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THE CANADIAN FARMER AND MECHANIC

TO PROMOTE THE COUNTRY'S WEALTH AND THE PEOPLE'S GOOD.

VOL. I.

KINGSTON, SEPTEMBER 15, 1841.

NO. 2.

EDITORIAL TOUR.

Last week we took a ride through the townships of Thurlow and Sidney. The interior of Thurlow is a flourishing agricultural section of the country. There are, interspersed over the whole township, fine farms, well cultivated. But the front and rear are not so well cultivated as the interior farms. In the immediate vicinity of Belleville the land is hard and stony, and in some places rough and uncultivated. The soil of Thurlow is generally of a redish sand, and frequently intermixed with coarse gravel. The farms of Thurlow are large, embracing from one hundred to six hundred acres each. On the front concessions the soil is rather light, but produces good Indian corn, oats, peas, potatoes, buckwheat, and where well tilled and manured, excellent crops of wheat. In the interior of the township there appears to be a mixture of clay, marl, and sand, so happily united as to make a warm, rich, strong soil, adapted to almost every variety of crop grown in this climate.

What we have said of Thurlow is, in general, true of Sidney, though from what we saw of both we should be inclined to give the preference to Sidney as an agricultural township; but we cannot pretend to speak positively on this subject from our limited knowledge of those townships.— Though most kinds of grain which are cultivated in this country are grown here, yet wheat is the principal dependence of the farmer. In these townships there are farmers who sow from twenty to one hundred acres of wheat, besides sowing oats, barley, peas, &c. Sidney is decidedly one of the best cultivated townships which we have yet visited in Canada. The work of the farmer is done the most farmer-like. Still there is room for improvement. One thing we noticed which showed bad taste and neglect of duty, that is, allowing that *bane* of the farmer, the Canada Thistle, to overspread their farms. Three or four thorough ploughings will effectually eradicate them, done at the proper season of the year. But this will be of no avail if in some part of the farm they are left to seed and ripen. One half acre will be sufficient to seed four hundred acres. They should never be allowed to go to seed. In those townships spring sowed crops are about in the harvest. Wheat, it was thought, was not more than two-thirds of a crop; hay very light; corn is unusually good; potatoes a good yield. With fruit trees Sidney abounds, particularly apples. Though the orchards were loaded with apples, the dry top limbs, the thick tops, the dry excrescence, the numerous saplings, and, in general, the small, inferior kinds of fruit, indicate great neglect.

Of course, in a wheat growing district the stock will be limited—so here. From seven to twelve cows are the usual complement. Two yoke of oxen, and from two to three spans of horses, with about thirty sheep, constitute the usual stock of Sidney and Thurlow. There are those who have many more. The houses, barns, and out-houses were generally good. In some instances we observed a lack of cow-houses and properly arranged piggeries.

We would recommend to our farmers in Sidney and Thurlow to provide a good article of plaster, and apply it properly. The soil of those townships is, of all others, the soil to which plaster is adapted. Sow clover, plaster freely, and when it is in blossom plough it under; this will furnish a good coat of rich vegetable manure, which will give an abundant of wheat or any other crop that may be required.

A respectable farmer told us that the lands in the front concessions would sell for thirty dollars per acre, on an average.

NAPANEE FAIR.

On Tuesday of last week the annual Fair for the counties of Lennox and Addington was held at Napanee. It gives us great pleasure to be able to say that notwithstanding the very busy season of the year, there was a large and respectable collection of the yeomanry of the land, numbering about four hundred persons. These brought with them different kinds of stock, viz.: cattle, horses, sheep and swine. There was a good deal of stock on the ground for sale, but little of the best quality. Most of that offered was of native breed. One very fine full blood Durham bull was on the ground; also one of inferior size, but of good form, claiming to be a cross of the Devon and Hereford. Several horses of native breeds, mostly young, were sold, and several hundred dollars worth of stock exchanged hands. Several breeds and varieties of sheep were offered, but as they chiefly consisted of Merinoes and other Southern breeds, fine woolled and of small frames, not being adapted to this climate, so far as we could learn, no sales were effected. And here allow me to remark, I would not recommend to our farmers of this country to purchase largely, or with a view to make up their flocks, either of Merinoes or other Southern breeds, as these are of a constitution too delicate to endure the severity of a Northern climate. Besides, the wool grown in this country is chiefly designed for domestic purposes, requiring strength and durability. Sheep that will shear the greatest quantity of wool, and are the best adapted for making mutton, are the sheep we require. I am decidedly of the opinion that a cross of

the *Devonshire Nots* and the *Cotswolds* would be the best variety for this country. Lincoln and Leicester breeds have been known to do well in this climate.

But to the "Fair." The farmers reported good grain crops, and were offered cash in hand for it at fair prices. We noticed several gentlemen from Kingston were there, mostly, we believe, officers of the Agricultural Society.

Considering the very hurrying season at which the Fair was held, a motion of some of the officers it was proposed to hold the Fair at later season in autumn, holding the Fair and Cattle Show at the same time and place. Accordingly, a day was agreed on to meet at Mr. Gardener's Hotel, for the purpose of making the necessary arrangements for the future holding of the Fair and Cattle Show, which, we understand, will be held at Bath, on the 29th day of October next. We highly approve of the proposed plan of amalgamation. Let there be a Fair, a Cattle Show, a ploughing match, and an exhibition of all kinds of domestic manufactures. This will induce competition and excite interest.

After the business of the day was ended, a great number of gentlemen sat down to a most sumptuous dinner, prepared on the occasion by Mr. Shore. When the honors of the table were done, each one with good feeling and a merry heart returned to his own home.

REPLY—ENQUIRIES.

In reply to the enquiries on the subject, of paying in advance we would say; that we expect pay in advance, that is, on the receipt of the first number of our paper. The reasons for this are many. 1st, we cannot publish without cash down. Our paper, our printer's work, our engravings, all cost cash—nothing less than cash will buy them. 2d. Our postage we must pay amounting to one shilling on each volume, reducing to us the price of the paper to four shillings, or 80 cents per year.

Now we think if a "Subscriber" and "a Farmer" will reflect for a moment, they cannot but see, that such a trifling sum as this scattered over an extent of several hundred miles would be attended with expense in collection which would be utterly ruinous. We hope we shall not soon be called upon to give a "reply to enquiries" on this subject. In a Township where there are several persons living near each other who wish to remit money let them join and put in a five or a ten dollar Note, the amount for the whole. The postage will be no more than for one. Where we have no Agent the Post Master will act as Agent. See Advertisement at bottom of page 82.

A FUNDAMENTAL ERROR.

One of the greatest errors in the system of practical agriculture in this country is attempting to cultivate too much land. Would the farmers of our country attempt to cultivate less land, and do their work better, they would no doubt find their account in it. But the principal farmers of this country possess large farms, either by inheritance or by direct purchase when lands were cheap. There are those who have large farms who have but little capital for carrying them on. Unwilling to confine their labors to a portion of those lands while they possess so much, they go over one hundred acres but do not properly till one. Were this custom adopted with reference to stock farmers only, the evil would not be so great; but great expense is incurred in preparing lands for grain, and in the end reap but a stunted crop. We know that in unfavorable seasons grain will not grow even with the best of tillage. But it is equally plain, too many of our farmers plough and sow some seventy-five or one hundred acres, and do not reap, even in good seasons, as much as they might with good management on forty or fifty.

Many there are who plough their lands which lie in favorable locations, and crop them year after year, unmanured, till the vegetative and nutritive qualities of the soil are so far exhausted that little or nothing can be produced. It seems almost incredible that a farmer should allow the manure to accumulate in his barn yards and about his cow houses until it becomes indeed a nuisance, while he is ploughing and sowing, and reaping but stunted crops from his land. Notwithstanding, such is the case in many instances in this Province. By saying this we do not mean that all do so—far from it. We have farmers among us who do their work neatly, and in all respects as farmers should do. It is not of such we are speaking. It is not for such this article is written. We write to make, if possible, an impression on those who have been bred up to farming—have practiced tilling the ground and the art of husbandry for years, and though possessing every facility for improving their lands and increasing their stock, but by improper management, by tilling too much and not doing it well, or in the proper time, the profits of the farm are lost, slovenliness and decay are visible in every department.—Where a farmer strives to do more than his means will admit, all is done in a hurry, consequently ill done, and often not more than half done. The poor man who has not the means of cultivating a large farm should not attempt it. The man who has a large farm and equivalent means can do vastly more than another with the same number of acres with but little ready capital. In such a case he should only till ground in proportion to his means of doing it well. His own interest requires that he do this. No one can deny that a farmer's interest requires that he should remove his manure as often as once in a year from the yard to his fields, that his crops should be got in in time—that they be harvested in time. If the farmer carries on more business in the farming way than his

pecuniary means will enable him to do well and timely, he certainly is the loser by the excess of business he does.

Besides the additional profits derived from farming well, there is, and must be, a great pleasure in contemplating the fruits of well regulated husbandry, and also some pleasure in knowing that he has established a good reputation among his "brethren of the profession" for being a good, tidy farmer. This reputation he can never gain who allows his farm to be overrun by thorns, briars and weeds. We hope the time is not far distant when our farmers will consider this subject well, and make a trial of the different systems. We shall in some future number take up the subject and endeavor to show mathematically the sum in capital that is required per acre, calculating both for large and small farms, whereby to obtain the greatest profit by farming.

On Saturday the 4th inst. in the House of Parliament, the subject of the free admission of Canadian produce into Great Britain was brought up by Mr. Merritt. Although we have little to do in the way of political questions, yet, as this is a subject in which every Farmer feels interested, and as the subjoined remarks are made by a man who has had much experience in agriculture, and one who seems perfectly to understand the subject, we have taken the liberty of copying the speech into the columns of the Farmer & Mechanic, hoping that all the Farmers in Canada will attentively read it. Mr. Merritt said:—

Mr. Chairman.—I do not expect to arrest the attention of many hon. members on this subject. Its object is not to create new salaries, amend some existing law, or to change the method of collecting small debts. It relates wholly to agriculture and commerce. Nevertheless, as seven-eighths of the people we represent feel a deep interest in the measure, and as the prosperity of the Province, in my opinion, is based on its encouragement, it shall not pass over without a few remarks.

I had hoped one of the first measures submitted for our consideration by the Provincial Government would have been the promotion of this branch of our industry and wealth. Learning from the right hon. gentleman representing the government that no measure would be proposed, I moved for an answer to the address of the late House of Assembly of Upper Canada, & referred that answer to a committee composed of members of the government as well as from both parts of the Province.

This committee recommends a continuance of the policy prayed for by an address of the Assembly of Upper Canada as far back as 1834, an extract of which I will read, merely to show that the subject was as well understood then as at the present moment. [Here the hon. gentleman read an extract from the address.] Although I had the honor of submitting that address, the idea was first suggested to me by Sir Henry Barnell in 1828, who, by a continued application for fourteen successive years, had obtained the removal of similar restrictions for his countrymen in Ireland; and I feel a confidence that similar perseverance will obtain the same result for our countrymen in Canada. One extract of the address alluded to relates to an alteration in our present system of addressing the Home Government, to the practical operation of which I beg to call the attention of every hon. member. If we

require an alteration in the duty, or the removal of any restriction on any article we consume, under the provisions of an Imperial Act, this House first addresses her Majesty; 2d, his Excellency the Governor General transmits it to the Colonial Secretary; 3d, this Minister orders it to be referred to the Lords Commissioners of the Board of Trade; if a favorable report, it is returned; 4th, if no objection in the Cabinet, a bill is prepared and submitted to the Imperial Parliament—a proceeding resorted to by any Ministry with great reluctance. When passing this fifth order some political question may arise in the mother country which places all Colonial interests in the shade, as witnessed in the last session with regard to the removal of the prohibition on tea; consequently, with the best possible intention on the part of the home government, these numerous restrictions create obstacles beyond the power of the government themselves to remove; so that our measures are either rejected or postponed from year to year, until either lost sight of or they become inoperative from some other cause. These objections are not confined to the late Province of Upper Canada. They are most forcibly put by Messrs. Young and Huntingdon, delegates from Nova Scotia. In their report of December 30, 1839, I find the following extract:

"The great variety of interests entrusted to our care induced us to adopt a course of proceeding novel, we believe, but without which we could have effected little or nothing. So soon as we discovered that the decision of many of our affairs did not depend on the Colonial Minister, we asked and obtained permission to communicate directly with the different Departments. The complicated negotiation for opening the free ports exemplifies the inoperation of the system. An ingenious though unfounded objection at any one of the four Departments to whom this question was subjected, would have been enough to destroy it, and at the very last it was on the point of suffering shipwreck at the Board of Customs. The wonder is, that not the measures of Colonial Assemblies are sometimes defeated, but that they are ever carried, where any one of influence or talent on the spot has an interest in opposing them. Addresses or resolutions of a House of Assembly are seldom of much account, and we are both convinced that we might have gone on for ten years to come without accomplishing any one of the measures that have been carried, or acquiring one tithe of the information and practical knowledge the house will now have as a guide to its future movements. If we are deeply concerned in any measure conflicting with a powerful interest, it is in vain for us to rest satisfied with an address."

The trade of the mother country as well as this Province requires this change. For instance, from our peculiar geographical position every article consumed in the western part of this Province is introduced from sea by the ports of Québec or New York, the latter being under the control of a government subject to an active, vigilant, enterprising people. The duty on any article is changed from time to time to promote any real or fancied interest. When the duty on any one article is thus reduced below the duty imposed at Québec, they derive all the profit on sales, transit, revenue &c., after which the article is smuggled and consumed in Canada, whereas if our Legislature had the power they could at any time lower the duty at the port of Québec, and increase or diminish it at our interior ports, so as to remove all inducement for smuggling, and confine the trade to our own ports, and through our own canals and waters. No desire was entertained to remove the existing power from the Imperial Parliament; it should remain there, for the mutual protection of the interest of our fellow subjects in Britain, our fellow colonists as well as our

own; the object is only to remove the unnecessary restrictions with which the present system is incumbered, the effect of which will make the neglect and inattention of which we now complain operate in our favor. The change proposed is to enable the Provincial Legislature to originate and pass a bill to make such alterations as may be necessary, send it through the same channel as at present, and after having laid on the table of the House of Lords and Commons thirty days, if not objected to, similar to the provisions of the 12d clause of Geo. III. and the present Union Act, it becomes a law. This proposition received the unanimous concurrence of the late House of Assembly of Upper Canada in 1835, it formed a prominent resolution in the instructions on the subject of the Union in 1839, as well as in the address of 1840, as shown by the following reference. [Here they were read.] And I hope it will not be lost sight of by the present Legislature, if not acted upon before another session. Since the address of 1840 events have arisen in the mother country to which we should not be inattentive. Public opinion appears to be nearly divided between the advocates of free trade and the colonial system. Our products are subject to the prevalence of either of those theories as they may chance to preponderate in the councils of the nation. From the published report of a committee of the House of Commons, appointed to enquire into the customs duties, it appears that a removal of all differential duties in our favor is recommended, and as an equivalent, free trade with all the world is proposed. Feeling a change in our present colonial policy to be inevitable, and that those differential duties could be removed with mutual benefit to the mother country and colony, I proposed the following resolutions for the consideration of the select committee:

1. Resolved, That this house views with alarm the charges to which the products of this Province are subject when admitted into the ports of Great Britain; and they believe that the general interest of her Majesty's subjects, both in the mother country, and this colony, would be best promoted by the introduction of some certain or fixed policy.

2. That all duties be removed on every article the growth and manufacture of Great Britain when admitted into the ports of Canada, on and after the year 1845, and that an application be made for the removal of all duties on every article the growth and produce of Canada when admitted into the ports of Great Britain.

3. That the deficiency arising from the remission of duties on articles from the mother country be supplied by imposing an immediate duty on articles imported from the United States and other foreign countries.

1. That in case her Majesty's Government consider it the interest of our fellow subjects in Britain to place us upon the same footing as foreigners—we have no alternative—our products excluded from the markets of the mother country and the ports of the United States, our efforts must be directed to the protection and encouragement of manufacturing establishments, to create a home market for the consumption of the products of the soil.

