in signal disappointments.

So says the *Ohio Farmer*, and it is "as true as preaching," that hens that lay all winter cannot lay much in the spring. In warm climates, where there is no winter, hens cease to lay in the fall of the year, as they do here, which shows that nature requires that they should rest awhile. Don't force your hens too much to lay eggs in the winter season, as you reverse the order of their nature, and gain little, or nothing in the end.

RULES FOR MANAGEMENT OF COWS.

NEVER buy a cow of a dairyman, for if he is a good manager he will sell only his poor animals.

To determine which cows are best for keeping, try their milk separately, and weigh their butter—for sometimes a cow may give much milk and little butter, and *vice versa*.

Cows should run dry six weeks before calving—if milked closely toward calving, the calves will be poorer.

A cow newly come in should not drink cold water in cold weather, but moderately warm slop. Calves intended for raising should be taken from the cow within a few days, and they will be less liable to suck when old. Feed them first with new milk for a time, then skim milk, then sour milk, taking care that all the changes are gradual, by adding only a portion first; and gradually a little meal.

Calves well fed and taken care of, with a quart or two of meal daily in winter, will be double the size at two years they would have attained by common treatment.

Heifers thus treated may come in at two years old, and will be better than neglected animals at three, and one year of feeding saved.

Hearty eaters are desirable for cows, and they may usually be selected while calves. A dainty calf will be a dainty cow.

Heifers should become accustomed to be freely handled before calving, and drawing the teats.

They will then not be difficult to milk. Begin gradually, and never startle them.

In milking cows, divide the time as nearly as practicable between morning and evening, especially at time of early grass, that the udder may not suffer.

Persons who milk should keep the nails cut short—animals are sometimes hurt with sharp nails, and are unjustly charged with restlessness.

Old cows should be fatted at fifteen years. The dairyman, therefore, who has fifteen cows, should raise a heifer calf every year to supply the vacancy—if the herd is thirty cows, he should raise two calves, and so forth.

Heifers dried up too early after calving, will always run dry about the same time in after years—therefore be careful to milk closely the first year, until about six weeks before calving.

Spring cows should come in while they are yet fed on hay, and before they are turned to grass, which will be more likely to prevent caked bag and milk fever.—*Annual Register.*

REMEDY FOR KICKING COWS.

COWS, says a contemporary, seldom kick without some good reason for it. Teats are sometimes chapped or the udder tender; harsh handling hurts them, and they kick. Sometimes long and sharp finger nails, cut their teats, and sometimes the milker pulls the long hairs on the udder, while milking. Sheer off the long hairs, cut long finger nails close, bathe chapped teats with warm water, and grease them well with lard, and always treat a cow gently. She will never kick unless something hurts her, or she fears a repetition of former hurts. When handled gently cows like to be milked. When treated otherwise, they will kick and hold up their milk. It is quite as consistent to whip a sick child to stop its crying, as to whip or kick a cow, to prevent her kicking while being milked.

SHELTER FOR ANIMALS.

EVERYTHING that tends to increase the profit of farming must directly or indirectly benefit the farmer by raising the value of the land. Every effect has its cause, and there are unfortunately so many preventable losses in agriculture that I propose, one by one, to enumerate them.

Animals differ in no degree from ourselves in the appreciation of a dry bed and a dry skin, a warm corner in winter and a cool one in summer. How imploringly

will cattle and sheep stand at the field gate in bad weather, when they know there is shelter for them elsewhere. How quickly sheep will avail themselves of a wooden hurdle, a hard road, or even a wheelbarrow or a piece of board to lay upon, so as to avoid contact with the wet ground: to them damp sheets. It is a well known and admitted fact that a saving of one-third in food results from providing shelter when required. Add this grain, or deduct the 33 per cent. of loss over fifty-six millions of acres, with their tens of millions of animals, and you are astonished at the sum total.

Exposure, even in dry weather, to a sharp wind, abstracts an immense amount of caloric from the body, which must be made good by the fuel or fat of the food. Even in the well-woolled sheep this takes place in a degree, and it must interfere with their repose, for we cannot rest well when cold.

It is surprising how easily one may extemporize effective shelter. I find it undesirable to house animals and turn them out in the day; the extreme variation gives them cold. I therefore, after threshing my first wheat, stack the straw, thatch it ready for next harvest, place it in a pasture, surround it at some distance with hurdles, throw down a little straw close to the stack, and make this the night fold yard for my cattle. Here they get their cake, bran, or dry food. Bullocks soon establish, by rubbing and grooming themselves, a comfortable arcade of straw on either side, or at the end, according to the wind. Under this they lie comfortably ensconced free from driving rains or strong cold winds, and in the day time, weather permitting, go to their feeding ground.

The act of grooming themselves gives cleanliness, and stimulates circulation in the skin, and pays well in the health and condition of the animals.

There is no currycomb or horse brush so effective as good strong reedy wheat straw, free from weeds, especially if you have trimmed or shaven the stack. Where reaping by hand is still in practice, a good haulm stock answers well. If farmers knew how cheaply a close shed or covered yard could be erected, and how much it influences and preserves the condition and quality of animals and manure, they would erect them.

I have such a shed, 57 feet long, 35 feet wide, the walls 8 feet high, a single span and space slated roof. This will accommodate 30 two-year old bullocks. I have at present in this shed 27 two-year old shorthorns. They appear closely packed, but have ample ventilation. It may be called the box system on a large scale.

