Technical and Bibliographic Notes/Notes techniques et bibliographiques

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

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

- [ ] Coloured covers/
  Couverture de couleur
- [ ] Covers damaged/
  Couverture endommagée
- [ ] Covers restored and/or laminated/
  Couverture restaurée et/ou pelliculée
- [ ] Cover title missing/
  Le titre de couverture manque
- [ ] Coloured maps/
  Cartes géographiques en couleur
- [ ] Coloured ink (i.e. other than blue or black)/
  Encre de couleur (i.e. autre que bleue ou noire)
- [ ] Coloured plates and/or illustrations/
  Planches et/ou illustrations en couleur
- [x] Bound with other material/
  Relié avec d'autres documents
- [x] Tight binding may cause shadows or distortion along interior margin/
  La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- [ ] Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
  Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- [ ] Coloured pages/
  Pages de couleur
- [ ] Pages damaged/
  Pages endommagées
- [ ] Pages restored and/or laminated/
  Pages restaurées et/ou pelliculées
- [x] Pages discoloured, stained or foxed/
  Pages décolorées, tachetées ou piquées
- [ ] Pages detached/
  Pages détachées
- [x] Showthrough/
  Transparence
- [x] Quality of print varies/
  Qualité inégale de l'impression
- [ ] Includes supplementary material/
  Comprend du matériel supplémentaire
- [ ] Only edition available/
  Seule édition disponible
- [ ] Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/
  Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

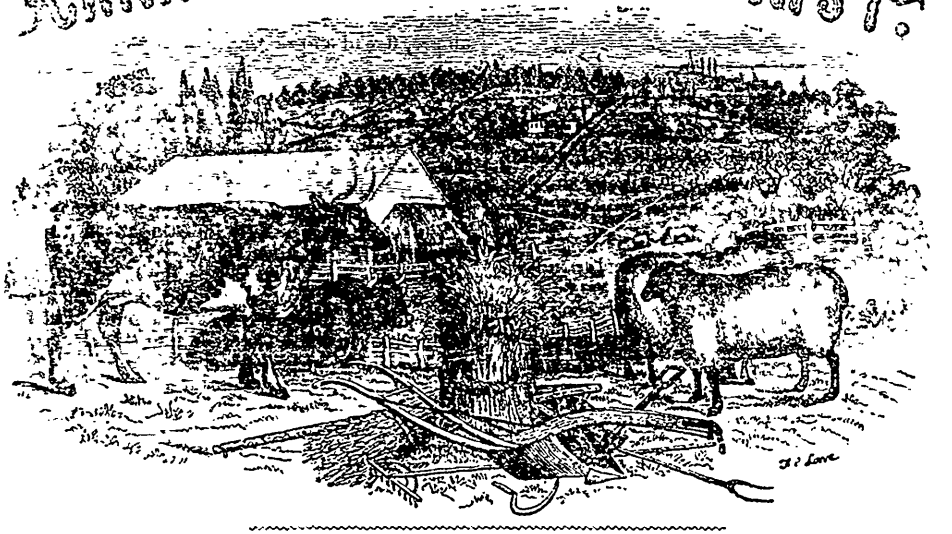
- [x] Additional comments:/
  Commentaires supplémentaires:

Pagination is as follows : [269] - [284] p. There are some creases in the middle of pages.

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

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

CANADIAN AGRICULTURIST.



" The profit of the earth is for all; the King himself is served by the field."—Eccles. v. 9.

GEORGE BUCKLAND, WILLIAM McDOUGALL, } EDITOR, ASSISTANT EDITOR

VOL. III. TORONTO, DECEMBER, 1851. No. 12.

A FEW WORDS TO OUR SUBSCRIBERS ABOUT THE AGRICULTURIST FOR 1852.

The present number completes the *Agriculturist* for 1851. In thanking our subscribers and contributors for the support they have rendered us, during another year, we are desirous of saying a few words in reference to the next.

As intimated in our last, an arrangement has been entered into by the Proprietor of this journal and the Board of Agriculture, which it is hoped will prove mutually beneficial.

The Prize Essays, Reports, and transactions of the Board are to appear in the *Agriculturist*, which, for the future, will be entirely under the editorial management of the Secretary.

In order to meet the additional demand on our space, occasioned by the new arrangement, the size of the *Agriculturist*, commencing in January next, *will be increased one-third;*—printed on superior paper, with new type, *without any advance on the present terms:* viz.: *One Dollar per annum for a single copy; and to Members of the Agricultural Societies, only Half a Dollar!* These terms are always in *advance;* and if extra numbers are required, in order to keep pace with the matter accumulating in the hands of the Board, no further charge will be made to subscribers. Engravings will be given when the subject treated of requires such aid, and other important improvements are contemplated, which we will leave to speak for themselves.

The *Agriculturist*, in its enlarged and improved form will not only be one of the *cheapest* periodicals published on this continent, but will be, what we are most anxious to make it, a useful medium of communication between the numerous Agricultural Societies which now happily exist in Upper Canada.

The January number, containing Mr. Hutton's Prize Essay on Agriculture, will be sent to all subscribers now on our list; but none after-

wards, *unless directly ordered.* We will thank our friends to favor us with their orders, *as early as possible*, that we may be enabled to determine the extent of the edition likely to be required.

PREPARATION FOR WINTER.