Although the committee approved both of the principle and the effect which would be produced, a majority decided against them. Some thought it too bold a measure, it might affect the revenue; that the home government would never sanction it, from those conflicting opinions, and particularly from the subject not being well understood. It is not my intention to press a discussion of the house the present session; but as I may bring them forward the ensuing, I will briefly state the grounds on which they should be sustained. First, the uncertainty which prevails respecting the future policy of the mother country; and the effects produced, re-

quire no argument. Public attention should be directed to that policy which would be most beneficial to both the mother country and colony. The second resolution advocates the removal of all duties. This is in the first place just; it is due to our fellow subjects in Britain. We have no right to ask a boon unless prepared to grant a similar one. It would place the inhabitants of Canada in a different position. Their application would be made on different grounds. Those differential duties are unsound in principle and uncertain in their operation. They create dissatisfaction among our fellow subjects in Britain as well as here. Although we are not wholly excluded from the markets of the mother country as foreigners, we are not admitted as subjects; we are made to feel our inferiority as colonists. Their removal in both countries would in effect establish a coasting trade between London in Britain and the shores of Lake Superior in Canada. It would be adopting the principles of free trade, in their fullest extent, between subjects of the same Empire, possessing the same common interest. It would make us British subjects in fact in place of name.—Secondly, it offers the most perfect security to the British nation at large. The voluntary surrender of all duty hereafter by the Provincial Legislature ensures to the British manufacturer the most extensive and the most certain demand for his fabrics on the globe. From the official returns made to the Board of Trade in 1836, it appears the value of British manufactures to Nova Scotia, New Brunswick and Canada was nearly double the value of exports to Russia, with a population of sixty millions, and exceeded by half a million the value of exports to France, Spain, Prussia, Sweden and Denmark, with upwards of sixty millions of people, averaging less than 8d. per head, whereas the people of British North America consume at the rate of 31s. 6d. per head. The British shipping or tonnage employed with France, Russia, Sweden, Denmark, Norway and United States, was 314,879, that of British North America 620,772. If this gives a true statement of the magnitude of the trade of this colony with a population of from two to three millions, what may be anticipated when a country already inhabited by millions becomes opened to the markets of the mother country, and which have only been checked by the most impolitic restrictions. To the agricultural interest—from the high price of labor which must continue in this new country for years to come, from the limited supply which can be furnished from our present population, the increase of which can scarcely keep pace with the increased demand for the mother country; from the high prices of freight, which, from the distance at which our agricultural country is situated in the interior, must always maintain. These natural causes afford the most certain protection to this important interest, to the shipping and maritime interest, for employment of vessels, and nursery of seamen on this extensive coast. Admitting all these advantages to arise to the general interest of the mother country, in what manner is the diminution of revenue to be supplied? This is a serious difficulty, because it is almost impossible to make any Minister understand our true position. In place of diminishing the revenue of the mother country it would greatly increase it.—For instance, the amount at present collected on timber is about £300,000, on grain and all other produce £100,000—not exceeding 4 to £500,000 at most. The home government have expressed their determination to maintain this colony at all hazards, they propose to expend £100,000 per year in erecting fortifications, in addition to the large annual expenditure for the maintenance of the Army and Navy, which may safely be computed at near one million of pounds. This expenditure creates an artifi-

cial state of trade between the two countries for the time being, the Canada merchant imports goods to that amount, and makes his payments in bills of exchange on the Treasury through the Commissariat (the money might as well be paid over to the manufacturer at once by the Treasurer, as far as revenue is concerned, as to make this circuitous route and pass through so many more hands.) By admitting the products of Canada into the ports of Britain free of duty and restrictions, the Army and Navy may safely be reduced to the peace establishment since the war of 1815; the country maintained by a far more powerful tie than troops and fortifications—the interests and affections of an entire people, and half a million saved to the revenue of the mother country. There are too many among us interested in continuing the deception practiced on the home government respecting the inhabitants of Canada, who have repeatedly proved their loyalty under the most discouraging circumstances. Let us establish prosperity by a liberal policy, and the people will see and feel the full value of the connection with the mother country, which will be visible to every man from the comparison he will make with the people adjoining us, and no one will doubt the certainty of maintaining the connection. Those who apprehend a diminution of our provincial revenue will find that in 1840 it exceeded £300,000. Returns of that year show:

1,722,410 lbs refined sugar,	1d.	£7,176 14s 2d
733,739 tea,	4d.	12,228 13 8
301,056 minots sa	4d.	6,002 5 0
Merchandise, 2½ per cent.		45,761 12 6

£71,169 5s 4d

The entire loss of this revenue would not be felt if economy formed a part of our system. To prove that this deficiency can be made up from foreign commerce, the following data is submitted. By the returns from the Welland Canal Company of produce passed that Canal in 1840, they show:

1,533,765 bushels of wheat,	
33,195 " corn,	
209,01½ barrels flour,	
16,621½ " pork and beef,	
1,515½ " whisky,	
3,399 kegs of butter, &c.	

It appears from the evidence before the committee of the House of Commons in 1836, that 5 bushels of wheat is consumed by each person: nearly double that amount would be required in America. Assuming the population in Canada to be 1,200,000, Army and Navy 40,000, seamen and transient persons 10,000, making 1,250,000: at 5 bushels to each person we would require 6,250,000 bushels. Taking the quantity from the American shores passing the Canal, alone, we have nearly two and a half millions; and assuming that the greater part of our products will be shipped to Great Britain, we may safely anticipate that quantity in future. The revenue thus derived from articles admitted from the United States, or foreign parts which compete with the like articles grown in Canada may be computed as follows: say,

500,000 bls flour (including corn, rye, and all grains) at 2s 6d.	£62,500 0 0
20,000 bls pork, at 10d.	10,000 0 0
500,000 lbs butter and cheese, 1d.	2,043 6 6

On articles of merchandize which do not compete with the grower or products in Canada, such as tea at 3d per lb., dry goods, hardware, glass, crockery, shoes, boots, leather, hats, drugs, medicine and all other articles as high a duty as even will be found to bear, without inducement to smuggle, from 10 to 20 per cent. on which we may assume, 25,456 13 6
On spirits, 9,556 15 6
On other articles, 15,899 18 0
This increase of duty will increase the va-

lue of the articles we grow, and diminish the value of the articles we consume. The opening of the St. Lawrence is of course indispensable to carry out the plan, which may be accomplished with all ease in two years. The ports of Oswego, Buffalo, Cleveland, Maumee and Chicago will import their supplies from Britain instead of New York, which for a population of three millions at this moment scattered over an extent of country bordering on the waters of the St. Lawrence and tributary streams from Quebec to Lakes Ontario, Erie, St. Clair, Michigan, Superior, and Huron, will insure a demand ample to yield a revenue from tolls alone on our canals, not only to pay the costs of construction, but the entire expense of the civil government of Canada, and this revenue will be collected on articles the growth and consumption of the neighboring country, which will feel it to be its interest to make this voluntary contribution.

If, on the other hand, the home government considers the interest of our fellow subject in Britain would be best promoted by excluding us from her markets, we have no alternative. Our products already excluded from the markets of the United States, by high duties; from all other southern markets, from the high northern latitude in which we find an outlet to the ocean, we can derive no possible advantage from a foreign market. Our only policy must be to encourage domestic manufactures, to create a home market for the products of our soil: in either case we need be under no apprehension; this great and noble country cannot be kept back much longer: all we require is some fixed policy by which the inhabitants may hereafter be governed. With a hope that the subject may be considered by those who have the power to influence the councils of the mother country, I will content myself with moving the adoption of the report.

EXTRAORDINARY MEETING OF THE ROYAL AGRICULTURAL SOCIETY IN ENGLAND.

The Royal Agricultural Society of England held its third annual meeting at Liverpool, commencing on Monday July 19, and continuing during the entire week. In the cattle yard there were exhibited five hundred head of stock of different kinds. At the ploughing match there were about thirty teams arrayed in full view, striving in the "glorious contest."

The exhibition of cattle, sheep, and swine, according to the English papers, surpassed all precedent.

The highest prize of thirty Sovereigns for the best short horned bull, was awarded to Thos. Bates.

The sum of ten Sovereigns was awarded to Mr. Etches for the best short-horn bull calf, nine months old, bred by himself.

The crowd of people on that occasion was immense. This will at once be inferred when it is known that \$9,200, or £2,300 were received at the doors.

A dinner was prepared at the "Pavilion," at which TWENTY-NINE HUNDRED guests were present.

TOBACCO.

Our friends in the western part of the Province who have been engaged in raising tobacco, or who are acquainted with the cultivation and manufacture of this "delicious herb," will confer a favor by sending to us a brief account of the extent to which it is cultivated in that part of the Province, the produce arising from it, and whether it can be

cultivated for exportation. We are told that during some years one thousand hogs-heads of tobacco have been sent to England, the produce of the western part of this Province. Is this so?

CURE FOR THE FOOT-ROT IN SHEEP.

This disease chiefly prevails in soft ground and in wet seasons. It is attended with great pain, and often the loss of the limb, and reduces the animal to a skeleton. By many it is thought that certain grounds communicate this disease to sheep. However this may be, we believe all shepherds and farmers agree in saying this disease is highly infectious.

This disease is not absolutely fatal, though greatly annoying and very painful, unless through sheer neglect, in this case the animal becomes utterly unable to seek its food, till finally, unable to crawl on its knees, it falls down and perishes.

Let all the infected parts of the hoof be carefully pared away, and the ulcerous matter be removed; then let the foot be washed with warm water and soap, and the surface be dressed with nuriate of antimony. If the disease has not become very bad, after cleaning and washing as above described, dip the foot in tar which has been boiled.

HYDATED IN SHEEP.

This disease by some is called "water in the head," but it has been shown that instead of "water in the head," it is produced by a parasitic animal called the hydrated; it is found in the brain of the animal. The sheep thus effected leans its head to one side, staggers, mopes by itself, shows great symptoms of distress, and finally dies. If situated at the surface of the brain, the part affected feels soft, and should be reached with a sharp instrument, an awl or a gimblet. If deep seated, the skull may be triplined. A small portion of the skull may be taken out, or cut so as to be raised up. The hydrated may then be extracted by pinchers; the blood absorbed by a sponge or linen cloth. Then the piece of skull should be replaced, and dressed with tar put upon a piece of leather, to keep the piece firm in its place, and prevent the rain from penetrating the head.

RURAL AND DOMESTIC ECONOMY.

To make oats prove doubly nutritious to horses, instead of grinding the Oats, break them in a mill; and the same quantity will prove doubly nutritious. Another method is—to boil the corn and give the horses the liquor in which it has been boiled; the result will be, that instead of six bushels in a crude state, three bushels so prepared will be found to answer, and to keep the animals in superior vigour and condition.

TO REAR CALVES.

The best method of rearing calves is to take them off the cows in three weeks or a month, and to give them nothing but a little fine hay, until they begin through necessity to pick a little—then cut some of the hay and mix it with bran or oats in a trough, and slice some turnips about the size of a crown

piece, which they will soon by licking learn to eat—after which give them turnips enough.

TO FATTEN POULTRY.

An experiment has lately been tried of feeding geese with turnips cut in small pieces like dice, but less in size, and put into a trough of water; with this food alone it was that six geese each when lean only weighing nine pounds, actually gained twenty pounds each in three weeks following.

Malt is an excellent food for geese and turkeys, grains are preferred for sake of economy, unless for immediate and rapid fattening. The grans should be boiled a-fresh.

Other cheap articles for fattening are oatmeal and treach barley-meal and milk, boiled oats, and ground malt. Corn before being given to fowls, should always be crushed and soaked in water, the food will thus go further and it will help digestion. Hens &p>

TO MAKE A SICK HORSE DRINK FREELY.

A horse has a very sweet tooth,—when he is unwell and wont drink, mix molasses or coarse brown sugar in the water: he will then drink freely.

How to extract the juice of the sugar maple for the making of sugar, without injuring the tree.

It has been customary to cut a gash in the tree from which the saccharine liquor flows, or to bore a hole and put in a seed, and when the liquor ceases to flow, plugging up the hole. Both these methods are injurious and tend to destroy the tree. In the latter case, the tree rots round the plug to some distance within.

The following method is proposed in lieu of these, and has been successfully practised in Kentucky.

At the proper season for the running of the liquor, open the ground, and select a tender root, about the size of one or two fingers; cut off the end and raise the root sufficiently out of the ground to turn the cut end into the receiver. It will emit the liquor from the wound as freely as by either of the other methods. When it ceases to flow, bury the root again, and the tree will not be hurt.

TO CORRESPONDENTS.

Our friend "A. Greeley," of Sophiasburgh, is informed that the list of subscriptions which he mentions was received the day before his communication arrived. It was mis-sent to Bath.

R. G. Beach is informed his request will be granted.

"A Farmer" is duly received.

"A Cultivator" will appear in the next number.

"Orchardist" will be attended to.

"Colonel Lynde" is informed that he is too late for this number.

CATTLE SHOW.

The Cattle Show for the county of Talbot will be held at Simcoe, on Saturday the 2d day of October next.

THE OX.—BREEDS.

Of the Ox kind, eight species are enumerated—they are the Aurochs, the Bison, the Musk ox, the Gayal, the Grunting ox, the Cape Buffalo, and the Domestic ox.

Loue says that four of these kinds have not been domesticated. The Gayal and the Grunting ox are cultivated only in Asia. Species, however, of the Buffalo and Domestic ox, have been introduced into Europe, and thence brought to America. The Buffalo breed is a native of Asia, and was introduced into Italy about Twelve hundred years ago, and is an important animal in the rural economy of that Country, at the present day.—He is also cultivated and used as a domestic animal in Greece and Hungary.

The Domestic Ox, is by far the most widely diffused over the Country, and decidedly the most valuable. At this time to determine his origin is impossible, because his domesticated state extends backward beyond all history or traditional account. His size and quality depend greatly on the kind and quantity of his food. We find him where food is poor and scanty, not but little above the size of the deer, but where it is rich and plenty, he attains a wonderful size. This species of the ox may be found in almost every latitude. He may be found from the burning plains of Equatorial regions, to the northern limits of Perennial Negitations, in all places subservient to convenience and wants of man. This breed has been crossed and recrossed, times without number, until the

varieties of this species are extremely numerous. The Shetland Islands possess a race of a character peculiar to that country, but appear to have strong resemblance to the ancient stock which inhabited Britain in its early settlements. A specimen of which may be seen at Chillingham and Lanash. The Shetland stock is good, but small; they are round, of good form, short horns, soft skin, and their flesh is finely marbled—they are remarkable for their early maturity, and form fine breeds by crossing. Wales, Scotland, and Ireland, have breeds peculiar to mountainous Countries,—they are strong and hardy, but of inferior size, especially those of the Highlands of Scotland and Wales.—When these are brought to the low-lands, improved by crops and fattened, they present fine specimens of the Domestic Ox. Among the varieties in Eng'and, we notice Lancashire, Conley, Daley, Durham, York, and Lincolnshire. The Teeswater, Holderness, or Dutch breeds, and also the Suffolk Downs and the Herefords. The breeds which chiefly abound in England are the Mountain breeds; The Longhorned breeds; The Short Horned breeds, the Devon, the Alderny, and the Herefords. In consequence of the importations of several of the latter breeds into this country, we have obtained an engraving of the Hereford Ox at considerable expense, expressly for this number of our paper which we give below, following which is an account of his origin, stock and general qualifications, by Mr. Loue.

ern breed; and this opinion is strengthened by the remark of a Herefordshire breeder, who says, about 80 years ago, a Mr. Gallier, of the Grange, procured a bull from Yorkshire with a white face, and wild horns, and bred from him: the produce became fashionable, and actually laid the foundation of the present famous breed—and hence the bald face of the Herefords, a breed which, conjoining beef and labor, stand on the summit, they fatten speedily at an early age, and will live and grow fat where others would scarcely subsist. It is however, universally admitted, that as milkers they are inferior to the Devons and many other breeds, while compared with these, they are shorter in the leg, higher and broader and heavier in the chine, wider and wider across the hips, and better covered with fat; the thigh fuller and more muscular, and the shoulders larger and coarser."