The straw under them is invariably cut up by steam into two-inch lengths, and readily forms a homogeneous mass. It need not surprise us that strong reedy straw, so cut, readily absorbs urine, for in cutting it, it gets split and broken; thus the spongy inside of the straw at once absorbs, while the glassy exterior of uncut straw will not absorb. The cost of cutting it by steam power where an engine is on the premises is insignificant.

A dung heap is thus quickly formed under the animal, free from destructive heating, which would take place with long uncut straw. Many an animal becomes lung diseased and destroyed by the fermenting masses in open farm-yards, or even in covered yards, when the early spring sun and an increasing temperature cause heating and decomposition in the long strawed and less condensed mass, more accessible to aeration than the homogeneous hodge podge of chopped straw manure. Assuming that the animals are fed as they ought to be, with cake, roots, meal, bran, and chaff, the dung from this shed taken direct to the land, will give results that will put to shame the ordinary dung heap, or even guano. It is always ready for use, and spares the cost and waste of a manure heap.

After a heavy crop of tares, I have now a fine crop of cabbage. As soon as the tares were removed, acre by acre, the shed manure was at once carted on, spread and ploughed in, and the cabbages planted in June. The trench ploughing was very deep, by two horses in the top plough, four horses following in the same track with a second plough—making a thorough rough job of it—in stiff clay. This is the way to grow abundant food for your animals at small cost.—*Prof. Mechi*, England.

HEN STORIES.

Jno. G. Page, of Rockford, Illinois, writes the *Prairie Farmer* that he had two Cochin China pullets, less than a year old, that laid and were set at the same time, hatching 26 chickens. They were put into a coop together, and in seven days from the time of hatching, both began laying again. He let them out of the coop, and three days after one of them forsook her brood. The

other continued to lay and take care of the 26 chickens. She layed 15 eggs in 16 days, and then two eggs a day for eight days, when she again began setting, (he giving her 16 eggs,) taking care of the chickens all the time she could spare. Mr. Page was fearful that she had "too many irons in the fire," and took the chickens away from her. From the last setting she hatched 14 chickens.

37½ CHICKENS PER HEN.

In the Rock-Island *Argus*, of August 22d, appeared the following chicken item, which is certainly an atonisher:

"It seems to me worthy of notice that there is a flock of 600 chickens near Coal Valley, all raised this season from twenty hens and one cock. They belong to Mrs. W. H. Middleham, and are the finest lot of chickens I have ever seen. The venerable father of these 600 chickens watches over them with apparent pride, and struts among them with great dignity. It is a sight worth going to see."

ENGINEERING DEPARTMENT.

GIVE THE BOYS A WORKSHOP.

EVERY farmer who has boys, should provide them a *workshop*. It should be neatly made, and pleasantly situated, for it should be attractive to those for whom it is intended. It should be tight and comfortable, furnished with a small stove, so as to make it warm in winter. It should be provided with a work-bench and vice, a shaving-horse for using drawing-knife, and perhaps a small foot-lathe which is very convenient, but not essential, however. The other tools should be two or three planes, augers of different sizes, a few chisels, a bit-stock with bits, drawing knife, saw and hammer. For those who cannot afford the whole, a small part of these would answer, and to those who can, other tools may be added—the cost of the tools would be but a trifle compared with the advantages one would derive from the use of them. The greatest is the assistance it will render the cause of *practical education*. It has been said that "the best inheritance any man can leave his children, is not wealth to support them, *but the ability to help and take care of themselves.*

A young man, whose natural ingenuity is so developed by practice that he can at any moment mend a rake, fit a helve in an ax, set a clock in runing order, mend a broken harness, give edge to a pair of shears, mend tin-ware, repair an umbrella, white-wash a ceiling, paper a room, make a bee-hive, bottom a chair, or mend a broken rocker, and do a hundred other little jobs, will pass through the world more comfortably to himself, and profitably to those around him, than the one who is obliged to send for a mechanic to do such little jobs which he is too helpless to perform himself. Another advantage afforded by such a workshop is its *moral* influence, furnishing pleasant employment to boys during stormy weather, or other leisure hours, and lessening the temptations to frequent taverns, and to attend places of diversion—which often leads to the most pernicious habits.

Almost every Yankee boy has a longing for the use of tools, from the moment his hand grasps a jack-knife and he begins to whittle. Provide cheering work for your boys, something that will be relaxation from the drudgery of the plow toil, and the composite health, something that will satisfy their longings for progress, and open to them new realms of thought. If they are not skilled with the mallet and the chisel, the saw and the plane at home, they will quite likely become adepts at the pipe and the bottle abroad.—*Rural New Yorker.*

THE LARGEST BARN IN NEW YORK.

MR. Willard of the Utica *Herald*, gives the following description of a barn recently erected on the farm of Lyman R. Lyon, at Lyon's Falls, in Lewis county. His farm consists of 800 acres of cleared lands, and he keeps a dairy of 90 cows:

"The barn is 220 feet long by 48 broad. It sits upon a wall 20 feet high, which contains a thousand yards of masonry. The drive-way is 30 feet above the bottom, and twenty-one wagons can be unloaded at once from the barn floor.—The mows on either side of the drive floor have capacity for holding 650 tuns of hay before you get above the level of the barn floor, and it is proposed to have machinery driven by water power for catching up the whole load and dumping it into the bays at once. The stables in the basement will hold two hun-

dred head of cattle, and near by is an immense muck bed where any amount of this material may be readily had for mingling with the manures or using in the stables to absorb the liquid manures There are thirteen ventilators running from the stable to the top of the building, the height of which to the peak is 80 feet. In the basement it is proposed to have a root cellar and machinery for doing all the work of thrashing, cutting roots and feed, carried by water power which is conveniently near. This barn cost in the neighbourhood of $12,000, and when completed, as to machinery, &c., will probably be the most interesting barn structure in the State."