We take the following from the *Genesee Farmer.* It is good, and we hope that our Canadian Farmers will take pattern by the correspondent and give a proper share of attention to the stock under his care during the winter months :—

Messrs. Editors:—Having received so much benefit myself, by being reminded in the *Genesee Farmer*, occasionally, of the importance of preparing for winter, I may be pardoned for endeavouring to do to others the same kindness I have so freely received. I always intended, as of course others do, to be fully prepared for every emergency, as much as possible; but, somehow or other, always happened to be a *little behind*, and had to do work in very unpleasant weather, which, with a little *forethought*, might have been done easier and better a little before. Then, often on account of the unpleasantness of doing out-door work, many things remained, entirely undone, and much loss was the consequence, and perhaps suffering to animals from cold and storm. One cold, stormy day in the winter of 1848-9, I sat by a warm fire, feeling rather uncomfortable as I thought of a barn that needed a little repairing, that I intended some time ago should have been done on the first fine day; but it had not been done, and the snow was covering my hay mow, and the barn looked like a snow palace inside—the stable that was not *quite* as tight as I knew it ought to be, and might very well have been. As I observed, I felt rather uncomfortable at these thoughts, and took up the *Genesee Farmer* to read a little and forget my bad feelings, when the first thing that attracted my attention was an article headed "*Prepare for Winter.*" I laid down the paper and really felt *cross* at being reproved in that way, and said something about its being very easy to write, but those that wrote such fine things didn't do any better than those of whom they were finding fault, with many more things of this character that I am not now foolish enough to repeat. But, after a time, my good sense began to show me the truth of the matter, and in a little while I thought it was about right. In about an hour I had resolved to go to work at the stable at once, in spite of the wind and the snow. So I put on my thick coat and mittens, called the boys to my assistance, (who wondered what new streak had taken me,) got hammer and nails and boards, and fixed up the stable in pretty good order in about two or three hours. Next day went at the barn, repaired it in every place where repairs were needed, or where an improvement could be made, shoveled out the snow, and then sat down to enjoy my reading, feeling, I can assure you, more like a man than I had felt before in many a day, comfortable in body and mind. I have endeavoured since to keep a little ahead of the times and seasons, and find great benefit from the practice. Now, brother farmers, if you profit by my example, it will add to your honour and happiness.

H.

COTTON GROWN IN OHIO.

We learn from the Cincinnatti Commercial that cotton of a fine quality has been grown in the garden of Major J. M. Brown of that city. Says the Commercial:

The balls were small, in comparison to the cotton we have seen on the Red River and the Mississippi, but the texture is the finest we ever saw in any country. We are of opinion that this country could produce cotton of a most peculiar kind, which could be worked into fabrics equaling the finest imported; indeed, we think this climate eminently calculated to produce such a kind of cotton as to almost rival silk! It it is useless to say that the small and delicate balls raised here can be as easily picked as those large ones on the Mississippi and Red Rivers, but they actually give more cotton, according to size, as one acquainted with cotton growing regions can see at a glance. We believe that an acre of ground in this country could be tilled and planted with cotton that would come up to two-thirds the worth of an acre so used in Mississippi. We learn that Mr. Thomas James, formerly of Mississippi, a cotton raiser, had the management of of this minature cotton crop, and is impressed with the success to such a degree that he will advise its repetition next year on a more extended scale.

BURNING OUT STUMPS.

Where there are but few stumps in a field, the stump machine cannot always be used advantageously, and the expense of applying it, would exceed the advantages. I have found that large stumps, which it is not practicable to remove by ordinary means, may very easily be got rid of by the following simple process:

After a period of dry weather, when the exposed portions of the stump are dry and tindery, cover it with a quantity of dry combustible matter, such as shavings, small sticks of wood, rubbish of any kind, and sprinkle over and through the mass, a few pounds of rosin, or a bucketful of tar. Over this, place a close and compact laying of turf, grass side in, in the same manner as the covering is applied to a coal pit, and ignite the wood through an opening at the base—a hole being left at the top to produce the requisite draught till the fire is fairly kindled. Manage just as you would were you burning a coal-kiln, and let the burning continue till the *stump and its roots* are completely consumed. The ashes will make a good top dressing for the adjacent soil, and the obstacle be removed effectually, and at a small cost. An hour's labour will do it.—*Germantown Telegraph.*

PRIZE REPORTS.

We have received several inquiries respecting the prizes offered by the Board of Agriculture, for the best Agricultural reports of *Counties*, in Upper Canada. The new agricultural statute, which was published in our last number—and should be carefully examined by all office bearers—requires that Township Societies shall hold their annual meetings in the month of January, and transmit their reports to their respective County Societies, in time for the annual meetings of the latter, which are to take place in February. County Societies have to transmit their reports, together with those of the Townships in each County, to the Secretary of the Board of Agriculture, on, or before, the 1st of April, in each year. The Board of Agriculture will give four premiums for *the four best County Reports*. The competition, therefore, lies between the whole of the County Societies in Upper Canada. The object of the Board is to elicit the truth with regard to the actual condition and capabilities of agriculture in this country. Societies are, of course, at liberty to engage what assistance may be deemed desirable in preparing their reports. We subjoin the conditions, as published in the last premium list:

AGRICULTURAL REPORTS OF COUNTIES.