The weight of Mr. Westcar's Herefordshire prize Ox, 2192 lbs. the four quarters.

THE CANADIAN FARMER AND MECHANIC.

We learn from our partner Mr. Gould, that some people in the vicinity of Hamilton who he requested to become patrons of our paper, and who acknowledged they liked the paper much, dare not take it, or become subscribers, because they were afraid it might turn out to be a "Yankee humbug"—alleging that they had subscribed for a book to be published in some part of the U. States and paid in advance, and the Book never was printed. Poor souls! How wily they have grown. We should like to know what a "Yankee Book,"—a "Yankee humbug,"—"pay and no Book," has to do with our work? A paper published in the British Dominions, under British patronage, having a native born Englishman for its proprietor, not having a single subscriber in "Uncle Sam's" territories. Besides, there was *prima facie* evidence that the paper was published;—and we will assure our "friends in the West" that unless our establishment is destroyed by the "yankees in the taking of Canada," it will continue to be published throughout the year,—speculations to the contrary notwithstanding. If any one does not wish to patronize our paper, let them say so boldly, and refuse, then we will respect them, but we do not wish, because others have deceived them, to have the blame.

DISAPPOINTMENT.

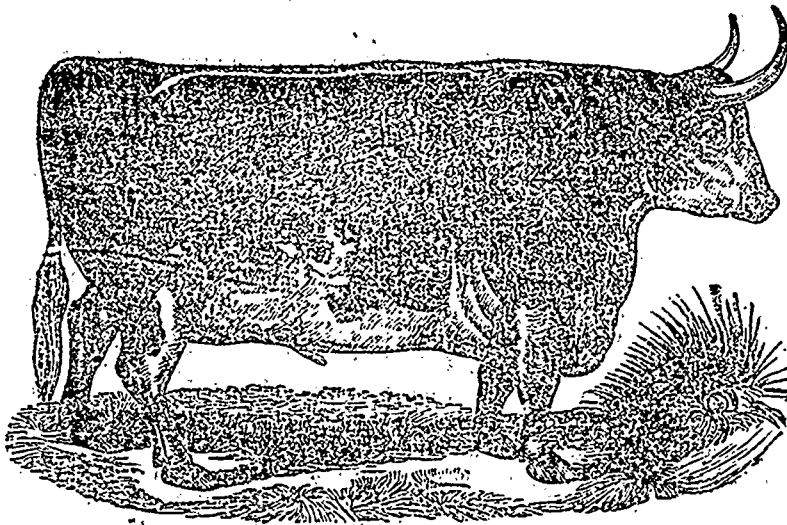
We intended to furnish our patrons with a beautifully engraved head, for the Farmer and Mechanic in the next No. We accordingly had one executed at the cost of 20 dollars, and to our great mortification and disappointment it did not fit—it was too large. We shall content ourselves with a plain heading for this volume, and make up the deficiency in other useful engravings.

Superintend in person as much of your business as practicable, and observe with a watchful eye the management of what is necessarily committed to the agency of others.

Despatch at once, if possible, whatever you may take in hand; if interrupted by some unavoidable interference, resume and finish it as soon as the obstruction is removed.

Do not assume to yourself more credit for what you do, than you are entitled to, rather be content with a little less, the public will always discover where merit is due.

Avoid display. Wear your learning, like your watch, in a private pocket, and don't pull it out to show that you have one, but if you are asked what o'clock it is, tell it.



Mr. MARSHALL's description of this famous breed of cattle, is as follows:

"The countenance, pleasant and open; the forehead broad; eye, full and lively; horns, bright, tapering, and spreading; chest, deep; bosom, broad and projecting forwards; shoulder bone, thin, flat, and no way protuberant in bone, but full and mellow in flesh; loin, broad; hips, wide and level with the spine; quarters long and wide; rump, even with the general level of the back; tail, slender; barrel, roomy, with carcass throughout deep and well spread; ribs, broad and standing close and flat on the outer surface, forming a smooth, even barrel, the hindmost large, and of full length; round bone, small and snug, and not prominent; thigh, clean and regularly tapering; legs, upright and short, with bone below the knee small; flank, large; twist, round and full; flesh, everywhere, mellow, soft, and yielding pleasantly to the touch, especially on the chine, shoulder, and

haired, bright and silky; color, a middle red, with bald face.

"The breeders of these cattle would do well to preserve the old blood in as great a state of purity as possible, for they possess one of the most valuable breeds of cattle in the world. The distinguishing qualities of the Hereford Ox are, the great produce of beef, quick feeding in proportion to their growth and size, with immense strength and speed in labor. With respect to the most profitable return in quantity of beef, it may be presumed that no breed in England can stand in competition with them, and they have accordingly been most successful at the annual prize cattle shows, commanding the first prize, alive or dead. A writer observes; "This breed, so celebrated for producing quantity of beef, seems to combine all other desirable qualities—length, depth, substance, rotundity, fineness, yet sufficiency of bone. The origin is supposed to have been a cross of the old Hereford and the North-

AGRICULTURE AN HONORABLE AND ANCIENT EMPLOYMENT.

Agriculture is the science which explains the art or means of cultivating and improving the earth, so as to render it the most fertile and productive; and to mark the difference between the two, we define *husbandry* to be the *mode* by which cultivation is effected.

We say agriculture is honorable because it gives in its results sustenance to all other classes of mankind in the civilized world. None so high, polished, or refined—none so low, rough or degraded, but depend upon and receive their subsistence from the fruits of agriculture. It then has the honor of sustaining all other classes, however refined or delicate. Agriculture is honorable because it is the most ancient profession. The sacred oracles inform us that immediately after the violation of the divine injunction the denunciation was, "Cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life." It is, moreover, added that "Thou shalt eat of the herb of the field." And to Cain it was said, in consequence of his wicked and fratricidal act, "When thou tillest the ground it shall not henceforth yield unto thee her increase." These facts show that agriculture was actually the first employment of the human race; and more than that, it can boast of greater honor and higher origin than any other human art—its antiquity is coeval with Adam, and its author is God himself.

Agriculture is not only honorable now, but was so five thousand years ago.—Then the first men of the first nations of the earth, Kings not excepted, were proud to be ranked as promoters of agriculture. All history teems with evidences of the fact. The Egyptian, Phenician, Carthaginian, Grecian, and Roman histories are filled with evidences of this fact. By all those nations it was practised with attention and fostered with care. Indeed, it was the hurthen of the poet's song—the subject of the legislator's care—the retirement of the successful General from the theatre of blood and strife—the Elysian fields of the learned student—the honor and delight of Sovereign majesty.

Igorant, indeed, must that man be of the histories of times past who does not know that Duijzanes, Homer, Epictetus, and Virgil, all direct the "enchanting witchery of song" over the bending corn, the purple vine, and the golden harvests of their time. Who does not know that Numa Pompilius, and the immortal Cato, the Censor, turned from the cares of State to the composition of works on agriculture? Did not the wise, the profound Seneca, captivated by the charms which the successful culture of the soil presented, quit the elevated and sublime study of the laws of nature, and devote his attention to the science of agriculture? Who does not know that twice when ancient Rome was in her greatest exigency, her Councils baffled, and her very wall invaded, that when all was terror and consternation in consideration of the wretched state to which they were reduced, that they all turned

toward the immortal *Cincinnatus*; and when the messenger was despatched to invite him to be chief counsel of the State, this illustrious patriot, this saviour of his country, was found at the HANDLE OF HIS PLOUGH! Are any ignorant that the custom has obtained during the last five hundred years that his Imperial Majesty the Emperor of the "Celestial Empire" annually, on the return of his birth-day, goes to the field and holds the plough as an example to his subjects, and as a token of his regard for agriculture?

Although agriculture was anciently carried to great perfection, and a high degree of honor bestowed on it, during the ages of darkness which immediately succeeded the dissolution of the Roman Empire, little or no attention was paid to agriculture. Wars and tournaments became the order of the day, and pleasure and chivalry absorbed the public attention, and the cultivation of the soil was left to the ignorant vassals of the great alone.

During many years agriculture was uncared for, left unprotected, and the art held in disgrace. But from the time of Leo X. learning began to revive in Europe, and science received again its votaries; from that time it became honorable as an art, and may now be considered as a branch of science of the first importance.

We have been led to make the above remarks with a view to show the eminent claims of agriculture on all classes of the community for honor and respectability; especially, as we know some who look down on agriculture and the agriculturist with a sort of contempt, that bespeak their ignorance of its claims to honor and precedence.

HEMP.

Hemp, *cannabis sativa*, is a vegetable of great value in commerce. Its outer coat is very flexible, and of great strength and durability, used chiefly for cordage and coarse cloths. It is supposed to have had its origin in Egypt, though at present it is generally diffused over the civilized world. Hemp grows luxuriantly in either warm or cold climates, though it flourishes best in a warm one. In this climate it grows from five to seven feet high, but in warmer climates from ten to twelve feet.

It is diœcious, that is, the male and female flowers are produced on different plants. The leaves of hemp are powerfully narcotic, and the seeds are nourishing, and produce oil which is used in many works of art. It prefers a rich vegetable soil, but it is not particular in the kind, it will grow in sand, clay, or peat soils, only let them be made rich with manure. And here let it be remarked that hemp will grow on the same spot year succeeding year without degeneracy, which I believe no other crop is known to do.

Preparation for hemp.—The land should be prepared in the same manner as for flax, but with this difference, that hemp may precede or follow corn, but flax may not, the reason being plainly this, that flax is known

on the contrary, will smother and run out all other plants. This furnishes the reason why grass seeds cannot be sown with hemp—they would dwindle and die under its thick foliage. David Low, F. R. S., says that "hemp may be introduced into the rotation of crops in the manner following: 1, fallow or green crop; 2, wheat; 3, sown grasses; 4, hemp; 5, oats. Or, 1, fallow, manured; 2, wheat or other crop; 3, sown grasses; 4, oats, 5, hemp manured; 6, corn crop. But if the case require it, hemp may succeed hemp, provided always there be abundance of manure once in two or three years.

The land designed for hemp requires to be ploughed in autumn, if it be late, to receive the influence of the frost, and at least two ploughings in the spring, so as to pulverize the soil as much as possible, and free it from any remaining roots of the last crop.

Time to sow hemp.—It will not do to sow hemp as early as you do flax in this country, as the late spring frosts will be likely to affect it. But it will be safe to sow in this climate about the 10th or 14th of May. Great care must be taken that the seeds be fresh. An indication of fresh seeds is, that they be of a bright color, plump and heavy.

Quantity of seed to be sown to the acre should not be less than two bushels, and not more than three. The best method of sowing hemp is broadcast, though we know many who sow it in drills, which method undoubtedly possesses the advantage of tillage, which, unless the land is free from weeds, is a great one, and also of freely admitting the air, which are valuable considerations. If the plant be drilled, the distance between the rows may be from twenty-eight to thirty-two inches. The cultivator may be used as well as the hoe. After the first hoeing about six weeks should elapse, then another hoeing should follow, which will be all the cultivation it will require until fall, when it will be gathered in. Though it may not be improper to observe (unless it should give encouragement to idleness,) that in some districts in England all the culture it gets is merely to pull up the larger weeds, and trust to the rapid growth of the hemp to outstrip all the other weeds. But it must be remembered that in such cases the land is very clean when the seeds are sown.

Mode of gathering.—The hemp after hoeing is allowed to stand until fall, when it is pulled up. But the circumstance of the male and female flowers being on different plants gives rise to the peculiarity of the method of treatment which exists in the case of no other of our cultivated plants. The distinction is this, that the male plants may be known from the female by the male producing a great quantity of flowers. These, after they have stood long enough to discharge their pollen, are pulled up, the female plants being allowed to stand several weeks longer to ripen their seeds. Thus there are two harvests of hemp, one about six weeks earlier than the other. This is the case where the object is to save seeds. At the time of the first pulling the male plants are easily known by their yellow color and faded


when the capsules are brownish and the leaves faded.

The foregoing is the proper mode of preparing the land, and sowing, and tilling, and harvesting the hemp. In our next we will treat of the proper method of preparing it for the market. Before we quit the subject for this number of our paper, permit us to say a word to our Canadian friends in the lower part of the Province.

It is notorious that in spite of all the efforts and precaution which have been used, wheat has proved, to a great extent, a failure in that part of Canada formerly called Lower Canada. Either from bad culture or from the ravages of insects, disastrous effects have been produced. The farmer then finds that his interests will be advanced by raising other crops—crops which may not be so liable to destruction by the flies and other insects. Allow us to ask, would not the introduction and extensive cultivation of hemp in your section of the Province be the most valuable crop you can raise? Hemp being a crop that may be sown late and gathered early, is well suited to the northern climate of Lower Canada, and is a crop which no insect will attack, nor is there any danger of a failure of a crop, if the land is properly prepared and timely sowed with good seed. A tolerable yield may be estimated at from thirty to forty stone of the rough fibre per acre. Of seed, there will be from ten to twelve bushels per acre.

While England remains a commercial nation, which she probably ever will, the supply of hemp for the manufacture of cordage and canvass for shipping will be immense; so that should you produce hemp in quantities, there will be no danger of overstocking the market, as with grain, but a fair price and ready sale will always be had at your own ports.

We are informed that the Government is so far favorable to the introduction of hemp into this Province that they have offered to erect a mill for the breaking and manufacturing hemp in this country, provided the farmers will go on to raise it. We hope the few remarks here made on this matter will cause some of the farmers in the lower part of Canada, specially in those districts where they cannot raise wheat, to take the subject into consideration, and they shall hear further from us at another time.

Remember,  the best seeds are brought from Riga.

One of the glaring faults in the farming of this portion of the province is, that almost every man undertakes the management of more land than he has the means of cultivating with advantage, either to himself or to the public. It is not to be understood from this that the farms are too large—by no means. When once a sufficient knowledge of their professed pursuit has been acquired by the country population to enable them to regulate on a system what is now guided by mere chance, or by the caprice of the wholly uninformed, a certain, and even a considerable breadth of land is requisite to do it to the best advantage. Looking therefore prospectively to the general introduction of some approved system of agriculture, we have no objection to make as to the size of the farms; but so long as any man has not the

requisite means of keeping in daily operation a proportionate establishment, and of commanding on the instant the additional help that shall enable him to mow, reap, harvest, and house his crop, he will better fulfil his duty as a member of the community, and will more surely advance his own interest, by cultivating as it ought to be five acres, than by destroying 50—Farming cannot, any more than any other business, be carried on to any advantage unless with a proportionate capital embarked—and in England no one would think of letting a farm to any man who, besides sundry implements and cattle, has not at his command, in money, three years rent. It is quite notorious that a farm which does not enrich a man will soon ruin him; and a bad farmer, besides ruining himself, spoils a farm, and entails a heavy drain on the capital of whoever succeeds him.

The doctrine then that we would inculcate is, possess as much as you will, but do not attempt to cultivate more than you can. We last autumn met, in the course of our agricultural reading, with the following instance recorded on indubitable authority, of what may be done with one acre of land, well attended to.

Mr. W. W. Bridgeman raised in the year 1810, one hundred and sixty bushels of Corn, each weighing 41 lbs. 2 oz., and twenty-four bushels of Potatoes, on one acre of land. Of the culture of this crop, Mr. B. says:—

"The manner in which I prepared my land for this abundant harvest was as follows: I put on it 22 loads of long manure, made in an unfloored stable. I planted the corn the first week in May, and hoed it the first time the last week of the same month, when I found that the wire worm was making great ravages among it. I slaked a bushel of stone lime and put on the corn. In a few days I perceived that it had changed its color. In ten days I put on six bushels of ashes, which is all the process which I pursued."

But of all the crops a farmer can raise, none will require such good protection as this same Indian Corn, for cattle will get at it wherever the fence will permit, and in some parts the article of fencing, that is the material for deal-fencing is become scarce, and without it is to be feared any serious consideration or practical experiment on the part of our farmers in regard to a living substitute.