PROTECTING IMPLEMENTS AND MACHINERY.

IT is safe to state that more tools and machinery are used up by rust and exposure to the weather, than by the actual wear and tear of use. Very few tools are thrown aside because they are *worn* out. Harrows are frequently left with the teeth in the ground all winter, and many people think because the teeth are iron, they are not injured. But the scale of rust that sometimes forms on harrow-teeth destroys more iron during the winter than is worn off by all the harrowing done in one year. The same is true of ploughs. How often do we see good ploughs standing in the furrow all winter! Water not only fills the cracks in the wood, but enters every joint, causing the grain of the timber to expand and then shrink in dry weather, and at length rot, before the plough is worn out, and the formation of a scale of rust on the iron where it comes in contact with the soil, rapidly uses up the iron parts, so that implements not protected, go to destruction with astonishing rapidity, whether made of wood or metal. If the surface is well painted, water will still find its way into the joints, tenons will decay, and the wood about the mortises will often rot in a few years. Waggon wheels that are allowed to stand in the storms and sunshine, even when well painted, rust out faster than they wear out. Water soaks into joints of the felloes and spokes, and between the tires and wood, rusting the iron and destroying the solidity of the structure. This is why waggon tires must be re-set so frequently. More iron will rust off sleigh shoes in one season, when they rest on the ground, even under shelter, than will wear off while running all winter in a snow track. The same is equally true of hoes, shovels, and many other tools. On a farm properly furnished with cellars and sheds, of course all implements should be kept under cover at all seasons. They ought to be off the ground, the woodwork, except handles of tools, well painted, and the iron-work painted or protected by a simple coating of boiled linseed-oil, But the question may be asked how may a farmer protect his implements and machinery, when he has not suitable buildings which can be appropriated to such a purpose. There are several ways in which it may be done very satisfactorily. The farmer on the prairies with no out-buildings or lumber to make them, can set two rows of posts in the ground, about sixteen feet apart, and saw off the tops square about three or four feet high, pin a pole on each row of posts for plates, make rafters of poles, and pin them to the plates, and split out thin rails and pin them to the rafters about one foot apart, then cover the whole with straw two feet thick. The straw should be spread on very evenly, and after it has settled down and the surface is wet, raked lightly so as to turn all the straws on the surface down, to carry off the rain. The rafters should have about "one-third pitch." This will be sufficiently steep to carry off all the rain. By nailing or pinning thin rails, like collar beams, from one rafter to another, and making a straw floor, an excellent warm apartment may be make for fowls of any kind. Even geese and ducks will ascend to it, on an inclined plane. Such a frame may be also covered with fence boards, or saw-log slabs, and subserve an excellent purpose for protecting tools. If it should not carry off every drop of rain, it need not be denounced. It is the drying wind and sunshine, not rain alone, that injures implements.—*American Agriculturist.*

GRAVEL WALKS.

WHEN a gravel walk is to be made, it is best to make it *well*, so that one will not have to spend much time on it in grubbing up weeds. In the first place, dig out the trench, as wide as the walk is to be, from 12 to 15 inches deep, and fill up the space with stones, cobbles being best, and fill in the cavities with coarse gravel, firmly rammed down. Upon this basis place a covering of about six inches of gravel; when the whole becomes packed down hard it will be a walk that will give satisfactio n

The splendid walks in Central Park, New York, are made by mixing gravel with gas tar, which becomes as hard as stone itself. Such a walk requires a thin coat of gravel over the mixture to prevent any offensive smell from the tar in warm weather. All such walks must be excavated so deep that the frosts of winter will not affect them.

CARE OF STEEL PLOWS.

WASH them clean, and as soon as dry, apply a thin coat of any kind of varnish or boiled linseed oil, or lard melted with a little rosin, which is good. This will keep the polished surface from rusting during winter, and will slip off readily as soon as the plow runs a few rods in the soil.

HORTICULTURAL DEPARTMENT.

ORCHARD CULTURE.

1. We believe in selecting a good site.
2. We believe in a most thorough preparation of the soil.
3. We believe in enriching the soil according to its wants.
4. We believe in planting none but good trees.
5. We believe in planting trees not more than two or three years old, if bought at the nursery.
6. We believe in "setting" said trees after the most careful and approved manner.
7. We believe in pruning and training said trees.
8. We believe in setting the branches low down on the trunks.
9. We believe in keeping those branches and trunks free from moss, caterpillars, and all other pests.
10. We believe in cultivating orchards.
11. We believe it to be a great fallacy to suppose that cultivating an orchard means to grow crops in it.
12. We believe the perfection of orchard culture consists in giving up the soil exclusively to the trees.
13. We therefore believe in excluding all grass, corn, grain, roots, weeds, cattle, mice, borers, and every "unclean thing."
14. We believe that orchard trees may sometimes be profitably root pruned.
15. We believe that this should not be done "promiscuously" with the plough.
16. We believe that orchards may be cultivated without injuring the roots of the trees.
17. We believe that orchard trees may be planted in too rich a soil, and make too rank a growth, thereby becoming unfruitful, and also liable to "winter-killing," and other ills.
18. We believe in checking this redundancy of growth.
19. We believe this may be done in various ways; such as summer pruning, root pruning, laying down to grass, growing crops, &c.
20. We believe that summer pruning and root pruning are the most direct, certain and satisfactory modes of accomplishing the end proposed.
21. We believe that grass robs the trees of nourishment very little if any less than some root crops.
22. We believe that an orchard in grass suffers much more in time of drouth than one well cultivated.
23. We believe that orchards laid down to grass, and kept so, should be top-dressed from time to time.
24. We believe that the lime, ashes, ground, *raw* bones, composts of muck, &c., are capital top-dressings.
25. We believe that orchards laid down to grass should be ploughed up at the first sign of "giving out."
26. We believe that old and decaying orchards in grass may often be renovated and made good by manure and cultivation.
27. We believe that a cultivated orchard yields fairer and better fruit than one not cultivated.
28. We believe it is a great mistake to except fruit trees from the universally recognized laws of cultivation.—*Horticul.*

LOVE OF FLOWERS.