	£	s.	d.
For the best County Report of the Agricultural Society of the County,	20	0	0
2d do.	15	0	0
3d do.	10	0	0
4th do.	5	0	0

These Reports, in addition to the usual information required respecting the condition of Agricultural Societies within their range, should describe the various soils of the County; modes of farming; value of land; amount of tillage and average of crops; breeds of live stock; implements and machines in use; methods of preserving and applying manures; sketch of past progress, with suggestions for further improvement. All statistical information should be condensed as much as possible, and when practicable, put into a tabulated form. The main object of each report should be to afford any intelligent stranger that might read it, a concise, yet an adequately truthful view of the Agricultural condition and industrial pursuits of the County.—While all unnecessary particulars are to be avoided in the preparation of these Reports, *completeness* should, as much as possible, be constantly kept in view. The Reports must be sent into the Secretary of the Board of Agriculture on, or before 1st of April, 1852; and the premiums will be paid into the hands of the Treasurers of the respective County Societies, that may win the same. The Board will publish the whole, or such parts of the Reports, as may be deemed expedient.

THE LOW PRICE OF GRAIN.

Although we have had this year, in Upper Canada, a bountiful harvest, there is too much reason to fear that many of our farmers will not find that their business has been profitable. The almost unprecedented low price of wheat that now obtains, must, except in cases of extraordinary production, entail an actual loss on the growers, while other products of the farm are not selling at rates that will make up the deficiency. In a comparatively new country, where the condition of agriculture has scarcely begun to assume a systematic form, it is extremely difficult to fix the minimum price at which wheat can be raised; but our opinion is, taking any considerable area of Upper Canada, during a series of years at the present price of labour, that the farmer can receive a moderate remuneration for his labour and capital, in the production of wheat, at less than from four to five shillings a bushel, at the lake ports. Good wheat is now selling in Toronto as low as three shillings, and even less; while in several country markets in England, we have observed of late, the price as low for sound samples as 33s. per quarter, (8 bushels.) It is self evident that should the present depressed price continue for wheat, the Canadian farmer must look less to this article, for his pecuniary returns, than has been his wont: new productions must be sought for and tried; among such that hold out the greatest promise at the present, are in our estimation, Hemp and Flax. What the farmer requires in reference to these two important articles, for the growth of which the climate and much of the soil of this country seem admirably adapted,—is a market for his *raw produce*. Claussen's newly invented machine for partially reducing the fibre would be highly advantageous, especially to growers in the remoter districts. But before much could be done in this country to make the culture of Hemp and Flax profitable on a large scale, mills, with the necessary machinery, will have to be erected in different parts of the Province, for extracting the oil and preparing the fibre for the purpose of manufacture. A fair commencement and trial in this important department of industry, will, we believe, be made in earnest during the next season; and every real friend of his country must wish such enterprize success.

Notwithstanding the present depressed value of grain, the Canadian farmer, if his farm be clear of debt, may, by the exercise of prudence, manage to live, and that too, in a state of independence. He has no occasion for harrassing forebodings how he is to meet the demands of the landlord and tax-gatherer; and should self interest induce him to lay down a large portion of his arable fields to pasture, he is not harrassed with the pressing importunities of unemployed labourers. Let the worst come, and he can still manage to obtain food and raiment; and if the latter be not of the finest texture, it is the production of his own hands and soil, and well adapted to his wants.

How different are the condition and prospects of his brethren in the Old Country, under the low price system? With their produce suddenly reduced 25 to 30 per cent, and all fiscal burthens remaining nearly or quite the same, the tenant farmers of England have nothing but ruin staring them in the face; a result that can be obviated only in two ways; either by imposing a sufficient import duty on foreign agricultural productions; (and of this there does not, at present, appear the least probability,) or by reducing rents, tythes, and taxes to the level of the present depreciated value of farm produce. The latter must inevitably take place; but an inconsiderate and unfeeling obstinacy on the part of legislators and landlords may so retard its progress, as to work out the final ruin of a large number of industrious and well-disposed men.

In order to give our readers a view, somewhat in detail, of the present position of the British Farmer, we subjoin a statement from the pen of Mr. Samuel Jones, an extensive and enterprising agriculturist in the South of England, in reply to some remarks in a speech of Lord Palmerston at a recent Agricultural Meeting at Tiverton.

"I take them at what ought to be the amount of produce under good farming, and shall take as their value the prices under which the great change in Church property was based—the value of wheat, barley, and oats—under the Tithe Commutation Act, and compare it with the present value of the same:—

	Per Acre	Per Qr.	Per Acre.
Wheat	4 qrs. at	56s. 6d.	226s.
Barley	6 qrs. at	31s. 8d.	190s.
Oats	8 qrs. at	22s. 0d.	176s.
			592s.

PRESENT VALUE.

Wheat	4 qrs. at	39s 11d	159s 8d.
Barley	6 qrs. at	22s 10d	137s 0d.
Oats	8 qrs. at	17s 10d	142s 8d.
			439s 4d.

Total diminished value in these crops 152s 8d.

or on each crop a diminish of 50s. 10½d. per acre. I thus clearly prove the diminished value of an acre of wheat, barley, and oats is 50s 10½d per acre. I would, my Lord, leave it to your own consummate ability, deep research, and practical knowledge to prove how much the diminished expenses of production really are; but fearing your Lordship may shrink from such a task, I will endeavour to assist you, leaving it to your Lordship to correct any errors or misstatements; but at the same time permit me to say I shall deem your silence on the subject as a ready and candid admission of the truth of my statement.

And he goes on as follows:—

"The diminished cost on seed wheat, barley, and oats, is 2s. 7d.