In the neighbourhood of Montreal, some hedges have been planted, and a notion was at first imbibed that thorn plants must be procured from England. The national prejudice that first suggested this idea may be pardoned, but the wilful blindness of the man who shall persevere in it is without excuse. The native plants, besides being acclimated, are of much quicker growth, and the branch or shoot is individually stronger, besides being armed with the most powerful thorns, and when subjected to the process of trimming they thicken to the heart's content, and present a living wall. The Americans have been compelled in many districts to turn their serious attention to the cultivation of living fences. They seem to have ascertained that in raising thorns the seed should not be sown on the line of the fence, but in the seed beds, which is the prevalent practice in England, though we have seen the haws sown on the line of the intended fence, and do well. The Americans, however, do not seem to have discovered that when thorns might with difficulty be procured, Beech is a very good substitute. In France, generally, there are very few fences—but in that part of Normandy where they breed a great many horses, hedges are in plenty, and capital. These are all made of Beech, which when clipped, thickens quicker than almost any other plant, when not shooting we used to find them provokingly impervious.

It is long since men of reflection and calculation affirmed the truth that the productive industry of a country is the great source of

its wealth; but this axiom has, as long, been astonishingly disregarded, and has only, latterly produced that general conviction which has elicited an almost common consent. Events of almost daily occurrence, and in our own time, have established in Europe, and in America too, that there is no branch of industry with which national prosperity is so intimately connected, or on which it can be said to be so dependent, as upon agriculture. The recent deficiency of one year's crop in Great Britain sufficed to hamper the money transactions and to alter the commercial relations between widely distant countries which were thought to be independent of each other, and has acted upon the condition of their inhabitants to an extent that equals the effect of several years actual warfare. It is clear then, that as the world advances in civilization with the rapid strides of these our days, agriculture must exercise an influence hitherto unknown and unsuspected, and which must prove beneficial or prejudicial according to the state of its interests, be they flourishing or depressed. Hence the earnestness with which the greatest minds are now-a-days applied to the study of those interests, and the reason why they are as duly appreciated by the Statesman and the Financier, as they are by the most intelligent men in the ordinary walks of life. Hence too the reason why here, in Canada, the recent measure of the Union which will give the long impetus towards civilization, should also be marked as the epoch of systematic cultivation, and agricultural improvement.

Circumstances, as it happens, are just now peculiarly favorable for the introduction of a system where none has hitherto been observed; and it remains to be seen whether these circumstances will be taken advantage of; a contingency which is neither dependent on the Governor General, nor on the British Government, nor yet on the Colonial Government—but on the unwearied and simultaneous exertion of every man of intelligence, property and influence throughout the country. For this cause let the bigotted partisan break the shackles of his political adhesion to men who are disappointed in ambitious speculations, and are the sworn and reckless opponents of every measure from which they cannot derive a disproportioned and unmerited advantage; let the mis-called patriot adjure his treason, and the demagogue his visionary delusion; and let them leave the government of the country to those able hands on which it may more safely as well as properly be dependent. If thus renouncing their errors and their crimes, and combining for a good object, they shall accomplish the reform which the writer is here contemplating they will have established a claim to honor and distinction which the whole world will cheerfully accord, and which can never, ought never, must never be attendant upon the prosecution of their present heartless course.

The unhappy introduction, and the awful multiplication of the insect which has for many years destroyed the wheat crops of Lower Canada, has inflicted upon the French population of that portion of the Province the severest privation to which they could well have been subjected—they can no longer eat wheaten bread. Had they been a people of a more energetic character we should long since have heard of parochial or sectional subscriptions for the purpose of procuring from the overflowing granaries of the Western States the perpetuation of a luxury which to them had become, from an uninterrupted use of more than seventy years, almost a necessary of life. But no—they bowed to this inscrutable dispensation, and set themselves to study and to cultivate substitutes. And if in the infliction, so in the submission, we see the finger of Providence, which has thus compelled a deviation from past practice founded in ignorance, and

maintained by prejudice against the united remonstrance of migrant and agriculturalists, and the combined experience of the whole world.

Whether the French Canadians shall continue, as at present, to make bread from Rye and even Barley, or whether they shall adopt the cultivation of Fall-sown wheat, instead of the bearded, spring wheats, now ascertained to be a useless waste of land, of seed and of labor, an important change must take place in their husbandry; and their great and long cherished error being abandoned, and the French agricultural population driven to contemplate a change, now is the time, before they fall into any fresh error, for these who boast of public spirit, and pretend to patriotism to profit by the favorable state of mind which necessity has produced, and kindly assisting them with advice and instruction while laboring under their existing doubts, to fix them in some safe and profitable system, suited to the soil and locality. The humble endeavor of the *Transcript* shall not be wanting, to excite that zealous exertion which, while it is calculated to wean the minds of the ignorant from the pursuit of political theories as much beyond their powers of comprehension as they are beyond the possibility of accomplishment, is equally calculated to promote their solid comfort and advantage. We do not pretend to recommend indulgence to public measures, or to the political rights that confessedly belong to every free people; but we cannot admit that any people which is the dupe of the presumptuous and designing is free; and we certainly think that while competent statesmen are seeking to unravel the tangled interests of this colony, and to arrange such outlets for her productions as may also prove the inlets for an increasing commerce, the people of Canada can neither be more honorably, or more advantageously employed than in cultivating a surplus of those productions; on the barter of which her future prosperity must depend.

The writer of this article has long been convinced that if the Canadians would adopt any system of agriculture under which more live stock was raised and fed, there would be a larger quantity of good grain produced than at present, though upon a considerably smaller breadth of ground. He likewise feels confident that the public interest would be much promoted by raising fewer and better horses. The command of manure, which under such a system farmers would possess, would enable them to have every year a given number of acres in proper condition for wheat; and unquestionably Fall wheat properly laid down would produce twice the weight per acre that has for a great many years been realized during the cultivation of Spring wheat exclusively.

While it is so absurd as to be almost incredible, it is nevertheless true, that even now, when the whole French population of the lower section of the province are making Oatmeal cakes, eating Oatmeal porridge, with an occasional loaf of Barley or Rye bread, some of the old country farmers are crying out for prohibitory duties upon American wheat. The legislature, luckily, appears too wise, even if a little dilatory, to be the dupes of such a protecting duty for wheat does not exist, but we must say for these miscalculating farmers that they do not deserve ever to see another wheaten loaf upon their table. — *Weekly Transcript*.

GOOD OFFER.

Any person who will obtain for us fifty subscribers and remit to us the money shall receive, in addition to present rates, Notice at the bottom of the sixteenth page, one volume of the *Canadian Farmer & Mechanic* nicely bound in calf, at the end of the year.

LENNOX AND ADDINGTON CATTLE SHOW.

At a Meeting of the Directors of the Agricultural Society for the Counties of Lennox and Addington, held at Mr. John Gordauiers's Inn, on Thursday the 18th Sept., Peter Davy, Esq. was called to the chair, and Edward Sluwall, Esq. requested to act as Secretary. It was

Resolved; 1st, That our annual Cattle Show be held at Bath on Wednesday the 20th October next.

Resolved, 2nd. That the sum of Forty pounds currency be laid out on Premiums to be apportioned as follows, viz:

1ST CLASS, HORSES.

The best Covering Stallion, Stallion owned in the Counties and having moved there the present year.	£2 0 0
Second best,	1 10 0
Third, do.	1 0 0
First best Mare with Colt of 1841.	1 5 0
Second best,	1 0 0
Third do.	0 15 0
First best Colt of 1840.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

2ND CLASS, HORNED CATTLE.

First best Bull owned in the Counties.	1 10 0
Second do.	1 5 0
Third do.	1 0 0
First best Bull Calf of 1841.	0 15 0
Second do.	0 10 0
Third do.	0 5 0
First best Bull of 1840.	1 0 0
Second do.	0 15 0
Third do.	0 10 0
First best Milch Cow.	1 0 0
Second do.	0 15 0
Third do.	0 10 0
First best 4 Calves, } Heifers or Bulls.	1 0 0
Second do.	0 15 0
Third do.	0 10 0
First best pair of Heifers of 1841.	1 15 0
Second best Heifer Calves of 1841.	0 10 0
Third do.	0 5 0
First best pair of Heifers of 1840.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

3RD CLASS, SWINE.

First best Boar not exceeding 3 years old.	0 15 0
Second do.	0 10 0
Third do.	0 5 0
First best Brood Sow.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

4TH CLASS, SHEEP.

First best Ram.	1 0 0
Second do.	0 15 0
Third do.	0 10 0
First best 6 Yews,	1 0 0
Second do.	0 15 0
Third do.	0 10 0
First best 6 yew Lambs or tups.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

5TH CLASS, BUTTER AND CHEESE.

First best lot of Butter not less than 20 lbs.	0 15 0
Second do.	0 10 0
Third do.	0 5 0
First best Cheese not less than 15 lbs.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

4TH CLASS, FACTORY CLOTH.

First best piece of Factory Satinett, not less than 20 yards.	1 0 0
Second do.	0 15 0
Third do.	0 10 0

7TH CLASS, IMPROVED IMPLEMENTS.

First best Plough, (Improved Patent.)	0 15 0
Second do.	0 10 0
Third do.	0 5 0

First best Harrow.	0 15 0
Second do.	0 10 0
Third do.	0 5 0

Resolved, That suitable enclosures be provided for the accommodation of those who bring animals to be exhibited for premiums, and that all persons obtaining prizes shall pay back 1/2 on the pound for the benefit of the Society.

The property offered for premiums shall belong bonafide to the person offering it, and such person to be a member of the Society, else no premiums will be awarded.

The Members of the Society will meet at Shibley's Inn, at Bath, at 11 o'clock precisely, on the morning of the Show, and proceed to choose fit and proper persons for judges of Stock, &c. A general and punctual attendance of members is particularly requested.

PETER DAVY.

Chairman.

A Ploughing match will take place on the Farm of Peter Davy, Esq., on the 20th October next, where the President and Directors are requested to assemble to make their arrangements necessary to the prizes.

No person will be allowed to compete but such as plough with their own Team and Plough, each plough not to be worked with more than one span of horses.

P. D.

FAIRS AND CATTLE SHOWS IN THE UNITED STATES.

The Cattle Show and Fair of the New York State Agricultural Society will be held in the city of Syracuse, on the 29th and 30th days of September. The Onondaga Cattle Show and Fair will be held at the same time and place.

The Maryland State Agricultural Society will hold its session at Ellicott's Mills on Wednesday the 15th inst.

The Cayuga county Agricultural Society will hold its Fair on the second Wednesday and following Thursday in October next.

The Columbia county Agricultural Society will hold its annual Cattle Show and Fair at Hudson, on the second Tuesday in October next.

MANURE AND ITS PROFITABLE APPLICATION.

Every farmer should study how to apply his manure most profitably:

It is a well known fact that when the vital principle ceases to exist in organized bodies, that decomposition soon commences, and they return again to those elements of which they were originally composed. This is the case with all animal and vegetable substances, and the materials into which they are resolved by decomposition is manure, or the food which is applied to a new generation of plants, in order to promote their growth and expansion; and without this description of food they would perish and die; and in proportion to the quantity of it placed within their reach, adapted to their powers of consumption according to their nature and organization, will be their healthy and perfect development.

It has long been the practice of many to feed plants as some feed animals, without half as much as is necessary and proper to keep them in a full and thriving condition; and the same result is observable in both cases, there is much trouble and no profit; the end is disappointment and loss, both of time and money. The observing and intelligent have long known this, and have adopted the proper remedy of full feeding both of plants and animals, as the only course which ends in a remunerating profit.

It has long been a question with many whether it was best to apply the food to plants in a decomposed state, or to apply it before decomposition had far advanced, and

It to proceed on the spot where it was wanted, and to trust to the falling rain to dilute it near, or on the surface of the ground, and convey it to the hungry organs which were waiting to receive it.

Manure which remains in bulk in barn yards during the summer months, becomes rotten and loses much of its nutritious properties by being frequently washed with drenching rains, and when it is spread on the soil and ploughed in deeply in the autumn, the falling rains carry much of the soluble parts to a much greater depth and place it beyond the reach of the absorbing fibres of the plants, so that some estimate, from this course of procedure, a loss of one half, and others suppose that it exceeds this estimate.

Now if such a rotation of crops can be suggested as will admit of the manure in its partially decomposed state in the spring, being spread on the soil before it has lost its nutritious qualities, and then be kept on or near the surface of the ground, so that the decomposed portions as they are successively produced, can be dissolved and carried to the roots of the plants, where it is needed gradually during the season, and not all at once; it is supposed a great advantage would result from the adoption of such a course. It is believed that this mode of application being made to the Indian corn crop would generally double its produce, but some difficulty may arise in adapting a suitable rotation, so as on the whole to increase the aggregate result of the series of crops that follow in succession. Should any of those who may read this be enabled to suggest a routine of crops compatible with the plan of putting the manure on the Indian corn ground in the spring, so as to make a consistent profitable rotation in the whole, he would much oblige one who has long regretted the great loss of manure during its summer decomposition in the barn yard.—*Far. Cabinet.*

HORSES AND OXEN FOR TEAMS.

I have observed that in many places horses have taken the place of oxen, are used for the purpose of farming, introduced, I suppose, under the impression that they are better adapted to the service, and more profitable to the owner. I am not about to contradict the truth of, this supposition, or prove that a man cannot plough and harrow as fast and as well with horses as with oxen, but shall merely mention a few of the comparative merits and demerits of these animals, that may determine which is most useful and profitable.

The horse, when put to service, must have arrived at his full strength and value, consequently there is no gain on the capital invested, besides what arises from service, and as he is good for nothing at the end of service, there will be a discount at last equal to the amount of his cost.

The ox may submit to the yoke when young and partly remunerate his owner for cost of keeping while obtaining his growth, when he may be sold to the butcher, and the money invested in younger stock, thus there will be a constant gain in growth while the service will be sufficient for the purposes of farming. The horse, if kept on hay alone, must have his masticating powers in almost perpetual motion; the ox reserves some of his time for rumination, hence there may be a difference in the cost of keeping. The cost of equipping a horse for the regular farm service is greater than that of an ox, and more time is required to put on and off these equipments.—In shoeing, the difference of cost is in favor of the ox, as also it is in the quality of the manure they make. The ox has an intrinsic value arising from the good qualities of his flesh and skin, the one being good for food, the other for leather, whereas very little can be made out of a dead horse. For some kinds of farm service the horse is preferable to the ox, such as light ploughing and harrowing, but for carting, hauling stones, and other heavy work he is not so good. He

is better adapted to the road service, and is useful for milling, marketing, and *meeting*; he also may be used journeying, and visiting. —It is convenient, and, perhaps, profitable to keep both these useful animals as well as cows, sheep, and other stock, but when the number of horses greatly exceed those of oxen, or even cows, it is time to begin to count the cost, which may be done by opening account current with each animal, keeping debt and credit, or what you give or receive from each.—*Maine Farmer.*

RAIN WATER CISTERNS.

The importance of having a supply of water in the barn yard for cattle is a subject which cannot be too strongly impressed on the minds of farmers. The quantity of manure lost by driving stock twice a day to water, is much greater than is generally supposed, for the droppings are most copiously deposited immediately after drinking. In many situations water is easily procured from wells of moderate depth and at little cost, compared with the benefit derived; and in all situations cisterns may be built, and the water from roofs conveyed into them, at a very small expense, when contrasted with the advantage resulting from them. In this climate the average fall of rain annually is about three feet, which furnishes about twenty gallons of water for each square foot of surface during the year, and from these data it is easy to estimate the quantity which may be collected from a building of any given dimensions. A cistern will cost from twenty-five to fifty dollars, built after the best manner, and the best is always the cheapest in the end; the interest on this is from 1.50 to 3 dollars a year, being a sum far below the expense and trouble of taking the cattle to water, without reference to the great loss of manure.

The following table shows about the number of gallons of water contained in cisterns of the following diameter in the clear for each foot of their depth, viz:

Diameter.	Gallons.
5 feet	120
6 feet	170
7 feet	230
8 feet	308
9 feet	390
10 feet	480

By multiplying the number of gallons here stated by the depth of the cistern in feet, the product will be the number of gallons it will contain sufficiently near for any practical purpose.