NO man can cultivate too earnestly a hearty love of flowers. We may not measure the value of them as we measure merchandise, for the influence flowing from them is ethereal and intangible; yet not more necessary is pure air to a healthy growth and broad development of body, than is a loving communion with these "sweetest thoughts of God," needful for all true up-building and expansion of the mind. The notion that it is a weak and feminine thing—a thing for children

and women—to interest one's self in flowers, is utterly false. One of the most humanizing, and therefore *noblest* things in the world, is a devout study of these beautiful works of God. There are granite peaks lifting themselves bare and bald with forbidding aspect, which, though clothed with grandeur, are, nevertheless, the unloveliest objects of nature. There are other peaks which have as much of majesty, yet nestled in whose rifts and climbing up whose sides many colored flowers unfold their beauty, and by their soft hues relieve the sternness of the dull, harsh rock. He is the truest man whose character thus combines strength and conciliating tenderness—whose principles are firm as mountains, yet at the same time are always adorned by the verdure of a gentle charity. From no source can man gather so many gentle thoughts and unpolluted feelings, as from intercourse with flowers. If the Infinite is ever turning from the care of circling worlds to the adornment of the violet, surely it cannot be beneath the dignity of man to follow his Maker with a reverent step, and learn the lessons which he has written for him in the humble flower.

TREES A PROTECTION TO GARDENS.

A belt of trees on the north and west sides of a garden is valuable as a protection to plants. Flowers, fruits and vegetables come forward earlier in the spring, where such a protection exists to ward off the cold winds that come from the west and north. They also mature better in autumn, where such a shelter exists. The *Gardener's Monthly* says:

"We are often astonished at the great difference between exposure and shelter. In our own neighborhood, as we write, Salvia splendens, Heliotrope, Geraniums, etc., are in full bloom in gardens sheltered by trees on the northwest; while not a hundred yards from the one in our mind's eye, the same flowers are black, and have been for weeks back; and in the middle of winter, a place surrounded by evergreen belts will be more like a spring scene, than the winters it would be exposed—and the rare and choice trees and shrubs will grow in such sheltered spots with vigor, when in other places they can scarcely be made to exist at all, and are then truly classed with the half-hardy things."

Tall trees are not advisable to grow as a protection to gardens; evergreens are better adapted to that purpose.

THE FARM-HOUSE GARDEN.

SELECT a warm, dry piece of ground near the house. If not naturally drained, make a good underdrain with stone or tile.

A fine loam soil is much preferable to gravelly or clayey soils; yet a little labor in removing the coarse gravel and replacing it with clay in the one case, and adding fine sand or swamp muck in the other, will, with proper drainage, good manure and thorough plowing, make an excellent garden anywhere.

If the soil is light, too much horse manure should be avoided, as it tends to render the soil lighter and dryer, without imparting to it a sufficient texture. Cow manure, or a mixture of the two would make the best application for such soils, while for a heavy soil, horse manure would be most desirable.

As a rule, manure the ground heavily. A mixture of stable, barnyard and hog manure makes an excellent dressing for any soil. After ordinary plowing, either subsoil, or run the common plow again in the furrow, thereby deepening the soil. Hurried plowing should always be avoided; the ground should be well broken and carefully harrowed. When the garden is small, and there are asparagus beds, strawberries, currants, &c., to interfere, spading or forking is better than plowing.

In laying out a garden, all that is requisite is to employ common sense. Don't waste too much ground with useless walks, or make too many beds.

PRESERVING FLOWERS IN SAND.

TAKE the finest river or lake sand and wash it perfectly clean. Heat it very hot, and while hot mix it thoroughly with stearic acid in the proportion of one pound of acid to 100 lbs. of land. Let it cool. Take a small sieve and fasten boards to the bottom to keep the sand from falling through. Place enough sand in the sieve to hold the flowers in position, not covering them; then with a sheet of paper twisted in the form of a cone or funnel, carefully let the sand pass between, around and over the flowers, covering them all about half an inch. Set in a place where the sand will remain at a temperature of about 70 degrees.—The length of time in which they

must remain in the sand depends upon the thickness of the leaves and petals, varying from seven to twelve or more hours. This must be determined by experience. When they have remained sufficiently long, remove the boards carefully from the bottom of the sieve and let the sand run out. The flowers should be picked when dry.

By this process the color and shape of the flowers are perfectly preserved, and they will remain so an infinite time.

HOUSE PLANTS IN WINTER.

CARE and attention bestowed on plants, *which they do not need*, are worse than no care at all. It is knowing just what to do, and doing that and no more, that gives some persons their success.

Plants cannot by any possibility have too much light. The stand should therefore face the window, and placed as near to it as practicable; and the window should be broad, as little obstructed in its light by outside trees as the nature of the case will admit. But rapidly growing plants require most light; hence should be placed more directly in front of the window.