"'The wages of our labour less.' How and why is it so, my Lord?—unless your accursed system has lessened the demand for labour, which I will take at 10 per cent. The cost of labour per acre has been about 25s.; reduction on labour, at 2s. 3d. per acre.

"'Manure cheaper!' How is this, my Lord! This proves the lessened demand for the article, and that the lands are being deteriorated in value. I cannot allow any deduction under this head.

"'Poor rates less!' This I deny, and below beg to refer you to a statement upon which my denial is based. Abatement of rent, say 10 per cent. taking the average amount of rent at 20s. per acre, the deduction would be 2s. per acre, making a total reduction in the cost of production of 6s. 10d. per acre.

"Poor's rates. Average amount of poor and county rates for seven years, commencing 1840, to 1846, is £7,643,208, to pay which, with wheat at 7s. per bushel, will require 21,839,268½ bushels.

"Average of poor and county rates, three years, 1847, 1848, and 1849, £8,689,370, to pay which, with wheat at present value of 5s. per buchel, will require 34,757,480 bushels.

Mr. Jones concluded by saying:—

"Thus we find the increased cost, if taken in wheat, to be 12,918,202 bushels, at 5s. per bushel. As to the increased produce arising from the 'progressive development of science as bearing upon agriculture, he is enabled to produce a greater quantity out of the same extent of land than he produced before.' All practical men, my Lord, are well aware that all extra produce under present prices is raised at an increased loss. You further state—'I think the farmer even will find that if he strikes a fair and accurate balance, his loss is far less than he imagines

it to have been.' What amount of loss, my Lord, could you have fancied we had thought it was when I prove it amounts to 50s. 10½d. per acre after deducting the advantages arising from diminished expences? In this loss, bear in mind, I have not taken into account the diminished value of peas and beans, beef and mutton, which would amount to 20s per acre on the two shifts of fallow by pulse and seed crop. After striking a fair and accurate balance, my Lord, I find the loss on a farm cultivated on the four-course system to be as follows:—

	Lesssened value of produce.	Advantages by diminished cost.
	s. d.	s. d.
Wheat - - - -	50 10½ per acre	6 10 per acre.
Barley & Oats - -	50 10½ per acre	6 10 per acre.
Beans, Peas, Fallow	40 0 per 2 acres	13 8
	141 9	27 4

Thus we find our produce has been reduced in value 114s. 5d. on the four acres after striking a fair and accurate balance by deducting the full amount that can be allowed for lessened expenses of cultivation, or a clear loss, or lessened value of agricultural produce of 28s. 7½d. on every acre of arable land."

[The following communication would have appeared in our last, but was crowded out. Mr McCormick's machine obtained a medal at the World's Exhibition, and we have no doubt from what we have seen of its working on the extensive plains of the West that, under similar circumstances it is a very advantageous and efficient implement. Hussey's Reaper has since been tried in England, with apparent favor. We doubt, however, whether the very high hopes expressed by some sanguine, but not over practical minds, respecting these Reapers, will ever be realised in many districts of the British Islands, where the fields are too small, and the surface too uneven, for their advantageous action.]

MR. MCCORMICK'S REAPING MACHINE.

To the Editor of the Canadian Agriculturist.

SIR,—I see by the Report of Prizes awarded at your late Provincial Fair, held at Brockville, that a premium was awarded to Hussey's Reaping Machine, a highly finished one, got up for the occasion, exhibited with one of Mr. McCormick's, (common reapers, such as are sold for use,) the same as took the great prize recently at the World's Fair in London, and created so much excitement among English farmers. Both of these machines were operated in presence of a committee on the part of the World's Fair, many gentlemen of distinction and several hundred farmers, on two occasions, were in London. On the first occasion the day was rainy, and the wheat green. Hussey's machine clogged, trampled down the grain and was taken off from the ground, McCormick's worked to perfection, and drew forth cheer after cheer from the assemble l multitude. Another trial has since been had under more favorable circumstances, with the grain in a good condition for cutting, and after a full and fair trial, the great medal was awarded to McCormick's, upon the ground that it cut with much less horse power, raked off at the side, enabling you to cut a whole field without binding, and cut when the grain was too wet to bind, economizing in time and labor, and that it had a reel to draw the grain to the sickle and cut leaning grain much better. Hussey's reaper raking off at the side and requiring the grain to be bound as fast as cut, and having no reel could not cut leaning grain without covering the swath and could only cut where the wind was blowing the way the machine was going by driving upon a trot upon which pace the horses could not hold out. Since these trials, McCormick's reaper has had several useful trials at contentions in different counties got up for the occasion by distinguished men, at each of which large numbers of farmers and many noblemen have been present, where it has given entire satisfaction. The editor of the *London Times*, on one occasion, made a journey of one hundred miles to see it work, and says it will cut all the wheat of England. The Agricultural Society of Scotland have sent for it at their own expense to be worked there. One house in London has undertaken to make five hundred reapers for the next harvest on their own account. This reaper has twice taken the highest premium at the New York Fair, (Hussey's being present,) and obtained the great medal at the National Institute, New York.—This is the great machine in the West. Only one of McCormick's improved Virginian reapers has been worked in Canada, and that on Dundas street, near Toronto, and the preference over all other machines is given to it. Your committee must have awarded the premium to Hussey's upon the ground of its superiority in mechanical execution, (which does not apply to the machines sold for use,) and not from any knowledge of its practical workings. He must be a bold man knowing the scrutinizing tests which the machines have undergone in England, who without any knowledge of the real merits of McCormick's reaper, Thos. J. Paterson, of Rochester, N. Y.,

would set his judgment against those of the farmers of England and the United States.