The circular form is preferable to any other for a cistern, as it possesses greater strength with less materials; the principle of the arch keeping the parts combined together. Where they are constructed with brick, the width of a brick is sufficient for the thickness of the wall; where stone is used, the wall must necessarily be thicker, but the main matter is to have the mortar well made of the best clean sand, and not too much lime, and great care must be taken that all the interspaces are well filled in, so as not to admit the water to escape. A coat of plastering well put on, of common mortar made in the best manner, with no more lime than is absolutely necessary to coat the sand and cause it to work evenly, has been found to be a complete protection against leakage, but the whole should be executed in a masterly manner by a careful, conscientious workman; otherwise, you will have a broken cistern, holding no water.—Those who are disposed to incur a little more expense, may procure Roman cement, or water lime, such as is much used in the construction of locks for artificial navigation for plastering, and when used, it should not be put on thick, but as evenly as possible; and in the use of this article a second coat should never be applied over the first; all that is done should be done at once; it will not adhere well, and would soon peel off, and endanger the stability of the coat over which it is applied.

Cisterns have been in use from the earliest periods of which we have any historical account, and in modern times many have been constructed, which have been long in use; and which their owners would not dispense with for ten times their original cost; therefore let those who are destitute of other means of furnishing water to their stock in their barn yards, proceed at as early a period of time as practicable, to construct a cistern in the best manner, and in two years the saving of time, trouble and manure, will repay the cost.

TILLING THE EARTH.

In tilling the earth, some people go upon the same principle that regulates their business intercourse with men. They must be sure to get the advantage of the trade; and if this cannot be secured without, they must cheat and deceive the person with whom they deal. And they think to practice the same artifice upon old mother Earth. You will see them on their grounds in the spring, as sly as dogs, apparently calculating that Earth has forgotten the exhausting crops that were taken from her the last year—perhaps they will give a sprinkling of manure, and throw it on so as to make the Earth think there is a noble lot of it. Well, they go to work. But the Earth won't be cheated. She will reward every man according to his works, and *tell the truth in the autumn.* You cannot get the advantage of her, as you can with human customers.—Treat her well, and she will reward your expenditure and toil; but attempt to cheat her and she will make you sorry for it when harvest comes.

CURD.

Curd, which may be separated from cream-milk by rennets, has many of the properties of coagulated albumen. It is white and solid, and when all the moisture is squeezed out, it has a good deal of brittleness. Curd is used in making cheese, and the cheese is the better the more it contains of cream, or of that oily matter which constitutes cream. It is known to cheese-makers, that the goodness of it depends in a great measure on the manner of separating the whey from the curd. If the milk be much heated—the coagulum broken in pieces, and the whey forcibly separated, the cheese is scarcely good for anything; but the whey is delicious and butter may be obtained from it in considerable quantity. Whereas, if the milk be not too much heated, (about 100° is sufficient) if the coagulum be allowed to remain unbroken and the whey be separated by very slow and gentle pressure, the cheese is good.

A CHAPTER ON FLOWERS.—Flowers, of all created things, are the most innocent and simple, and most superbly complex; playthings for children, ornaments for the grave, and the companion of the cold corpse in the coffin. Flowers, beloved by the wandering idiot, and studied by the deep-thinking man of science! Flowers, that of perishing things are most perishing, yet of all earthly things are the most heavenly. Flowers, that unceasingly expand to heaven their grateful, and, to man, their cheerful looks—partners of human joy, smoothers of human sorrow; fit emblems of the victor's triumph, of the young bride's blushes; welcome to crowded halls, and graceful upon solitary graves.—Flowers are in the volume of nature, what the expression "God is love" is in the volume of revelation. What a dreary desolate place would be a world without a flower! It would be a face without a smile—a feast without a welcome. Are not the flowers the stars of the earth, and are not flowers the stars of heaven? One cannot look closely at a flower without loving it. They are emblems and manifestations of God's love to the creation, and they are the means and the ministrations of man's love to his fellow creatures; for they first awaken in his mind a sense of the beautiful and the good.

ON THE RECIPROCAL INFLUENCE OF THE STOCK AND ITS GRAFT.

By James Mease, M. D.

The opinion that the fruit produced by a graft is not in the least affected by the stock in which the graft is inserted, has long been held as an axiom in vegetable physiology, merely on the authority of Lord Bacon, who lays it down, "that the scion overruleth the stock quite, and that the stock is but passive only, and giveth aliment, but no motion to the graft." In other words, he considers the stock merely as a source of nourishment, to be communicated to the scion in the vessels of which it is to be decomposed or digested, and made to produce fruit in the time natural to the tree whence the scion is taken, and according to its peculiar kind.

I think I shall make it appear, that although as a general rule, the principle is correct which assigns a passive agency to the stock, yet on many occasions it has a decided influence not only on the vigor or fertility of the grafts, but also on the nature and quality of the fruit, and that a scion even affects the production of the stock.

1. The first proof I had on this subject, was given to me by the late Joseph Cooper, of New Jersey, an experienced and observing farmer and horticulturist, who in the year 1801, showed me two trees, both ingrafted with the same kind of apple by himself, and at the same time. The stock of one was the Campfield apple, a native and excellent fruit, and that of the other was an early apple, and in both instances, the fruit produced by the graft partook of the flavor peculiar to the fruits of the stocks.

Mr. Cooper afterwards communicated to me in writing, his remarks on this subject, as follows: "I have in numerous instances seen the stock have great influence on the fruit grafted thereon, in respect to bearing, size, and flavor, and also on the longevity of the tree, particularly in the instance of a number of Vandevere apple trees, the fruit of which was so subject to the bitter rot, as to be of little use. They were ingrafted fifty years ago, previously to 1801, and ever since, those of them which had tops composed of several different kinds, though they continue to be more productive of fruit than any others in my orchard, yet are subject to the bitter rot, the original and well known disease of the fruit of the stock. I have had frequent opportunities of observing the same circumstance, in consequence of my receiving many scions from my friends, which, after bearing, I ingrafted, and the fruit uniformly partook in some degree of the qualities of the former, even in their disposition to bear annually or biennially.

2. A correspondent of Mr. BRADLEY. (Mr. FAIRCHILD) budded a passion-tree, of which the leaves were spotted with yellow, into one that bore long fruit; and though the buds did not take, in the course of two weeks, yellow spots began to show themselves about three feet above the inoculation, and in a short time afterwards, such spots appeared on a shoot which came out of the earth from another part of the plant. The publication of these facts is a proof of the candor of Bradley, inasmuch as they opposed his theory, which was similar to that of Lord Bacon, for he says, "the scion preserves its natural purity and instinct, though it be fed and nourished by a mere crab."

3. The late celebrated English gardener, WILLIAM SPEECHLY, regarded the stock as overruling the scion, and in confirmation of this opinion says, that "whenever a cutting is taken from an aged tree in a state of decay, and ingrafted upon a thriving stock immediately from seed, it may with propriety be considered as a renovation from decrepit old age, to youth and healthful vigor." In his treatise on the culture of the vine, he adds, that "he had improved many kinds of vines, by engrafting those which have generally weak wood on plants that are stronger."

1. THOMAS HITE, another well known English gardener and writer, says, "that the future vigor of trees depends equally upon the soil and stock, and that the taste of the fruit may also be improved by proper stocks." Hence he gives very particular directions as to the selection of stocks for various fruits, and illustrates the necessity of attention to them, by stating the fact, that "if two nonpareil branches are grafted, the one upon a paradise stock, the other upon a crab, and both planted in the same soil and situation, that upon the crab stock will produce fruit so sour and ill tasted, in comparison to the fruit of the other, that if a person should taste them both in the dark, he could not imagine them to be the same fruit."

"I have also," he says, "seen very great difference between the fruit of these trees, when one was grafted upon a paradise, and the other upon a codlin stock; for though the juice were so far changed by passing through the buds and pores of nonpareil branches, as to produce fruit alike in shape, yet their tastes were different, and somewhat resembled the taste of that fruit which the stock would have naturally produced. The juices of the crab and codlin are known to be very acid, but the juice of the natural fruit of the paradise is sweet." He adds, "as most kinds of apricots when fully ripe, are rather too sweet and mealy, so when they are budded upon any kind of plum stocks which have that sort of juice, their fruit becomes more mealy and sweet than those which are budded upon stocks, whose juices were more acid."

5. Mr. THOMAS A. KNIGHT, President of Horticultural Society of London, in a paper "on the effects of different kinds of grafting" observes, that "the form and habit which a peach tree of any given variety is disposed to assume, he has found to be very much influenced by the kind of stock upon which it is budded: if upon the plum or apricot stock, its stem will increase in size considerably as its base approaches the stock, and it will emit many lateral shoots: when on the contrary a peach is budded upon the stock of a cultivated variety of its own species, the stock and the budded stem remain very nearly of the same size, as well above as below the point of their junction. No obstacle is presented to the ascent or descent of the sap, which appears to ascend more abundantly to the summit of the tree." He also gives the following striking fact to demonstrate the influence of the stock upon the graft inserted in it. The "Moor Park Apricot tree in his garden, as in many others, becomes in a few years diseased and debilitated, and generally exhibits in spaces near the head of its stock, lifeless albumen beneath a rough bark. Sixteen years ago a single plant of this variety was obtained by grafting upon an apricot stock, and the bark of this tree still retains a smooth and polished surface, and the whole tree presents a degree of health and vigor so different from any other tree of the same kind in his garden, that he has found it difficult to convince gardeners who have seen it, of its specific identity."

6. Mr. THOMAS TOMSON, gardener to the Countess of Bridgewater, says, that "choice sorts of pears by being grafted upon the quince, come several years sooner into bearing, and produce much better crops, than those upon the common, or free stock. He adds that "the fruit will be in no respect inferior, and that he has had opportunities of seeing the superiority of the quince stock in three different counties in England."

7. Among the extracts given by Sir JOSEPH BANKS, from French authors, in the appendix to the 1st volume of the Transactions of the London Horticultural Society, it is stated that "the Cassane pear may be improved, and all its harshness destroyed by grafting up in the Doyenne; and that the Reine Claude plum is much improved, by being grafted upon an apricot or peach stock."

8. BRADLEY says, that "since the Jordan almond had been grafted on plum stocks in

England, they bore very well, whereas in the time of RAY, they seldom produced ripe fruit. Canary almonds, grafted on the plum, succeed well; while the seedlings of the same species, of five or six years' growth, appear all nipped and shrivelled."

9. The "Spitzenburg apple," which originated near Albany, in the State of New York, is one of the finest apples of the United States. When I was in New York a few years since, I was informed, that the flavor of this apple is much influenced by the apple stock upon which it is grafted.

10. I have in some British publication read the fact, that a shaddock ingrafted on a sweet orange stock, will become sweet, and that the orange grafted upon the pomegranate at Malta, gave fruit which was red inside. I regret that I am not able to give my authorities for these two last facts. I find them in my common-place book, and would not have put them there, had I not been well persuaded in my mind at the time, of the high credit due to the source whence I obtained them.

11. Dr. DARWIN says, "it is not certainly known whether the ingrafted scion gives, or takes any property to, or from the tree (stock) which receives it, except that it acquires nourishment from it." He afterwards says, "there are no instances recorded, where a communication of juices from the graft, has varied the flavor, or the form of the flowers, or fruits of either of them. For though the same vegetable blood passes along both the upper and lower part of the caudex of the new scion, yet the molecules secreted from this blood are selected or formed by the different glands of the part of the caudex which was brought with the ingrafted scion, and of the part of it which remained on the stock, in the same manner as different kinds of secretions are produced from the same blood in animal bodies." This remark is made in Sect. xvii. 4, "Of the Phytologia, or Philosophy of Agriculture and gardening," nevertheless, in Sect. v. 2, of the same valuable work, when treating of the circulation of the juices of plants, and after quoting the experiments of Fairchild and Lawrence, Dr. D. says, "I think I have myself observed in two pear trees about twenty years old, whose branches were much injured by canker, that by ingrafting hardier pear scions on their summits, they became healthier trees, which can only be explained from a better sanguification produced in the leaves of the new buds. It has also been observed by an ingenious lady, that though fruit trees ingrafted on various kinds of stocks are supposed to bear similar fruits, yet that this is not accurately so; as on some stocks she has known the ingrafted scions of apple trees to suffer considerable change for the worse compared with the fruit of the parent tree." This fact, which I deem highly important, and worthy of the greatest attention, is to be coupled with the above related on the authority of the American rural philosopher, Joseph Cooper, and with those in section 5, 8, 9, and 10. Dr. Darwin doubts the influence of the stock on the fruit or flower, or of the graft on the stock, because of the want of "recorded" cases in point, but he had forgotten that he had himself adduced two proofs of such influence, and had referred to two others.

12. In the second volume of the Transactions of the Horticultural Society, London, p. 44, Mr. Luttrell gives an account of several pears which were formerly cultivated; among these is the *orange vert*, or orange Bergamot. After describing it, he adds, "the true time to eat it is whilst the color is upon the turn. The fruit colors most upon quince stocks." This is admitting the principle of the influence of the stock upon the fruit.

13. In the report of the Transactions of the Caledonian Horticultural Society, (May, 1829,) Loudon's Mag. 5, p. 334, it is stated that "the Society was put in possession by Capt. Smith, of Dysart, of an interesting account of the effect of introducing buds of the Ganges apple into branches of the Russian transparent ap-

ple, by the ordinary process of inoculation; the Ganges apple produced from these buds having acquired the peculiar transparency which characterizes the fruit of the stock; an effect, it will be observed, that goes to overturn the received opinion that the produce of the bud is in no respect affected by the qualities of the stock."

14. Mr. G. LINDLEY mentions among other plans to cause bad [fruit] bearers to be more prolific, *the use of different stocks*; and in his commentary on this position, he says, in proportion as the scion and the stock approach each other closely in constitution, the less effect is produced by the latter; and on the contrary in proportion to the constitutional difference between the stock and the scion is the effect of the former important. Thus, when pears are grafted or budded on the wild species, apples on crabs, plumbs upon peaches and almonds, the scion is, in regard to fertility, exactly in the same state as if it had not been grafted at all; while, on the other hand, a great increase of fertility is the result of grafting pears upon quinces, peaches upon plums, apples upon white thorn, and the like. In the latter cases, the food absorbed from the earth by the root of the stock is communicated slowly and unwillingly by the scion; under no circumstances is the communication between the one and the other as free and perfect as if their natures had been more nearly the same; the sap is impeded in its ascent, and the proper juices are impeded in their descent; whence arises that accumulation of secretion which is sure to be attended by increased fertility."

SHORT DIRECTIONS FOR PLANTING VEGETABLES.

The first thing to be done in gardening is to prepare the ground. It is necessary that a garden soil be deep and loose, that the roots of vegetables may penetrate it, spread and imbibe nourishment. Depth of soil also prevents drouth by its capability of containing and consequently retaining a greater quantity of moisture than a shallow soil, and it prevents drowning by being capable of holding more water without being flooded.

Where not already done, manure should be now drawn upon the ground intended for gardening, to be intermixed with the soil by deep and thorough ploughing. Where manure fresh from the stable is brought, and cannot be spread and ploughed under immediately, it should be piled in a heap, and then covered with soil three or four inches thick, and this with a coating of lime, in order to retain the exhalations during fermenting, which otherwise would pass into the air, and carry off a large portion of the best quality of the manure: if earth cannot be had at this season, in consequence of the ground being frozen, a greater quantity of lime must be applied; or ashes may be first spread over as a substitute for earth. In addition to the lime thus preventing the waste of manure, its usefulness to the soil after it is spread upon it, will far overbalance its cost.

As a deep soil cannot always be had at once, the defect may be partially remedied by throwing the soil into ridges upon which the crop is to be planted. Of course in those ridges there will be an accumulation of loose and rich earth. But it is much better to have a soil so deep and well manured as not to need this expedient.