Water should be given according to circumstances. A plant in nearly a dormant state, needs very little—those in a rapidly growing condition requires considerable. Too much water will make the latter grow slender, but they will bear a greater supply if in a strong light. It must be remembered, as a standing rule, that dormant plants may remain comparatively in the dark, and with little water; and growing ones should have a good supply of water and a full supply of light. But it must not be forgotten that greenhouse plants generally are nearly dormant during winter, and the soil must therefore be kept moderately moist, as the plants in this condition do not pump any moisture from the soil, and little escapes directly by evaporation. Drainage by filling one-fifth of each pot with charcoal, is of importance.

Many house plants are destroyed by too much heat, which increases the dryness, and both these causes together are more than they can endure. A cool room never as low as freezing, is best. From 50 to 55 degrees is better than 60 to 70, the ordinary temperature of living rooms.

Syringing the foliage with tepid water to wash off whatever dust accumulates, is of use; and the admission of fresh air, when there is no danger of chilling or freezing the foliage, should not be neglected.

THE LAWN.

THE lawn is a necessary appendage to every country house, with its surrounding acres, in order to render such a rural house as pleasant as it is susceptible of being. One of our neighbors, who owns a beautiful homestead in Clinton, writes as follows to the *Horticulturist*:

It is a mistaken notion that a lawn should be *large*. If of great extent, it lacks simplicity and homelikeness. It should be a cozy nook rather than a broad, open expanse. A large extent of surface is expensive to make and keep, and can hardly be maintained in that perfect order which is one of the great charms of a lawn. It should be large enough to show a few fine trees to advantage—their masses of foliage floating in the air, and their shadows stretching across the velvet turf; large enough for a wavy belt of shrubs on its borders, and running out here and there, into the grass; large enough for children to romp and roll over it; but not large enough for a grove of trees to be planted upon it, nor for the review of a regiment of soldiers. It should be just large enough for the owner to keep it entirely free from weeds, its grass smoothly shaven and rolled, and its walks and flower-beds (if it contain them) in complete order.

Some people overdo the matter in forming lawns—get too much into them, especially if they are troubled with a plethoric purse. The same writer says:

The best expression of a lawn is that of repose; not, indeed, the repose of a meadow, but of grounds over which the hand of taste presides, and easily fashions into beauty. There should be nothing to suggest the thought of labor and cost in the making and keeping of the lawn, or of desire to attract attention and make a display. It should suggest ideas of comfort, of rest from care and toil, of freedom from excitement and hurry, of self-contained enjoyment. With this expression, the oddly shaped trees, the superabundance of statuary and the glitter of flower beds somewhat conflict. A vase or figure rightly set produces a fine effect. If flowers are admitted into the lawn, it should be sparingly, and they should be constant bloomers. The flower garden proper should be disposed in

a scene by itself somewhat secluded, and of large or small extent, according to the taste of the proprietor.

It is not necessary that a man be wealthy to have a beautiful lawn. Every farmer whose house stands a few rods from the road can, and should have one—a well shaded lawn, that will cause the way traveler to exclaim, "That is a pleasant place!" What a fatal mistake some men make, who spend their days where no wide spreading branches of the elm, maple, &c., exist to ward off the burning rays of a summer sun! Fatal, in a measure, to the happiness of themselves and families, at certain seasons of the year, because there can be no *real* pleasure enjoyed in rural life, where people live so utterly exempt from all practical ideas of what adorns and renders pleasant a country home.

MONSTER VINERIES.

HAVING heard that two large vineries were in process of construction for Mr. Dunham, at Hyde Park, about six miles south of Chicago, we paid a visit to them on the 11th, to keep posted on what is being done horticulturally in and near our city. Some of our readers may be interested also to know what is being done—we therefore took down a few notes for that purpose.

The ground selected is entirely concealed and protected by the native oaks; however we found no difficulty in finding it. It adjoins the fine property of Dr. Asa Kennicott, in which are some beautiful specimen evergreens—one, an Austrian pine, of faultless shape, a perfect broad based cone of living green, so thick that no bird could enter without pressing out the foliage. We opine that the Dr. would not part with that specimen for a large sum of money.

The vineries in question are what is called "lean to,"—sixteen feet wide, two in number, of the respectable length of 200 feet each. One length is glazed and nearly completed, and divided into compartments, and magnificently heated with hot water by two of Weatherhead and Chervoy's No. 5 boilers. In the west house are four rows of four inch pipes all round, something like 800 feet of pipe. The other, apparently intended for a second early, has three rows, and some six or seven hundred feet. One of Weatherhead's own men was there setting up the apparatus, so everything is being done to ensure its perfect working.—The pipes are very plentifully supplied with evaporating pans so that humid atmosphere is entirely under control.

Two large wooden tanks were being elevated in position on the back wall, and near the glass, to which hose is apparently to be attached, to, sprinkle the entire house.

The construction of the houses is on what is called "the fixed roof" plan, with very small sash at the top, to be used as ventilators. The front wall is also supplied with two feet of sash, which open to admit fresh air when needed.

The building outside is very imposing and pleasing, as these fixed roofs usually are, but the same can hardly be said of the interior, for to our mind the timbers are too massive—more so than is requisite. As for instance, every 6 feet 6 inches are rafters, ten by three inches, with three purlins, three inches square, at equal distances for the sash bars to rest on. These, when seen, unplaned as they are, give the interior a heavy, massive appearance. True, when the house is full of grapes, there is a great weight to support, but these timbers will surely do it.

Another very faulty feature is the glazing, 7x9 glass is used and put crosswise, thereby weakening the same very materially. But what is still worse, is, they lap from one inch to 1⅛, when a quarter inch is an abundance; all over positively a loss, as the water and dirt get between, looking very unsightly, besides causing large quantities to crack when frozen. We understand the designing is by the celebrated grape grower, Mr. Ellis, of Fox Meadow gardens, but doubt if these minor details are of his devising.