Brockville, Sept 27, 1851.

VITAL STATISTICS OF ENGLAND.

Some of our readers may not be aware that there now exists a system of registration in England, by which the number of marriages, births, and deaths, is ascertained with the greatest accuracy. The Registrar-General publishes these returns quarterly,—from the last of which we select the following facts. The births continue to increase rapidly, and the mortality is below the average. If the surplus cannot obtain profitable employment at home, they can emigrate to the Colonies, where there is generally ample verge enough for all. We have here, in Canada, abundance of room, a prolific soil, a salubrious climate, and the greatest system of water power, and communication with the Ocean, by our majestic rivers and lakes, of any portion of the world; and where intelligent and virtuous industry cannot fail, in a few years, to attain to competence and independence.

We find from the Returns of the quarter ending Sept. 30th, 1851, that 38,498 marriages were registered im England and Wales; and 150,584 births during the same period, and 91,600 deaths; leaving an excess during the quarter of 58,984 in the population.

"EMIGRATION.—It is well known that up to a late period there has been a constant immigration of the Irish and Scotch into England, which appears to have been fully equivalent to the emmigration of the English into the colonies and to foreign parts. 85,603 emigrants left the ports of the United Kingdom at which there are Government emigration officers in the quarter ending September 30th, 1851. This is at the rate of 930 a day; 6,510 a week. 13,963 sailed from Irish ports, 4,378 from Glasgow and Greenock, and 67 262 from three English ports, namely, 10,062 from London, 2,799 from Plymouth, and 54,401 from Liverpool. Of the total number 68,960 emigrants sailed to the United States, 9,268 to British North America, 6097 to the Australian Colonies and 1,278 to other places. The emigration has hitherto been greater in 1851 than it was in the corresponding quarters of 1850."

Some of the croakers against the Great Exhibition predicted a pestilence from the mass of human beings which it was to accumulate in London, but although the mass was collected to an extent beyond all reasonable calculation, Messieurs the prophets of evil have been proved to be in the wrong—we had almost said disappointed. The report shows that notwithstanding the unparalleled influx of temporary residents during the three months of July, August and September, "London has enjoyed a degree of health above the average in the last summer quarter. 13,061 deaths were registered, which is a less number than was registered in the summer quarters of 1847 and 1858, and half the number (27,172) registered in the summer quarter of 1849, when cholera was epidemic."

The Registrar-General concludes his remarks by the following reflections:—

"The present movement of the population is in many respects remarkable. The free admission of grain, fruit, and meat since the scarcity is equivalent to an addition to the country of a vast tract of fertile soil, which calls for cultivators, and, as the land is abroad, for agricultural emigrants who prefer the cheap though distant lands of America to the high-rented farms of Ireland, no longer possessing a monopoly for its production in the English market. The fact deserves attention that while the United Kingdom has been importing food in unprecedented quantities it has been sending out swarms of emigrants from the population, of which the marriages and births promise to keep up a perpetual and increasing supply."

CLOSE OF THE WORLD'S INDUSTRIAL EXHIBITION.

On Saturday, October 11th, this unprecedented scene closed to the public; but its official termination did not take place till the following Wednesday, in the presence of the Royal Commissioners, exhibitors and distinguished persons, specially invited, amounting to some 30,000 or 40,000 persons. We subjoin some account of the closing scene, with a number of facts that cannot fail to be interesting to our readers. It is highly satisfactory to find Canada coming out of a world's competion with so much honor and success. Twenty-three medals have fallen to our lot; the names of the fortunate winners will be found below, together with the articles rewarded.

Precisely at twelve o'clock, the Royal Commissioners, headed by the Executive Committee, moved in a species of procession from their apartments to the platform. They were accompanied by the Bishop of London in his robes, and on their appearence the immense assembly arose and welcomed them with loud cheers, while the choir performed the first verse of the National Anthem. Having taken their seats, Viscount Canning, on behalf of the Juries, rose and read a report of their proceedings, from which we extract the following account of the two kinds of medals conferred, premising that it was at first intended to have had three different kinds, but that one had been suppressed—

"Of the remaining two, they suggested that one (the prize medal) should be conferred wherever a certain standard of excellence in production or workmanship had been attained—utility, beauty, cheapness, adaptation to peculiar markets, and other elements of merit being taken into consideration according to the nature of the object; and they recommended that the medal should be awarded by the Juries, subject to confirmation by the groups.

"In regard to the other and larger medal, they suggested that the conditions of its award should be some important novelty or invention or application, either in material or process of manufacture, or originality com-

bined with great beauty of design; but that it should not be conferred for excellence of production or workmanship alone, however eminent; and they further suggested that this medal should be awarded by the Council of Chairman, upon the recommendation of a Jury, supported by its group.

H. R H. Prince Albert replied to the address of the Juries in a neat and pertinent speech, of which the following was the concluding paragraph:—

"In now taking leave of all those who have so materially aided us in their respective characters of Jurors and associates, foreign and local Commissioners, members and secretaries of local and sectional Committees, members of the Society of Arts and exhibitors, I cannot refrain from remarking, with heartfelt pleasure, the singular harmony which has prevailed among the eminent men representing so many national interests —a harmony which cannot end with the event that produced it. Let us receive it as an auspicious omen for the future: and, while we return our humble and hearty thanks to Almighty God for the blessing he has vouchsafed to our labors, let us all earnestly pray that the Divine Providence which has so benignantly watched over and shielded this illustration of nature's productions, conceived by human intellect and fashioned by human skill, may still protect us, and may grant that this interchange of knowledge, resulting from the meeting of an enlightened people in friendly rivalry, may be dispered far and wide over distant lands; and thus, by showing our mutual dependence upon each other, be a happy means of promoting unity among nations, and peace and good will among the various races of mankind."