Most garden crops are sown in drills or small furrows drawn with a hoe or stick; and where it is stated in directions that seeds are to be planted in drills of any described depth, it is to be understood that they are actually buried only about one half that depth, as the earth is taken from the sides of the drill for covering. A convenient way of sowing some garden crops in drills, is to lay a board across the prepared bed, draw a stick to form the drill along the edge of this board, drop the seed and cover it, and then move the board

proceed with another as before. This forms them straight and by standing during the operation upon the board, it presses the soil firmly about the new planted seeds and consequently assists their vegetation. Another and more rapid mode of forming drills is to make a tool like a rake head, but much larger, so that each tooth when drawn through the soil, may form a drill, at the required distance from the others.

Rolling is advantageous wherever the ground is not so wet or adhesive as to be injured by the operation. It presses the fresh earth about the seeds, and keeps them moist until they germinate. When a roller is not at hand a substitute may be obtained by laying a plank or board upon the newly sown bed, and then walking upon it lengthwise. Nothing, perhaps, protects turnips, and other plants which are injured by the turnip fly, from its depredations, so much as rolling. By pressing down the soil and rendering the surface smooth, it destroys their hiding places. Such seeds sprout soon, and they are sometimes destroyed by insects even before they reach the surface, in which case the seedsman is sometimes unjustly blamed. Seeds sown in ground inclining to be dry, need watering, especially if they are enveloped in a dry shell. Among those which most require a moist soil or watering, are lettuce, onions, parsnep, parsley, asparagus, capsciums, celery, rhubarb, salsify and spinach.

With these preliminary remarks we now proceed to give particular directions for planting each vegetable of the most common kinds.

Cabbage. The early kinds may be sown in hot beds in the latter part of March, and in a few weeks they will be fit to transplant in the open ground. Or, they may be sown a little later, in a warm border, under the south side of a board fence. Red cabbage may be sown early in May, and Savoys and the large winter drumhead, almost any time during the month. Cabbages should be transplanted into very rich ground, for this general rule applies particularly to them, that all vegetables where the growth of leaf and stock is the chief object, are greatly benefited by copious manuring. When transplanted, the small early cabbage, as the early sugarloaf and the early York, should stand about two feet apart, and those of a greater distance according to their size, the large winter drumhead, for instance, should be at least three feet.

Broccoli. The Purple Cape is only variety we would recommend for common culture; those who wish to raise other kinds must consult books on gardening, as they require care and minute directions. The Purple Cape should be sown about the middle of May, and when of suitable size should be transplanted in uncommonly rich ground, and they will produce fine heads early in autumn.

Cauliflower. This requires more care than the last; it commonly succeeds best when sown early in fall and transplanted into beds which are protected from the winter by frames, and sash, and mats. It succeeds well, however, if sown very early in a hot bed, and afterwards transplanted, as the plants become larger, into a later hot bed, any finally into open ground in the latter part of April. These if well managed will produce heads in June. If sown early in May, cauliflowers may be treated the same way as Purple Cape Broccoli, and with nearly the same success.

Kale and Brussels Sprouts may be sown about the middle of May and transplanted early in July in rich ground. They are used as greens, and are best after having been touched with sharp autumnal frosts.

Asparagus. The seeds should be sown early in spring in the best ground in the garden, in drills of about one foot apart. They may be transplanted into beds when a year old. They will not, however, produce good

shoots for us in less than three years. An asparagus bed properly prepared, will continue to afford crops for twenty years or more. New beds are made by transplanting, thus: dig the ground 20 inches or two feet deep in the form of a trench, fill this trench with alternate layers of soil and manure, until near the top, when the whole should be covered with a few inches of rich mould, in which the roots should be planted, with the crowns about three inches below the surface, and about one foot apart. Or, the bed may be sown with seed at once, and the plants afterwards thinned. Old beds should be cleared off early in spring before the plants start, and then covered two or three inches with rotted manure which should be dug in with a fork, taking care not to injure the plants.

Globe Artichoke may be raised from seed or from young suckers taken off in spring. The seed should be planted in drills about one inch deep and about one foot apart. When the plants are a foot high, they are to be transplanted into ground trenched eighteen inches deep and mixed with manure, the plants standing about three feet apart, or three feet by five feet according to Bridgman.

Peas. The early varieties should be sown as early as possible in the spring. Double rows are the most convenient, and these double rows should be about a foot apart, and a space of from four to six feet, according to the height of the peas, between these double rows. Peas should be sown about two inches deep, and two or three inches asunder in the rows.

Beans. English beans should be planted so early that they may produce their crop before the heat of summer; the seed should therefore be put in the ground on the earliest opening of spring. A clayey loam is best, but a lighter soil is good if they are well rolled. The drills should be about two inches deep and two or three feet apart, and the seed two or three inches in the drill. The Mazagan and Lisbon are the earliest and the Genoa best for late crops. The Windsor, the Sandwich and the broad Spanish are excellent.

The kidney or common bush and pole beans, require a light rich soil, and may be planted in hills, three or four seeds to a hill, or in drills two or three feet apart, and two or three inches in the drill. As kidney beans are tender and easily injured by frost, the planting should be delayed until settled warm weather, which brings them forward rapidly. Pole beans require the same treatment as bush beans, except the addition of poles.

Cucumbers, melons, and squashes, should be planted about the first of May, in highly manured ground, or in copiously manured hills, about four feet apart. In clayey ground it is not reasonable to succeed to plant them on ridges of manure, covered several inches with earth; these should be at least a foot high, and they will produce twenty times the amount of crop that is obtained the common way. As soon as they are up a person should go over them three times a day, and pinch to death with his thumb and fore-finger all striped bugs which can be found upon them, and continue this operation until the plants are beyond their reach. The best cucumbers are the Early Green Cluster, and the Long Green Prickley. The green fleshed Nutmeg melon is most excellent for eating.

Carrots require a deep rich sandy loam. They may be sown in drills a foot or eighteen inches apart, and six or eight inches distant in the drills. The Early Horn is the earliest, and the Long Orange is the best for main crops.

Beets. Those intended for early crops should be sown as soon as the ground is open, and main crops deferred till warm weather in May. They need a deep soil and plenty of manure, and may be sown in drills, afterwards to be thinned to about one foot apart.

Among some of the best for eating are the *Sugar* and Red Turnep rooted.

Parsnips should be planted as early as possible in drills, like beets, and in common with all root crops require a well manured soil.

Parsley should be sown early in drills one foot apart and one inch deep.

Salsify, or vegetable oyster, requires the same treatment as carrots and parsnips.

Onions may be sown about the middle of April, and buried half an inch deep in drills twelve inches apart. When of suitable size they are to be thinned to a distance of two or three inches in the drill. One of the best varieties is the Silver-s. in red; The Strasburg is good for a general crop.

Lettuce may be sown as early as desired, either in a hot bed or in open ground.

Egg plant may be sown in a hot bed, the sash to be closed to keep it up. In the middle or at the end of May, the plants are to be set out two feet apart in good garden soil. If transplanted too early it will hurt by frost.

Celery should be sown as soon as spring opens, in drills half an inch deep, and afterwards transplanted into open ground in proper trenches for earthing.

Sea Kale requires a deep rich sandy loam, as the roots penetrate to a great depth, and should be sown as early in the spring as the state of the ground will admit, in drills, an inch and a half deep, twelve or fifteen inches apart, and six or eight inches in the drill. When a year old they are to be transplanted more than a foot apart, and blanched by covering them nearly with sand, gravel, or what is much better, inverted pots. Three or four weeks are required for the blanching.

Tomatoes are best raised by sowing them in hot beds, and afterwards transplanting them into open ground. If the soil is rich, they should stand when transplanted, at a distance of at least two or three feet from each other.

CATTLE.

The best cattle have the face rather short; the muzzle small; the horns fine; the neck tight, particularly where it joins the head; the chest wide, deep and capacious; the tail broad and flat towards the top, but thin towards the lower part, which it will always be when the animal is well boxed; the lower part of the thigh small; the legs short, straight, clean, and fine boned, though not so fine as to indicate delicacy of constitution; the flesh, rich and mellow to the feel; the skin of a rich and silky appearance; the countenance calm and placid, denoting the evenness of temper, essential to quick feeding and a disposition to get fat.

Every breed of animals which has, through a few generations (two or three is sufficient) been overfed, requires similar feeding; and the offspring of such animals require and can digest more food than others, who have lived upon little.

All growing animals, including mankind, ought to be sufficiently well fed to preserve health and strength, but never to be stimulated by excess of food. The children of parents, however, who have, through many generations, been well fed, would perish if given no more food than would be sufficient for an Irish or Highland Scot's peasant child.

The chief qualities sought for in cattle are the tendency to fatten on little food, and that to yield abundance of rich milk. The tendency to fatten is indicated chiefly by the capacity of the chest. Animals of all species, says Mr. Knight, all other qualities being equal, are, I think, capable of labor and privation, and capable of fattening, nearly in proportion, as their chests are capacious; but the habits of ancestry will operate very powerfully.

It is the width and depth of frame, says Mr. Berry, which confers weight, and not the

mere circumstance of great height. While equally great, if not greater weight can be obtained with shorter legged animals, they are independently of other recommendations, generally found to possess better constitutions and greater propensity to fatten.

Mr. Knight says, the constitutional disposition to form fat, is certainly hostile to the disposition to give milk. Cows which give little milk often present large udders, which contain much solid matter; and, to inexperienced eyes, a two year old Hereford cow would give a promise of much milk, where very little would be given. A narrow forehead, and a long face, nearly of the same width from end to end, as in the Alderney cow, certainly indicates much more disposition to give milk than the contrary form, which I have pointed out as indicative of a disposition to fatten.

Fat animals are more generally those of the north, where cold diminishes sensibility. Fat indeed, appears to be the means which nature very extensively employs to lower sensibility by interposition between the skin and the central parts of the nervous system. Fat animals, accordingly, have not only less sensibility and irritability of the skin, but of the organs of sense generally. Thinner animals, on the contrary, are more generally those of the south, and have more acute sensibility and exquisite sensation.

In reply to this observation, Mr. Knight says, I do not doubt but you are right respecting the use of fat in cold climates; all sleeping animals, through winter, go to sleep in a fatted state. I do not think that breeds of cows, which give much rich milk, are very hardy. The Alderney cows are what the Herefordshire farmers call very *neesh*, that is, very incapable of bearing any hardship of any kind, and particularly cold, consequently of greater sensibility.

Cows which give much milk have the power of eating and digesting much food, and they require, whilst they give much milk, a very abundant and good pasture. The breeds of cows which give less milk, and present greater disposition to become fat, are generally less *neesh*, and will fatten upon less food. The influence of the *feelings* is very considerable. I have observed that whenever a young Hereford cow disliked being milked by the dairymaid, she soon ceased to give milk; and I do not doubt that in all cases, if the calves were twice every day permitted to suck after the dairy maid had finished her labor, the cows would longer continue to give milk and in larger quantity.

This tends to corroborate what has been said as to greater sensibility being favorable to milking.

If this led only to distinction of these two kinds as to milking, namely—that of fitness and thinness, and that of smaller and larger organs of sense and greater or less sensibility, it would still be valuable, as showing, either at a later or an earlier period, what we may expect in this important particular.—But perhaps its utility may extend still further, and enable us to improve the race.

It may form a basis for our determining whether, in endeavouring to improve a breed, fatteners may most easily become milkers; to some extent; or milkers may, to a similar extent, become fatteners; and what are the circumstances which would most favor such partial interchange, if not absolute improvement. Indeed from these principles I would conclude, that an animal fattening in the north, would become a better milker in the south, where a more genial temperature would render fat less necessary, would increase sensibility, and would cherish the secretion of milk, so intimately connected with that excitement of the reproductive functions which warmer climates produce.

As these two desirable qualities are both dependent upon one system, and as they are opposed to each other, (for excess of one secretion is always more or less at the cost of

the other) they will be most easily obtained by being distinctly sought for, and the animal of diminished sensibility will most easily fatten, while the animal of increased sensibility will most readily yield milk.

These views are confirmed by the conduct of the London dairy-men. While they acknowledge that the Alderneys yield the best milk, they keep none of them, whatever they may prefer, because these animals are peculiarly delicate, and more especially because they cannot, after being used as milkers, be fattened for the butchers. The York and Durham cows suit them best.

In certain constitutions, however, and to a certain extent, there is a compatibility between fattening and milking.

Mr. Knight says, the disposition to give much and rich milk, and to fatten rapidly, are to some extent at variance with each other; but I have seen causes in which cows which have given a great deal of rich milk, have given birth to most excellent oxen, the cows themselves, however, always continuing small and thin whilst giving milk.

I very confidently believe in the possibility of obtaining a breed of cows which would afford fine oxen, and would themselves fatten well; but, as great milkers require much more food than others, the farmer who rears oxen, does not think much, perhaps not enough, about milk, and is in the habit (which is certainly wrong) of breeding his bulls from cows which have become his best, owing only to their having been bad milkers.

In the selection of bulls, besides attending to those properties which belong to the male, we ought to be careful also, that they are descended from a breed of good milkers, at least if we wish the future stock to possess this property.

ROADS.

As the "Farmer" is understood to be devoted to every thing that has relation to the interest of the farmer, I take the liberty of forwarding a few lines on the subject of roads and road mending; than which, there are few subjects which have a more intimate connection with the interests of an agricultural community.

Many of our readers have, from various causes, been very injudiciously located, but as they are now generally the division lines of contiguous farms, and the habits of our people have become conformed to them, it would not be an easy matter materially to change their position; so that we must submit to what we cannot easily remedy; and continue to travel over steep hills, when it would be much easier to go round them, or to approach their summits at a less angle by oblique directions. In the selection of juries to lay our new roads, it would be well for the judges of our courts to display their powers of discrimination, in selecting the most intelligent and enlightened men to be found in the country; and it would not be amiss, if those thus delegated to perform such an important trust, in which not only the present generation, but posterity will have an interest, should be endowed with a full proportion of moral courage, so that they may not be swayed by local or individual predilections to the prejudice of the interest of the community at large.

After roads have been laid out, confirmed by the court and opened in obedience to, and according to law the public are the undoubted proprietors of them, and have the right through their proper officers to the exclusive jurisdiction and care of them, to the full width and length they have been so laid out. Now it must be obvious to every person who moves to and fro in our country, that in numerous cases our highways are much straightened and contracted, and in some instances full one-third of the public right is discovered to be *over the fence*, within the enclosure of some individual, who appears to have more regard to the indulgence

of his own selfish propensities than to the interest or convenience of the public.

The benefit derived from these encroachments is very questionable, and it is believed that in most cases of the kind, the loss of reputation is more than a counterpoise for it; for in every case those who knowingly interfere with, obstruct, or deprive others of their just rights, as certainly mar and part with a portion, or the whole of their reputation. This is a subject that requires the attention of grand juries, and if supervisors will still continue to neglect their duties after having pledged themselves for their true and faithful performance, it would seem just and reasonable that an example should be made, by the infliction of adequate punishment by the proper authority. Another delinquency, less common, but more dangerous, exists in some situations, in permitting individuals to occupy the public highway for quarrying stone, or other purposes, without the shadow of rightful pretext for so doing, and to the manifest injury and danger of person travelling a regularly laid out highway. One instance of this kind has been very slowly, but regularly progressing for many years in apparent disregard of the public safety and convenience, and so far as the writer has knowledge, without the interference of the proper officers whose duty it is to prevent such injurious encroachments.

From the Farmers' Cabinet.

DIALOGUE BETWEEN A FATHER AND SON.

Rot in Sheep.—A well planned Garden.

Frank.—Father, I have just met John Ross, who tells me his uncle has lost two of his most valuable sheep by the rot, and that he fears he shall lose many more from the same cause; is there not a danger that our sheep will catch the same distemper, for you know they sometimes mix with them on the common? I suppose the disease is communicated in this way, for many of our neighbors are complaining of the ravages of that cruel disorder, and are separating their flocks to prevent contagion. Have you ever suffered in this way?

Father.—I have never lost a sheep by the rot, but I attribute my security from this scourge to observation and reflection. While I am, as much as any one, an enemy to what is called mere "book knowledge," it is not possible for a farmer to follow his business without being necessarily called upon for practical observation and reflection, and thus, to an intelligent man, is the greatest pleasure. Well might the good man of old walk into the fields at even tide to meditate; this is the proper season for reflection, the early morn for observation.