The borders are being most thoroughly made, apparently on the true Fox Meadow plan, and, take the four hundred feet of vinery, altoge theris an earnest of what we may safely hope will be a magnificent spectacle when in full fruit.

We hope the large sum of money being expended by Mr. Dunham, (the heating alone costing some $2000) will turn out a complete success.

On our way we called at another quite large establishment just begun at Calumet avenue and 23rd street, on grounds belonging to Mr. Hall—Robert Pouley, manager. Here we found one large greenhouse, 40 feet long, 24 wide, 13 high to the roof, and one smaller propagating house of 30 feet

in length contiguous, and both heated by Weatherhead & Co.'s No. 5 boiler, and hot water pipes, at a cost of $1100: the entire buildings costing about $2,500. They are intended for commercial purposes.

Truly Chicago is growing horticulturally at last. EDGAR SANDERS.

TRENCHING FOR GRAPES NOT NECESSARY.

THERE are a few old fogies who still contend that it is necessary to trench the ground for a vineyard, at a cost of $250 to $300 per acre. We exploded this theory years ago, yet some grape growers continue to recommend it, who have had no practical experience in any other method. Read what Mr. George Huseman, the extensive grape grower of Hermann, Mo., says:

"It is a well proved fact that we have varieties adapted to certain localities and soils, which will give in such locations sure crops every year: and some few varieties seem to have a happy facility of adapting themselves to almost any soil. We have also found by experience, which in such, as in all other cases, is the mother of wisdom, that one variety may fail altogether on a certain soil, where another variety will flourish and thrive remarkably well. Thus we found, as an example, that our Southern stony hill-sides, where the Catawba got sunburnt and scorched every summer, the Norton's Virgina and Herbemont came to greater perfection, and were always fresh and green, whereas the Herbemont did not succeed in our deep clayey loams, where the growth was too rank; and it never fully ripened its wood, yet there the Concord, and in a certain measure the Catawba, succeeded well.

A close observation of these facts, obvious to everybody, and of the different habits of the different varieties, first set me to thinking whether different kinds did not also need different preparation of the soil. I observed that the Concord made its principal roots near the surface, while the Catawba and Norton's Virginia, to a certain measure, went down with their roots into the subsoil. So far, all our grape growers had concurred that the only thorough preparation of the soil was by trenching two or three feet deep, and reversing the soil; that is, bring the subsoil to the surface, and the surface to where, as they thought, the roots of the vine ought to be deep down. This method, of course, necessitated deep planting. The idea struck me that it was somewhat unnatural to bury the grape vine, perhaps the most sun-loving of all our fruit plants, with its roots deep down in the cold subsoil, beyond the influence of the sun and air. I began to doubt the necessity of deep trenching and planting, and determined to try a different method.

I was then about to plant a new vineyard on a piece of rough forest soil, newly cleared. Instead of trenching with the spade at a cost of, say $120 per acre, I took a large breaking plow with four yoke of oxen, and made furrows as deep as I could get them, say twelve inches. I had two men to follow the plow with axe and grubbing hoe, to cut away the large roots whenever they obstructed the way; and had a subsoil plow with two yoke of cattle to follow in the same furrow, which loosened the soil say ten inches deeper, making in all a depth of tilled soil of from twenty to twenty-two inches. Six men with six yoke of cattle thus finished about an acre per day, at a cost of about $25. The reader will perceive that this left the soil almost in its natural position instead of reversing it as is the case in trenching. Now for the planting: I concluded that the plants, if they *must* have their roots deep down, would find their own way there after I had mellowed and stirred the soil; I therefore thought I would not plant deeper than ten inches. This I did, much to the disgust of my wise neighbors, who shook their heads and prophesied total failure. But, lo and behold! my vines did not fail, but grew lustily, produced well, and the vineyard thus easily prepared is now one of the most thriving and productive in the whole neighborhood.

DOMESTIC ECONOMY.

TANNING FUR SKINS.

One of your correspondents asks for a method of curing skins with the fur on. A valued relative of mine, of much experience, gives me the following: Stretch the skin on a board until partially dried, say a week or two. Then soak for two days in a solution of half a pound of alum in half a gallon of warm water. On removing the skin from the water, scrape off carefully with a

case knife or otherwise, all particles of fat or flesh that may adhere to it, and work and pull it thoroughly with the hands until quite dry, which will render it soft and pliable. This last process is important. The skin of a favorite Maltese cat, treated in this way, has done excellent service in the shape of a beautiful muff for a little girl.

RESTORING DAMAGED VELVET.

The *Monitor de la Salud* publishes the following method of restoring velvet to its original condition. It is well known that when velvet has been wet, not only its appearance is spoiled, but it becomes hard and knotty. To restore its original softness, it must be thoroughly dampened on the wrong side, and then held over a very hot iron, care being taken not to let it touch the latter. In a short time the velvet becomes, as it were, new again. The theory of this is very simple. The heat of the iron evaporates the water through the tissue, and forces the vapor out at the upper side; this vapor passing between the different fibres, separates those which adhered together in hard bunches. If the velvet were ironed after dampening, an exactly opposite result would be obtained; it is, therefore, necessary that the substance should not come in contact with the heated iron.

WHAT IS HOME?