The Prince was dressed in plain black, and wore the blue scarf of a Knight of the Garter. He was loudly cheered at the close of his reply.

The Bishop of London then offered up an appropriate prayer.

The ceremonial concluded with the very effective performance of the "Hallelujah Chorus," in which a prominent part was taken by the powerful horn which has so often resounded through the Crystal Palace.—The Prince and Royal Commissioners at its conlusion took their departure amid the hearty cheers of the assemblage. As soon as they were gone the barriers were removed, the seats and other temporary arrangements were swept away, and the stroke of hammers in every direction told that the work of removal and demolition had fairly commenced. The great Exhibition is now, therefore, fairly at an end.

We add here some curious details in the statistics of the Exhibition, commencing with a view of the receipts and expenditure as follows:—

LIABILITIES.

The liabilities incurred, so far as they have been at present ascertained, are as follows:

	£.	s.	d.
To Messrs. Fox and Henderson, for the building,	79,800	0	0
To Messrs. Munday for rescinding of contract,	5,004	0	0
Extra galleries, counters, and fittings,	35,000	0	0
Management, including printing, &c. up to may 1st,	20,943	0	0
Police force,	20,000	0	9
Prize fund,	20,000	0	0
Management during the Exhibition,			
Total,	£170,943	0	0

TOTAL RECEIPTS.

The income of the establishment is as follows, up to the close of the Exhibition:—

	£.	s.	d.
Public subscriptions,	94 344	0	0
Privilege of printing,	3,200	0	0
Privilege of supplying refreshments,	5,500	0	0
Amount received for session tickets up to May 1st,	40,000	0	0
Royalty of 2d. per copy on catalogues			
Total funds in hand on the 1st of May	£113,044	0	0
Amount received at the doors up to August 30,	252,141	9	0
Ditto up to the end of September,	62,007	12	0
Ditto up to Saturday, October 11,	41,922	11	0
Grand Total,	£469,115	13	0

The following is a monthly statement of the visitors:—

In the month of May, the number of visitors was	734,782
In June,	1,133,116
In July,	1,314,176
In August,	1,023 435
In September,	1,155,240
In October, up to the 11th instant,	841,107
Grand Total,	6,201,156

Among the visitors the children of no fewer than 510 schools, amounting to 43,715 pupils, visited it; and the kind feeling exhibited by the wealthy classes towards the poor may be further inferred from the fact that nearly 11,000 persons, in addition, were treated to a visit to the exhibition at a a total cost of £2,735 paid for admissions, to say nothing of the much larger sums disbursed for their conveyance to and from the Crystal Palace.

The consumption of food in the Crystal Palace was very great. The ordinary sale of cooked meat, in the shape of sandwiches and luncheons, averaged on the Monday and Tuesday about sixteen cwt. On Wednesday, Thursday and Friday, the quantity was doubled, and upwards of a ton and a half of beef and ham was cut up in thin slices for the hungry visitors, and this independently of the large sale in the eastern and west refreshment courts, the statistics of which have not been ascertained. It is impossible to form any estimate of the immense quantities of other refreshments in the shape of tea and coffee, ginger beer and lemonade, buns and cakes, which the Exhibition has furnished. The profit of the cooked meat alone must have exceeded £30,000.

LIST OF THE NUMBERS OF MEDALS GRANTED TO VARIOUS COUNTRIES.

United Kingdom	1190	South Australia	4
Belgium	115	Ceylon	4
United States	99	Egypt	3
Switzerland	71	Nassau	3
Russia	58	Tunis	3
India	46	Malta	3
Spain	41	Mauritus	3
Saxony	39	Nova Scotia	2
Tuscany	30	Trinidad	2
Canada	23	New South Wales	2
Wurtemburg	21	New Zealand	2
Turkey,	20	Bahamas	2
Sardinia	19	Labuan	2

Bavaria	18	Lubeck	2
Netherlands	16	Mecklenburgh Strelitz	1
Portugal	15	Frankfort-on-Maine	1
Van Diemen's Land	12	Luxemburg	1
British Guiana	9	Holland	1
Algeria	9	Brazil	1
Cape of Good Hope	8	Jersey	1
Denmark	8	Grenada	1
Rome	8	Western Africa	1
Duchy of Hesse	8	St. Domingo	1
Sweden and Norway	7	Hamburg	5
China	5	Borneo	1

List of Parties, resident in Canada, to Whom Her Majesty's Commissioners have granted the Prize Medal:

No. in Catalogue.	Name of Exhibitor.	Object Rewarded.
5.	Hon. J. Ferrier,	Quality of iron.
10.	Montreal Mining Co.,	Copper Manufacture.
35.	D. Christie,	White Wheat.
	Arthur Fisher,	Maple Sugar.
41.	D. Jones,	White Peas.
40.	D. Limoges,	White Peas.
	G. Reinhardt,	Ham.
126.	J. Robb,	Biscuits.
38.	J. Simpson & Co.,	Wheat Flour.
64.	B. Smith,	Hops.
51.	R. Squair,	Oatmeal.
38.	R. M. Watts,	Polish Oats.
80.	Commission,	Collection of Woods.
75.	Read & Meakins,	Hard Woods.
131.	Perry G., & Brothers,	Fire Engine.
139.	Wm. Gamble,	Blankets.
186.	J. Patterson,	Do.
109.	Tetu, C. A.,	Porpoise Leather.
113.	Morris, R.,	Set of Double Sleigh Harness.
33.	J. T. Palsgrave,	Printing Types.
86.	J. Baley,	Pails.
119.	W. Dunn,	Porcupine Quill Chair.
	R. Marshall,	Dinner Mats.