Frank.—What a beautiful distinction! I must note that down.

Father.—The disorder called the rot is not contagious, but is generally caused by taking cold watery food into the stomach, where, instead of digesting, it becomes putrid, and engenders life; the liver of sheep which die in the rot is full of small creatures called flukes, something like flat fishes; these perforate it like a honey comb, causing the death of thousands. But it is a curious fact that ewes, even when irrecoverably gone in the rot, do not die while suckling their lambs; when these are weaned, however, they often die off by hundreds, and the evil is oftentimes much augmented by their lying in low and damp pastures; for it is discovered that the air which surrounds them in such situations is loaded with poisonous vapor, which being heavier than pure atmospheric air, cannot rise into it, and thus become purified, but remains near the surface, and is inhaled by the sheep, whose heads are low; while larger animals, whose heads are above the stratum of poison, will remain in health in pastures which are destructive to sheep. Do you understand how this is?

Frank.—Yes, perfectly, and this reminds me of what I was reading but yesterday,

concerning a cavern in Italy, into which if a dog enter, it is destruction to him, while a man feels no inconvenience whatever, as the bad air, by its heaviness, is confined to the bottom of the cavern, it is from this circumstance called "Grotto del Cano." And look at our sheep at this moment! they are all lying on that little rising ground, as though they were perfectly acquainted with the subject on which we are speaking, and feel, no doubt the comfort of that situation.

Father.—True, and what will strike you very forcibly, observe that knoll or rising ground the next foggy morning, and you will perceive that it is in a clear atmosphere, whilst all the lower parts of the same field and the adjoining lands appear as though they were covered with water, the whole being enveloped in fog, and you will be able to mark exactly the height to which the bad air of the low lands extends. But, even at the present moment this poisonous atmosphere is there, although it is now invisible; the coolness of the mornings and evenings will, however, render it perceptible. This is one reason why I always commence folding the sheep at the highest part of the field, that they might have the higher ground to retire to for rest; and hence another advantage arises, which some of our neighbors do not seem to comprehend, the higher parts of the field receive, as they should do, the greater portion of the manure. But I am confident that much of my security from this disorder arises from the use of lime, which is a corrector of the acidity of the soil in the first place, and in the second, is destructive to the whole family of aquatic plants, replacing them with those grasses which are indigenous, or native to a limestone soil, upon which sheep never rot. You know, too, that I am careful to drain all wet and springy parts of the fields, and this is a labor which our adjoining neighbors do not covet. I also allow salt for the use of the sheep, which is placed in troughs under shelter—an excellent practice.

THE GARDEN.

But come, now the weather is fine, we must think of the garden—we must be gardeners as well as farmers, for most profit as well as pleasure is to be derived from a good garden well cultivated. I do not, however, approve of doing much in this early part of the year, although many are tempted by a few warm days, such as we have enjoyed of late, to sow their seeds, which had better be reserved for the next month; March being, in this part of the country, early enough for general crops. There is, however, just one sort of work which is peculiarly suitable to the present early season, and which ought to be done before any crops are sown; it is catching the mice. I have often laughed at those who never think of setting traps for these vermin until they sow their peas, when, after scattering them by handful into their very holes, they suck up one solitary pea to entice them from such a bountiful feast! I always say, as my father did, "first catch your mice, and then sow your peas," and by setting plenty of traps at this season of scarcity, you will be sure to catch every one in the garden.

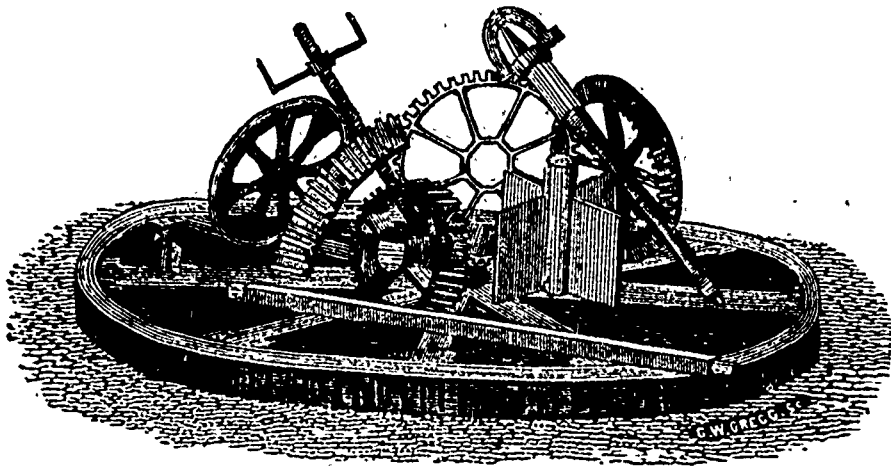
Frank.—I have heard that my grandfather was the best gardener in this part of the country; was it he that planned this delightful garden; that brought this little stream across the hill, and made it fall so gracefully over these rocks into the basin below, and to fill the pond in the centre, in which we see so many fishes playing about; who planted those willows that hang so beautifully over it, and placed the seats under them so judiciously that by changing our situation, according to the position of the sun, we can always see to the bottom of the water?

Father.—Yes, my boy, it was he who did all this, and every thing else which you see; it is to him that I am indebted for more than life! and I feel a holy reverence when I

think of my father! But come this way, and I will show you what else he did, and what, by his instructions, I have been enabled to do in fulfilment of his original ideas, for I have never deviated from the plan which he first laid down, and to this circumstance I attribute the success which I have experienced. The whole of what is now the garden and orchard was nothing but a wilderness at the time when my father entered upon this farm, we now call it—then it had a different name—waste. It had a thick covering of bushes and briars, and appeared a chasm, which no one knew anything about. My father observed it had a southern aspect, and that the declivities on its sides were not so great as had been imagined. I was then just your age, and as you are now mine, so I was then his companion. I remember the evening when he came to the determination to turn this den of brambles into a garden, and I shall never forget the ardor which I felt when looking forward to the time when I should see it as it is at this moment! He sketched the plan in an instant, and the next evening the axe and the mattock were busily employed amongst the bushes. "Now, George," said he, "remember our text, 'nothing is impossible to a willing mind,' and I assure you we stuck to it—in fact, we surprised even ourselves. In less than a month the laborious part of the work was completed: by digging down the sides of the glen, we were enabled partly to fill the centre, and by forming the walks we obtained earth sufficient to cover the borders, which were raised considerably by the operation; and thus he obtained those very pleasant terrace walks around the sides, so much admired by all who have seen them. Still, however, there remained a hollow in the centre, partly covered with large stones, and to make what is called a *rinne of necessity*, he so contrived that this should form a fish pond, and he soon found a way to convey water to it from the opposite side of the hill; and by placing large rough stones at the bottom of the chasm, where the water first comes over the top of the declivity, he obtained a water-fall twenty-five feet in height; to this you approach from below by a narrow winding path beside the pond, and it was his happy thought to excavate a basin at its foot to receive the falling water, and by the side of it to plant the willow and place the seat which is so much admired, as well as to plant the acclivity in such a way as, in the summer, to form a retreat impenetrable to the sun's rays. You see that the walks in the garden are wide enough for persons to walk in company—this, at the time they were formed, was considered a waste of land—my father knew better, for by having no paltry cross walks, he actually saved by the plan, which is now so much approved of. The four quarters of the garden, and the southern border, are appropriated to the raising of vegetables and fruits, whilst the eastern and western borders are devoted to flowers, a love for which I inherited from my father; and the care of these being given to your dear mother and sister, I need only point to them to show how well they perform their pleasing task.

The water which flows from the fish pond is made to fill the canal; the bottom of which being covered with gravel, forms the water-cress bed, the produce from which is so superior to all in the neighborhood, as to bring a higher price in the market; this arises from the crop being grown on gravel, where it might be kept clean from weeds, and the water coming on after depositing its mud in the fish pond above. From this canal the water is carried by a trench down the middle of the orchard, and then either passes in a serpentine course across the meadow below, for the purpose of watering its surface, or is conveyed in a straight course down the ditch to the mill stream either way, which is most proper.

MECHANICS.



It is too much the practice with our farmers to call in the aid of the mechanic when they require that to be done which they could and ought to do themselves. We do not wish to advise anything which may tend to the injury of the mechanic, but we would at the same time endeavor to urge on the farmer the necessity of his *helping himself* in those small jobs which are quite within his reach, without having recourse to the mechanic; for instance, making or repairing a gate, a fence, or any other of the multitude of small jobs which are constantly required about a farm-yard. The mechanic will have quite sufficient work to do if he only gets the more difficult pieces of work. A farmer cannot be expected to make wheels or springs for his wagon; a farmer cannot be expected to make a window sash, a tub, a churn, a mangle, or any article which requires that skill which the mechanic acquires by practice and experience. No, we would not wish to see the farmer attempt these things, because we know he would be wasting both time and money; but we would decidedly wish to see the farmer and his sons shingle their own house, lath on the framing, and leave it ready for the plaisterer. It may be said that by this we would advise the dispensing with tradesmen or mechanics as much as possible. To this we answer that *we do*. And our reasons are—first, that the expense of employing carpenters and plasterers, except where they cannot possibly be done without, makes the farmer too often put up with great inconvenience in his domestic management rather than face that expense—second, that by the farmer and his assistants doing the plain and easy work, which is often three-fourths of the entire, the expense attending the employment of tradesmen becomes comparatively light—third, that our farm-houses, offices, &c. would at once assume a neat and elegant appearance without waiting for the accumulation of wealth to attain so desirable an object. These are our reasons, and for these reasons we would strongly urge on every farmer in the province the absolute necessity of having a set of carpenter's tools by him, such as a good hand-saw, lock-saw, jack-plane, smoothing-plane, and half-inch and quarter-inch chisels, a square and rule, a hammer and gimblet, together with a good supply of large and small-sized nails, screws, &c. &c. Let our farmers but follow our advice and employ their leisure time in repairing, improving and ornamenting their houses, and we can

promise them that they will soon acquire a love for the work; a taste will be created which will amply repay their future years in the neatness and trimness around them, and above all the feeling of worthy pride that it is the work of their own hands.

BRIDGE BUILDING.

There are few branches of mechanics which require more consideration, particularly in this country, than that of bridge-building. A good road is curtailed of its utility by bad bridges; and the danger to human life which rotten or ill contrived structures of this class present, as well as the injury to horses, springs and wheels, must make it a matter of extreme importance to the entire province. We have many designs in our possession for the erection of bridges, and we would always recommend that the bressumers or sleepers go quite across, bearing on stone buttments on each bank of the river, and, if possible, having no supporters or piers in the stream; for, when the winter sets in, the ice coming in contact with those posts must injure them and the bridge which bears upon them. We therefore consider that a bridge so constructed must be infinitely more subject to ruin than one which is made independent of such support. It is of great consequence also that the roadway of a bridge be as perfectly flat as it can be. To accomplish this end and at the same time give the requisite strength, it becomes necessary that the timbers be supported from above, and to this end we would propose the following plan:—Form two principals as for a truss-roof, and set them across the river on good sound stone buttments distant from each other the required breadth of the intended bridge. Across from tie-beam to tie-beam lay joists of sufficient depth and about four feet apart from each other, having bridging-pieces between their ends, so as to prevent the necessity for rabbeting and thereby weakening the tie-beams. Across these joists, again, are to be laid other joists one foot apart, having bridging-pieces at every four feet. Now take your joists square ended and the length of the full breadth of the bridge, and saw them all in their thickness *diagonally*: by this means you will have them all *three-sided*. Lay them down flat and close to each other, until you have covered the whole roadway; then lay the remainder with their angles downwards, between, so as to present one uniform surface for a roadway. Spikes may be used to make

them firm as the work proceeds, and the whole may be coated over with pitch, tar, lime, and gravel, which, when hard, will make a most durable and even floor.

Having the bridge fit for travelling on, we would now proceed to *roof it in*; thereby protecting the bridge and the traveller from the effects of the weather.

BRIDGE BUILDING is a subject on which we could dilate forever; but we are well aware that our readers must agree with us that *there is a will if there was a way*. Let the Parliament but vote sums for the erection of good bridges, and no doubt there will be numerous and excellent plans devised, having for their end strength, durability, accommodation, and economy.

ARCHITECTURE.

The science of Architecture has at all times, and in all civilized countries, been considered not only a pleasing but a highly useful branch of knowledge.

The great utility of this science and the elegant accomplishments connected with its study, have almost rendered a knowledge of its rules and principles necessary to complete a liberal education. But it is not our intention to bestow encomiums on the science nor to give anything like a detailed history of it, but to present our readers with a plain and condensed account of what may be termed its elementary principles.

Architecture is usually divided, with respect to its objects, into three branches, civil, military, and naval.

Civil Architecture called also absolute, and by way of eminence, Architecture, is the art of contriving and executing commodious buildings for the use of civil life, as houses, temples, theatres, halls, bridges, porticos, &c.

Architecture is scarcely inferior to any of the fine arts in point of antiquity. Nature and necessity taught the first inhabitants of the earth to build themselves huts, tents and cottages; from which, in course of time, they gradually advanced to more regular and stately habitations, with a variety of ornaments, proportions, &c. To what a pitch of magnificence the Tyrians and Egyptians carried Architecture, before it came to the Greeks, may be learned from Isaiah xxiii, 8, and from Vitruvius's account of the Egyptian Oeci; their pyramids, obelisks, &c.

Yet in the common account, Architecture should be almost wholly Grecian original: three of the most regular orders or manners of building are denominated from them, viz: *Corinthian*, *Ionian*, and *Doric*: and there is scarcely a single number, or moulding but comes to us with a Greek name.

Be this as it may, it is certain the Romans, from whom we derive it, borrowed what they had entirely from the Greeks; nor do they seem, till then, to have had any other notion of the grandeur and beauty of buildings besides what arises from their magnitude, strength &c. Thus far they are unacquainted with any other besides the *Fuscan*.

Under Augustus, Architecture arrived at its glory; Tiberius neglected it as well as the other polite arts. Nero, amongst a heap of horrible vices, still retained an uncommon passion for building; but luxury and dissoluteness had a greater share in it than true magnificence. Apollodorus excelled in Architecture, under the emperor Trajan, by which he merited the favor of that prince; and it was he who raised the famous Trojan column, existing to this day.

After this, Architecture began to dwindle again; and through the care and magnificence of Alexander Severus supported it for some time, yet it fell with the western empire and sunk into a corruption, from whence

it has not recovered for the space of twelve centuries.

The ravages of the Visigoths, in the fifth century, destroyed all the most beautiful monuments of antiquity; and Architecture thenceforward became so coarse and artless, that their professed architects understood nothing at all of just designing, wherein its whole beauty consists, and hence a new manner of building took its rise which is called the Gothic.

Charlemaigne did his utmost to restore Architecture, and the French applied themselves to it with success under the encouragement of H. Capet, his son Robert succeeded him in his design, till by degrees the modern Architecture was run into as great an excess of delicacy as the Gothic had before done into passiveness. To these may be added, the Aresbek, and Morisk or Moorish Architecture, which were much of a piece with the Gothic, only brought in from the south by the Moors and Saracens, as the former from the north by the Goths and Vandals.

The architects of the 13th, 14th, and 15th centuries, who had some knowledge of sculpture, seemed to make perfection consist altogether in delicacy and multitude of ornaments, which they bestow upon their buildings with a world of care and solicitude, though frequently without judgement or taste.

In the last two centuries, the architects of Italy and France were wholly bent upon retrieving the primitive simplicity and beauty of Architecture; in which they did not fail of success; insomuch, that our churches, palaces, &c. are built after the antique. Civil Architecture may be distinguished with regard to the several periods or states of it, into the antique, ancient, gothic and modern, etc. Another division of Civil Architecture arises from the different proportions which the different kinds of buildings rendered necessary, that we might have some suitable for the purpose according to the bulk, strength, delicacy, richness, or simplicity required.

Hence arose the five orders, all invented by the ancients at different times, and on different occasions, viz: Tuscan, Doric, Ionic, Corinthian, and Composite. The Gothic Architecture may also be mentioned here, for it is perfectly distinct both from the Grecian and Roman style, although derived from the latter.