IN the common acceptation of the term, home is the place in which one resides. It may, and it may not, have reference to its surroundings. Its location may be among the verdant groves of rural life, in a city, or in some other locality. It may not only possess every requisite for enjoyment, and every resource for the necessities and comforts of life, but it may also be embellished with all that wealth, and art, and the most refined taste can command, and yet it may not come so near to our ideal of home, as a residence of much less pretension, or even the humble cottage of the day laborer.

The attractions of home are found in the genial influences which reign within. There must be the glow of affection, a tender and ever-living sympathy, and abiding and increasing desire to please, a constant seeking of another's welfare, even at the sacrifice of one's own, and a persistent avoidance of those evils which are the prolific source of all the disquiet, and unhappiness so common in domestic life. Such a habitation, however humble, however stinted its resources, and its luxuries, possesses the living vitality, the real attractions of home. Its members, as by some magic influence, are irresistibly drawn to it. It is the grand centre of all that is lovely and desirable in this world. It lights up, and gilds all of life's darker shades. It hallows the memories of the past. And when in the flight of years the footsteps, and voices of others are heard in its halls, and it is no longer regarded as the real home, there is a niche in memory, upon which is inscribed, Sacred to the old Homestead.

We are of the opinion there are comparatively few such homes. There might be more. By a proper cultivation of the affections the evil may, to a great extent, be remedied. Due attention to little things will keep out the "foxes which spoil the vines." Let the golden law abide in the heart, and words of kindness fall from the lips, and how many a Babel of strife would be converted into an Eden of love.

When we consider how much early home influences have to do in the formation of character, the subject assumes a grave importance, and becomes invested with serious responsibiilties.

We say, then, to all parents, God has given us this broad land, this beautiful country, with its charming rivers and lakes, its school houses and churches, forever consecrated to liberty, that we may secure such a home for our children.

A SUBSCRIBER.

CONDENSED MILK.

Agriculture Connected with Manufactures.

IT will be remembered that in a recent article upon "Condensed Milk," we alluded to an establishment projected by eastern parties, at Elgin, Ill. Since that time this manufactory has been put in successful operation by Mr. Gall Borden, patentee of the best process known for the purpose, and experienced associates. Upon invitation we last week visited this establishment and witnessed the entire process of condensing milk, and though so lately writing upon the same subject, we are sure that further information concerning a branch of manufactures so intimately connected with agriculture will be read with interest.

Those of our readers who are familiar with the locality of Elgin are aware of the resemblance of its general features to some of the most famous dairy regions of the East—as Herkimer county, New York,

for example. Few places in the West have so varied a surface, sweeter herbage, and such plentiful abundance of cool springs, and these give it rare advantages as a dairy section.

The process here employed yields a product greatly superior to any other yet discovered. It requires, however, a costly apparatus, and the use of great skill. Various attempts had been made at different times to bring milk into a form in which it could be enjoyed by those who could not possibly reach a cow, but never gave general satisfaction, or were attended with any marked success, until Mr. Borden, after years of research and experiment, arrived at the perfection of his present method.

Few of our readers are probably aware of the extent to which this article has been made and sold. Of Mr. Borden's various factories, there are two within thirty miles of each other on the Harlem railroad, New York, with capacity to work daily 15,000 and 20,000 quarts of milk; and to supply the war demand have sometimes been run day and night. How great a luxury has thus been furnished to our brave defenders, both in hospital and camp, every returned soldier well knows. Its use in private families has also rapidly increased from the time it was introduced, and at the present time thousands of families use it in preference to any other.

The Way it is Made.

In the first place the utmost care is used to obtain the best material and to have it drawn in the cleanest manner. As soon as drawn it is strained and placed in cans, set into cool running spring water, until the temperature is sufficiently reduced. To be properly cooled at once and to be thoroughly rid of all traces of animal heat and odor is a prime necessity. It is then taken to the works where it is first tested, by one as skilled in his art as a custom-house liquor taster is in his, and if there appears the slightest defect or dilution, it is rejected. If all is right it is strained into a vat, from which it flows into brass cans which are set into what is called the bath tank, which is nearly full of water, heated by steam. From the cans it is next poured into the "Well," which is furnished with a steam coil, which heats it to a higher degree. The object of these processes is the precipitation of the albumen which it contains, the presence of which, although it amounts to only one quarter or three-eighths of one per cent. in quantity, would seriously interfere with successful condensation.

Evaporation in Vacuo.

From the steam well it next passes into what is called the vacuum pan, an oblong copper vessel—in form somewhat like an egg—standing on one end, of four or five feet diameter in its smaller portion, and containing from one to two thousand quarts. This is furnished with a steam jacket over its bottom and a coil of copper tube inside, through which either steam or cold water can be introduced at pleasure, and thus a perfect control obtained over the temperature of its contents. The air is removed from it by a pair of double acting air pumps, which are worked by a steam engine, and are set in motion as soon as the milk is ready in the well. As soon as the barometrical guage shows a sufficient vacuum, which is indicated by a rise of the mercury to twenty-five or twenty-six inches, the milk is allowed to enter by a pipe leading from the well; evaporation of the water commences at once and proceeds with rapidity. The pressure of the atmosphere being removed the milk boils at a temperature so low that the hand might be held in it, and yet the water passes off from it at the rate of more than a hogshead per hour. The proportion of water in milk is usually 87 per cent—the balance being dry matter. Evaporation is not continued to dryness, but until it is reduced to one-fourth of its original bulk, when it assumes the appearance of thick cream, in which form it gives much greater satisfaction than if fully dried.

Just before the completion of the process it is subjected to what is termed superheating, by which is evolved and carried off in the condenser all remaining odor, and leaves the product in the highest possible state of purity. The article thus prepared, as soon as drawn off and cooled, is ready for market and may be employed for all the uses of fresh milk, and is in no respect inferior to it.