EXTRAORDINARY PRODUCE.

A single Apple tree (Lemon Pippin,) belonging to Captain Shaw, near this city produced this year, the extraordinary amount of 55 bushels! The Captain is well known as a very successful exhibitor at our Provincial Shows, in various departments of agricultural produce. We observed on his farm the last season some heavy crops of roots and grain. His extraordinary pumpkins have excited the astonishment of all beholders; weighing sometimes as much as 260 lbs. each; and he had this season a Cabbage, of the Quintal variety, which attained to the weight of 34 lbs! These few facts are sufficient to show what can be done in the neighbourhood of Toronto, and indeed in most parts of Canada, by selecting pure seed of the most suitable kinds of plants, and subjecting them to a system of judicious cultivation. Cobbett truly observed, "that the soil was always grateful, *when it had something done or given to it, to be grateful for;*" a truth, almost self evident, yet lamentably misunderstood, or at least neglected, by too many sons of the soil.

AMATEUR FARMING.

The following observations from a speech of SIR E. L. BULWER, recently delivered before a meeting of the Herts Agricultural Society, are particularly deserving of attention at the present time, both in the Colonies as well as in the mother country. *Real* science must undoubtedly prove beneficial to agriculture, when it can be practically applied, as in other industrial arts. The man, however, who farms for a livelihood has to look to the *cost* of an experiment, *compared with the pecuniary value of the result.*—Farmers, in general, are not slower than other people in adopting improvements, if a reasonable chance of *profit* be afforded thereby. It fortunately happens that amateur farmers are mostly not dependant upon the profits of their farms for their living, and many pursue this rural and primitive art simply as a means of healthful recreation. Few, if any of these amateur gentlemen in England, who are so loud in the praise of science and improvement, ever condescend to enlighten their less sanguine and wealthy neighbors on, what after all is the main thing,—the profit or loss of the whole matter.—Till this is done in a satisfactory manner; prudent, practical farmers, will continue to place but little confidence in this class of their would-be-instructors.

"Gentlemen with large pecuniary resources, and who are to a great extent indifferent to pecuniary profit, have cried up this system: but the books have been carefully kept under lock and key, and therefore they may say what they like. But even were we perfectly satisfied as regards the land and cattle, it is too much to suppose that we should, upon mere assurances, and without vouchers, assume that it answers in business, and pays back the cost. (Hear, hear.) It is generally found that the experiments made by amateur farmers, although most praise-worthy, will be slow in their progress until some spirited practical tenant farmer takes them up, and finds them to be not only scientific, but actually paying and profitable. The Government has been lavish enough of its advice and its lectures, and they would add to their liberality by going a little further. If, for instance, the State would take, at a fair rental, in different districts and on different soils, certain farms, and would invest such capital only as a spirited farmer might be supposed to possess—if they would on each of these farms place a practical farmer and

a first rate scientific chemist—if periodical returns were made out of the expenditure of public money on these farms, then we should have at least all of which chemistry and science is capable of accomplishing. We should unite practical knowledge with chemical science, and obtain what we cannot get from amatuer farmers, methodical and exact accounts of the price and cost of these experiments; and if it should be proved, as we have been told, that large profits can be realized at present prices, then we shall receive, for the first time, something like authentic facts to guide our efforts and stimulate our researches. (Hear, hear.)

A PATRIOTIC EXAMPE.

We feel much pleasure in transferring to our columns, the following piece of information from a city contemporary. The excellent and respected President of our Provincial Association is evidently not unmindful of the important dogma, now happily recognised in all civilised and christian communities; "that property and station have their duties, as well as their rights." May the spirit of this example live.

"We are informed on good authority, that Thomas Clark Street, of Niagara Falls, President of the Agricultural Association of Upper Canada, gave an order before he left England, to the Colonial Agent of Canada at the World's Exhibition, to purchase whatever he would think would be useful to the Association, at his, (Mr. Street's) expense. This is indeed a noble act of the worthy President; and we are sure that the Association and the public generally, will not fail to appreciate it.

SCALDING HOGS.

I saw an article some time since, in the *Agriculturist*, on scalding hogs, and I thought I would send you a description of my mode of proceeding in such work.

I have a scalder, or large wooden tub, with a boiler in it, by which we heat the water by building a fire within the boiler, which saves the trouble of bailing off the water after the tub is filled, and a much more convenient way it is.

I will give you a description of it as well as I can. It is five feet three inches long, two feet wide at the top, and twenty inches to the boiler from the top of the tub, the boiler being a long cylinder of copper or sheet from eleven inches in diameter, reaching from the outside of one end of the tub to nearly the inside of the other end, where it has a shoulder; and the rest is the size of a common stove pipe, reaching through the end of the tub, to put a pipe on for the draft and smoke to pass through. The larger end should be even with the outside of the tub, and have a door, with a fire hole in it, attached to the tub. Some are made wider at the top than at the bottom. Mine is so, being only sixteen inches at the bottom, and sixteen inches to the bilge, being the same width at the top of the tub. It should have a rack, or something like a ladder, over the boiler to keep the hog from laying upon it and should have a wooden roller put inside the tub at the end where the boiler door is level with the top of the tub, to assist in getting out the hog, and have another ladder with rollers, to pull the hogs on, with a couple of hooks on one end to hold it to the tub.