LAWS OF PROJECTION.

In explaining the theory of projections, no allowance will be made for atmospheric resistance. In most cases the projection of liquids is subject to, and governed by the same laws as that of solids. If a body—a ball for instance—is projected vertically upwards, it will require the same time to return that is occupied in ascending; and the time required in ascending and descending may be readily ascertained; also the extent of its projection, by having the given quantity of power applied. By a similar rule, the height of projection, and the power applied, may be ascertained by the time occupied—the weight of the ball being known; or the power and time may be ascertained by the height to which the ball is projected. A body in falling will descend one foot in one fourth of a second of time, and will quadruple the distance as often as the thing is doubled; thus, four feet in half a second, sixteen feet in one second; &c. Now, if a ball ascends by projection 16 feet, it will require one second, to ascend, and another to descend, making two seconds. If the weight of the ball is one pound the power required to produce the projection will be equal to raising one pound 16 feet—16 pounds 1 foot—or 64 pounds three inches: therefore, if the force applied is continued but three inches, the pressure must be 64 lbs. If four times the power is applied, the ball will be projected 64 feet high, and the time occupied in ascending and descending will be four seconds. The ve-

locity at the time of starting and at the termination of its descent will be at the rate of 64 feet per second. To ascertain the height to which a projected ball has ascended, by the time of its absence, multiply one half of the time of the absence in fourths of seconds by itself: the product will be the height of its ascent in feet. For example, if the ball is absent four seconds, one half of the time in two seconds, which is 8 fourths of a second, then 8 times 8 are 64, which is the height of its ascent in feet. To ascertain what force is required to project a ball to a specified height, multiply the given height by the distance which the force is continued, and that product by the weight of the ball. For example, if a ball weighing 4 lbs. is to be projected to the height of 64 feet and the force is to be applied for the space of three inches being multiplied by 4 to make one foot; and 4 being multiplied by 64 makes 256; this product being multiplied by 4—the weight of the ball—gives 1024 as the required force. When a ball is projected obliquely so as to form a curve, the velocity of the ball will be retarded by gravity during the first half of its journey, and accelerated by the same force, and in the same proportion, during the other half. If it be projected at an inclination of 45 degrees with the horizon, and with sufficient force to elevate it 16 feet at its highest altitude, it will have performed its journey in two seconds, and at every point of its progress will be directly under the point at which it would have been if it had kept on a direct course without having been affected by the force of gravity. In other words its horizontal progress will be uniform; and at every point of time, during its progress, it will be just as far below the line of direct inclination as it would have fallen in the same time perpendicularly. Therefore, knowing the velocity with which a ball is projected, the time required for its arrival at any point in its progress may be readily calculated, also its vertical elevation at any point in its horizontal progress.

CHEAP RAILROADS.—All, or most of those who have seen railroads, have also seen occasionally running on them, cheap and light-made cars which are propelled by means of a crank which is turned by one of the passengers. These hand-power cars are furnished for the convenience of laborers on the roads, and are by them used for conveying themselves from their residence, to such places on the road as require repairs or other business. These cars are usually propelled at a speed of ten or twelve miles per hour. It has been suggested that there are many places where light railways might be constructed at a cheap rate—at an expense not exceeding \$2 per rod—which should be useful for the conveyance of passengers between villages, or from one point to another in the same town or city, by this light kind of cars to be thus propelled by hand. It is argued that the business of working them would be no more laborious than rowing a ferry-boat by hand, which is extensively practised in places where the business will not support steam ferry boats. Two men are able to propel a light car ten miles per hour with twenty passengers; and a road for this purpose merely, might in many places admit of an elevation on posts in a cheap manner, which would not be safe for a road of ordinary service. There may undoubtedly be found many places where a cheap road for the purpose would prove a profitable concern.

THE SPRINGFIELD BRIDGE.—The new Railroad Bridge over the Connecticut river at Springfield, is constructed on a novel plan, exhibiting much rational science and calculation, which in connection with its extraordinary length and height, renders it conspicuous among the many artificial curiosities which the progress of science and enterprise has recently brought into view. The length of this bridge is 1300 feet, its height from the surface of the river to the top of the bridge, is near 50

feet. It is built on the strait, cross-brace principle, and rests on six well finished stone piers. One striking peculiarity of this bridge is, that in its entire construction, it has neither mortise nor tenon; the braces are simply abutted against certain cross-clucks which are gamed into the caps and sills, and the latter are firmly secured by stout iron bolts which extend vertically from the sills to the caps, passing through both, and terminate in huge screws and nuts to match: thus effectually securing the bridge against the possibility of looseness in its joints. This bridge was projected and constructed by Mr. Howe of Warren, Mass., at an expense of \$115,000, including stone work. We shall probably furnish a full length view of this bridge as soon as we can conveniently procure the engraving.—*Mechanic.*

VELVET CARPET.—Most people have seen a beautiful article of paper hangings, usually termed 'velvet paper,' the figures on which resemble fine casemere of brilliant colors. The velvet carpet is made on a similar principle. The base is of cheap and strong cotton sheeting. The figures are formed of old woolen cloths of various colors ground or fine, and secured to the base by a strong coal cement. The rich and elegant figures are rapidly formed by a peculiar process and operation of machinery. This carpet is calculated to be very durable, and will come into market cheaper than any other kind for handsome floors.

PRESERVING ICE.—Much has been said of late on the efficacy of saw-dust for preserving ice, from which it might be inferred that there is some peculiar *anti thaw* principle or property in saw dust, which is not found in other materials. The fact is, that the excellence of saw dust for this purpose, consists not in the substance of which it is composed, but in the peculiar form of its grains, which admits of a large proportion of intervening air, which is a bad conductor of heat when confined, and the only use of the saw dust, is to prevent its circulation. It may be kept a long time enclosed in a box made of thick pine plank; but the solid wood will not so thoroughly exclude the caloric of the surrounding atmosphere, as an equal quantity of confined air between two thin partitions of wood. Let a box be made of very fine pine boards, arranged in a succession of four or five, partitions half an inch apart extending round and over the entire cube, and ice may be kept in it through the summer season, without sawdust or any other material.

MOWING MACHINE.—Many attempts have been made to construct a machine that might be worked by horse power for cutting grass; but none have succeeded. Some experiments have been recently made on a mowing machine to be managed by hand, which appears likely to supersede the use of the scythe on clear fields, and if it succeeds will save more than half of the labor of mowing. It is calculated to take a swath or course, five or six feet wide and cut smooth and close as fast as a man can walk over the ground. Of course a man will mow an acre in less than an hour. Another advantage that will attend this machine is that it will leave the cut grass all lying one way, and of a uniform thickness, thus saving the labor of spreading the swaths. The cost of the machine will not exceed two dollars.

THE DOUBLE-HAND RAKE.—This machine being nearly allied to that for mowing we give it a notice in this place. It has been introduced, thoroughly proved and several of them are in use. It consists of a very light arrangement of frame work about ten feet long, with handles at each end by which two take hold of the machine and walk abreast allowing a part of the rake to slide on the ground, which gathers the hay very clean, and readily deposits the same in windrows at the option of the managers. This rake is much more economical than the horse where the hay is light, and ordinary men can with one of these rakes gather the hay from an acre of land in twenty minutes.

COMMUNICATION.

To the Editor of the Farmer & Mechanic.

Sir:—Feeling, as I do, a considerable share of interest in the prosperity and advancement of the farming community of Canada, I was happy to see your prospectus for publishing the *Canadian Farmer*, which, if conducted with a moderate share of ability, I have no hesitation in saying will receive universal support, and, as I anticipate, be fully appreciated by the farmers, who, without doubt, will be gratified to see a production of that description emanate in their own country. But as a work of the kind, to be interesting, requires the correspondence of others, I shall set the example by contributing my mite, which I have no doubt will be followed by persons of talent and ability, which will raise the character of your paper and make it what it ought to be, a useful study for the Canadian Farmer.

As good fences are of paramount importance and advantage to the farmer, and contribute most essentially to the ornamental appearance of the country, I am induced to make a few remarks on the subject, and offer such suggestions as may tend to do away with the unsightly crooked stick fences of Canada, and substitute permanent and substantial ones in their place. There may be some excuse for the first pioneers who have made the forests recede from the view, but certainly none can be offered in cultivated portions of the country, where wood for fencing is now become scarce, and particularly when a large portion is occupied by British subjects. Any persons travelling through the British islands must behold with pleasure the neatness and regularity of the fences, which add much to the beauty of the scenery; but the crooked (angular) stick fences are not alone a harbor for every obnoxious weed, but a great impediment to the proper cultivation of the soil, and to the European present a most forbidding aspect, and also very much disfigure the appearance of the country. However, I must acknowledge a decided improvement has taken place by the introduction of post and board fences, which give no obstruction to the free passage of the plough and the proper cultivation of the soil. Fences of that description are peculiarly adapted for the introduction of quicks or white thorn, which would grow luxuriantly in this country, and be protected by a fence of that kind, (provided cattle were not allowed to damage them), and if properly attended to would form a good permanent fence in a few years time, and long before the boards would give way. A fence of this description can be created at a moderate expense, much less in my opinion than renewing a boarded one, and of course no comparison can be made in point of either utility or beauty. If the farmers were to procure the hawes from England and intermix them with the thorn berries of this country, and sow them in their garden, a good nursery would soon be created, and by leaving a small portion of the roots in ground fresh plants will spring up.

For making new fences the fields should be cultivated as well as possible when the quicks are to be planted, (which may be intermixed with sweetbriar, roses, or any shrub of that description), which fence will become strong after the third year. They will then require a little attention, such as clipping, and keeping them free from weeds, also protection from cattle. On old land, where the sward is strong, a good solid fence can be made corresponding with the English system, with some improvements. First place good posts at convenient distances, say from nine to twelve feet, between which build a solid sod bank with the grass side out, about three feet in height, say three feet at bottom, and one foot in thickness at top, on which plant your quicks six inches apart, intermixed as before stated with sweetbriar, roses,

&c., after which fasten a couple of narrow boards or light rails to the posts, over the bank, which will protect the quicks from damage until they get sufficiently strong. The bank is to be well packed and some good mould on top for the reception of the quicks. It is obvious that by this plan there is a great saving of rail timber, and by throwing a few loose rails behind the bank will protect the quicks from damage by cattle, if required to run in the field.

If this plan permanent fences will be established, and a general improvement in the appearance of the country will be effected.
A CORRESPONDENT.

A NEW INVENTION.—SIX machines have lately been invented and thoroughly tested by successful operations, for making of ropes and Twine, though we believe it has not been generally introduced into use. It is described as a neat compact machine, for manufacturing by hand, the common Boat-cord, Seme-twine and chalk-lines. It occupies no more room than a twenty inch trunk, and by its aid, 2500 yards of fifteen threaded cords may be daily manufactured by a child 10 or 12 years old. The entire cost of the machine is only 20 dollars. The machine is so constructed, the operations so simple that a child can manage one, who could not perhaps employ their time so profitably any other way—Que. Would it not be well for the managers of our Penitentiary to buy one and make a trial of it? It would be a great saving of time and expense.

CONCRETIONS ON THE BOTTOMS OF STEAM BOILERS, &c.—A simple and efficacious method is now known of preventing the incrustations in question; it is to add from 26 lbs. to 33 lbs. of potatoes to the water in a boiler which consumes from 55 lbs. to 66 lbs. of coals per hour. The boiler may be then employed for twenty or thirty days without being cleaned, and without any fear of a calcareous deposit. After this the mud must be thrown away, and the same quantity of potatoes again be added. It appears that the fecula, by dissolving in the water, renders this sufficiently viscous to prevent the deposition of the calcareous matter. Flour would produce the same effect, and much less of it would be required. A few days after the steam-boiler intended to heat the Exchange in Paris was brought into use, it was perceived that there was a hole in the bottom. The fire was extinguished, and it was found, upon emptying the boiler, that the metal was burnt in a place where a rag (*chiffon*) had been deposited, which had been forgotten when the apparatus was set up.—*Foreign Quarterly Review.*

NEW EXPLOSIVE POWER.—The proprietor of the *Gazette of the Baton Rouge*, in Louisiana, has succeeded in propelling vessels without the agency of fire. A company which has obtained a knowledge of the method employed, is constructing a ship upon the principles discovered, as it is said, by Mons. L'eglume, but which proceed rather on the experiments of Tillorier and of Faraday, since the article used is carbonic acid gas, liquified without a machine of compression. All the invention consists in two large gas producers, the same as Tillorier's, which are supplied with bicarbonate of soda and sulphuric acid. Some drops of carbonic acid, produced and liquified by this mixture, fall alternately before and behind the pistons, and as this gas has a pressure of at least ninety-three atmospheres, it undergoes a considerable expansion, which gives impulsion to the machine. Instead of a cumbersome load of coals, a scorching fire, and ponderous machinery, a few tons of carbonate of soda and of acid will suffice to traverse the ocean and circumnavigate the globe in less than three months.

THE NEEDLE.

The gay belles of fashion may boast of excelling
In waltz or cotillon—at whist or quadrill:
And seek admiration by vacantly telling
Of drawing, and painting and musical skill;
But give me the fair one in country or city,
Whose home and its duties are dear to her heart,
Who cheerfully warbles some rustic ditty,
While plying the needle with exquisite art,
The bright little needle—the swift flying needle,
The needle directed by beauty and art.
If Love have a potent, a magical token,
A charmer ever resistless and true—
A charm that is never evaded or broken.
A witkey certain the heart to subdue—
'Tis this—and his armory never has furnished
So keen and unerring, or polish'd a dart;
Let beauty direct it, so pointed and burnish'd,
And 'tis it is certain of touching the heart.
Be wise then, ye maidens, nor seek admiration
By dressing, for conquest and flirting with all;
You never, whatever be your fortune or station,
Appear half so lovely at rout or at ball,
And gaily convened at a work covered table,
Each cheerfully active and playing her part,
Beguiling the task with a song or a fable,
And plying the needle with exquisite art.

KINGSTON MARKETS.

Beef, per cwt.	30	0	a	0	0
Mutton, per lb.	0	3	a	0	4
Veal, per lb.	0	3	a	0	4
Ham, per lb.	0	6	a	0	7½
Chickens, per pair,	1	1	a	0	0
Eggs, per doz.	0	9	a	0	10
Potatoes, per bushel,	2	0	a	0	0
Apples, per barrel,	5	0	a	7	6
Pears, per barrel,	25	0	a	0	0
Hay per ton,	70	0	a	80	6
Flour, fine,	30	0	a	32	0
Flour, superfine,	32	0	a	34	0
Oats, per bushel,	2	0	a	2	3

TORONTO MARKETS.

Fine Flour, per barrel,	1	10	0	a	1	12	6
Wheat, per bushel,	0	5	6	a	0	6	8
Barley, ditto,	0	1	8	a	0	2	0
Oats, ditto,	0	1	5	a	0	1	6
Pease, ditto,	0	2	0	a	0	2	6
Oatmeal, per barrel,	0	0	0	a	1	2	6
Beef, per 100 lbs,	1	2	6	a	1	5	0
Mutton, (qr.) per lb.	0	0	3½	a	0	0	4½
Veal, ditto,	0	0	3½	a	0	0	4½
Butter, (fresh) per lb.	0	0	7	a	0	0	9
Cheese, per lb.	0	0	4	a	0	0	6
Fowls, per pair,	0	1	3	a	0	1	8
Ducks, ditto,	0	1	8	a	0	2	0
Eggs, per dozen,	0	0	6	a	0	0	7½
Hay, per ton,	3	5	0	a	3	10	0
Straw, ditto,	1	10	0	a	1	15	0
Potatoes, per bushel,	0	1	1	a	0	1	3

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THE
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A. B. E. F. GARFIELD—EDITOR.
GARFIELD & COOD—PROPRIETORS.

To Post Masters and Agents who send us \$10 free of postage, we send eleven copies—twenty copies for \$18.

All communications directed to the Editor of the FARMER & MECHANIC, Kingston, Post-paid, will receive attention.

PUBLISHED AT THE OFFICE OF THE NEWS, CORNER OF GRASS AND JOHNSON STREETS.