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caused an investigation to be made by a committee especially appointed to visit the works from whose report we make a few extracts:—After describing the process of evaporation, they say:

"It affords the section no small degree of satisfaction to be able to state to the academy, that after a thorough examination of this subject, they are fully convinced that in 'Borden's Condensed Milk' the

citizens of New York may be furnished with an article that for purity, durability and economy, is hitherto unequaled in the annals of the milk trade.

"During the preparation of this milk, your committee beheld nothing that was not to their minds eminently satisfactory.

"In reference to the condensed milk as an article of diet, its importance is at once established by the fact that it retains all the nutritive qualities of milk, uninjured."

This condensed milk is daily furnished to thousands of families in New York and other large cities at a price fully as low as its equivalent in common milk can be obtained, and is greatly preferred. Under the same conditions it will remain sweet somewhat longer than ordinary milk and by the employment of ice for a considerable length of time; insomuch that it is usual for European steamers to take enough to serve for both the outward and return trips.

Preserved Condensed Milk.

Because plain condensed milk can be furnished by the manufacturer, without loss, at a price as low as common milk, only where there is a large and constant demand for present use, a large proportion is *preserved* so that it will keep in perfect order for any length of time and in any climate. This is effected simply by the addition of the best double refined sugar. It is a very curious fact, that after the proper quantity of sugar is added, which is something more than one pound to the gallon of new milk, it can be farther concentrated than if the sugar had not been added. One quart of the preserved milk, as sold by the Elgin Company for 50 cents, contains fully four quarts of new milk in addition to a quantity of double refined loaf sugar which costs at wholesale at the present time one half of what the article is sold for, thus giving the buyer the best and purest article of milk at six and a quarter cents per quart.

Cleanliness.

As before mentioned the utmost cleanliness is strictly enforced here. To farmers it is not necessary to explain how necessary this is in the handling of milk for any purpose. The cans, vessels, reservoirs, pipes, vacuum pan and everything that the milk touches are scalded, rinsed and scoured until perfectly cleansed of every particle that can ferment or decay. Water runs everywhere and the whole manufactory, from top to bottom, is a model of sweetness and cleanliness.

No Adulteration.

Of course the introduction of condensed milk into our cities excites the animosity of the milk dealers, and they have, we are informed, circulated reports derogatory to the character of the condensed article. They allege that it is adulterated largely with starch. This is almost too absurd to be worthy of comment, for chemistry affords so easy a test of the presence of this article, that, if the disposition existed, no manufacturer would dare employ it. Besides, we know that the men operating at Elgin are far too high-minded to stoop to such base practices, and would far rather abandon a business that could afford a reasonable profit only through fraud Those who buy this "condensed milk' may be sure that they buy the pure article with the addition of the best refined sugar,

COMMERCIAL REVIEW.

CARRYING MEATS ACROSS THE OCEAN.

THE London Morning Post, in the present scarcity of meats in Great Britain, and lack of sufficient supply from European countries, advocates the importation, either of dressed carcases or living animals from Canada. The case is thus stated:

"The average price, per pound, of butchers' meat in the markets of Quebec, Montreal, Ottawa, Kingston, Toronto, and Hamilton, in 1864, was: Beef, from 6 cents to 8 cents per pound; mutton 5 cents to 8 cents per pound. As to the practicability of bringing across the Atlantic dead meat in a marketable condition, there is little reason to apprehend difficulty, when we know that the tables on board the ocean steamers are all the year round supplied daily with fresh meat of the best quality. The average duration of the voyages of the Canadian mail steamships is between nine and ten days; and it has been ascertained that meat, when properly packed and forwarded in vessels fitted for the purpose, will keep a fortnight or three weeks. Should the first experiment of bringing to our markets live stock or dead meat from Canada prove successful, it is impossible to estimate too highly the importance of the trade both to Canada and ourselves."

THD AMERICAN AGRICULTURIST.

REASONS why the American Agriculturist is taken by more than a hundred thousand subscribers: *It is for the whole Family*—for the Farm, the Garden, the Orchard, and also for the Household, including the Children and Youth; indeed, tens of thousand of copies are taken in our villages for the Household and Youth's Department alone, while its other departments are valuable to every one cultivating a foot of land,—*It is most beautifully printed and illustrated* with Hundreds of Fine Engravings every year. These are both pleasing and instructive; the *Agriculturist* may be well styled a Rural and Household Illustrated Magazine. It is an ornament to the table of any family—It is not a loosely thrown together "Scissors and Paste" Journal, but the largest possible amount of information is condensed into every page. Every line is carefully prepared by thoroughly intelligent, *practical* men of long experience and large observation—by men of sound common sense, who know what they write and talk about. The information they give, with the thousands of hints and suggestions, cannot fail to be worth to every reader, far more than the subscription price, which is very low.

THE "CULTIVATOR" DISCONTINUED.

THIS well-known agricultural monthly, so long issued by the Messrs. Tucker, of Albany, N.Y., is now discontinued.

It has been for some time the intention of the proprietors to take this course, so soon as their weekly, "The Country Gentleman," should have a circulation sufficiently large to justify the step. We congratulate them that the time has arrived for carrying out their long-cherished plan. The Messrs. Tucker have done very much to originate and cultivate a taste for the right kind of agricultural reading among the farmers on this continent, and we sincerely hope they may long continue their labours with profit to themselves, and advantage to their readers. Without disparagement to other journals of the kind, we say that "The Country Gentleman" holds the first place in the affectionate regards we distribute among our exchanges.