The wood used for fuel need not be more than two feet long. It can be heated in an hour or two, if the pipe draws well. A tub of this size will scald a hog that will weigh 700 pounds. It should have a lid to it, to make the water heat quick. Mine is made of cedar plank two inches thick, with two planks on each side, and three iron hoops, one on each end, to go all the way round the tub, and one in the middle to lap over the top of each plank.—*Rural New Yorker.*

HOW TO SAVE POULTRY MANURE.

Having learned the value of poultry manure, we suppose now, our readers would like to know what is the best method to save it.

First, build you a poultry-house, if it be no more than a rough scaffolding of poles or slabs, laid upon crotches, forming a double pitch roof, with end boards in winter, to keep out the wind and driving storms. Under this, place parallel roosts; the manure during the night, then, will all drop down in a narrow row beneath. Here place light loam about a foot deep, rather wider and longer than the roosts, and give it a sprinkling of plaster of Paris an inch thick. When this is covered an inch deep with manure, give it a layer of loam four inches deep, and another sprinkling of an inch of plaster, and so continue. In the spring, mix all well together, keep it free from the rain, and use it at the rate of one pint to a hill of corn, or in a corresponding quantity for cucumbers, squashes, pumpkins, melons, peas, onions, strawberries, or any other fruit, vegetable, or grain, requiring rich warm manures, and, our word for it, you will have a large crop of a superior quality. Thus you will become one out of the many who is desirous to benefit himself, and assist in saving more than a million of dollars annually to the country.—*Am. Ag.*

TREES AS POSTS FOR WIRE FENCES.

Messrs. Editors,—Would it not be a good idea to plant trees in the corners of fences, to serve as posts for a wire fence when sufficiently grown? I think they might be used for that purpose, answering at the same time for shade and ornament. There are many places now where a trial might be made. The staples for keeping the wires in their places, would need to be made differently from those used for posts. They should be formed with a hook on one end and a

screw on the other, that they may be screwed into a gimlet hole bored in the tree, and the wires hooked on, to be unfastened and the staples drawn out as the tree increases in size. But there may be objections to my plan which I have not thought of, and perhaps some better qualified will give their views on the subject.—*Rural New Yorker.*

KNOWLSON'S COMPLETE FARRIER.

A SPRAIN IN THE COFFIN JOINT.

This is often a grievous disease, and it is difficult to discover where the lameness is. It is often neglected till the joint grows stiff, and then the horse pitches upon his toe, and is afraid of bearing any weight on his foot. If you press with your thumb in the hole in the horse's heel, and upon the cornet of his foot, you will soon discover whether the hurt is in the Coffin Joint.

When people cannot tell the cause of a horse's lameness, they often say that he has got sprained in the coffin. In my opinion it is better not to doctor a horse than to apply stuff to you know not what. If people would have a little patience, most lamenesses would soon show themselves, especially a sprain in the coffin joint, for it would raise a ring round the cornet of the foot, not much unlike a ringbone, but closer to the foot.

The first thing to be done is to draw a little blood from the spurn vein, then mix an equal quantity of oil of bays, and oil of origanum, beat well together, and rub well all round, just above the hoof. Apply this for three or four days together, and if no better, you must have recourse to repeated blistering.

A SPRAIN IN THE BACK SINEWS.

This kind of sprain is more frequent among horses than any other, and is so common that I need not describe it, but only inform you how to cure it.

If it be recent, bathe the leg with a little hot vinegar, or verjuice, with a little saltpetre dissolved in it, and put round it a proper bandage: or, curriers' shavings, wetted with a composition made of vinegar, spirits of wine, and a little tar, and laid on the swelling with a pretty tight bandage round them, will be of great use. Take it off once a day, and soak the shavings again, or get fresh. Injuries of this kind must not be expected to be removed immediately. Rest is absolutely necessary, and turning the horse out to grass would be of great service as soon as the swelling disappears, but not before. If these methods fail, the next thing is to blister; for I have known blistering succeed when all the former have failed. The last thing to have resourse to is firing.

SPRAINS OF THE KNEES AND PASTERNS.

The knees are liable to many misfortunes besides sprains. The Speedy Cut is done by striking one foot against the other leg, just below the knee, and is frequently done by a horse that trots high. Sometimes it swells very much, and is taken for a sprain. Sometimes horses get kicked by others, or meet with some other accident which causes a swelled knee, which is sometimes bad to remove. A poultice made as follows will have a great tendency to remove the swelling. Take

4 oz. of Tar.
4 do. Spirits of Wine.
3 do. Hogs' Lard.

Melt these together over a slow fire, and be careful not to set fire to them, and put in as much linseed-meal as will make them of a proper consistence. This is a very good poultice for many other kinds of swellings, and although but little known hitherto, I hope that it will be found of great service. If any substance be left which will not give way to this method, you must lay on a little blistering ointment.

THE BONE-SPAVIN.

Although this is a common disorder among horses, yet it is little understood by either breeders or farriers. The Bone-Spavin is a bony excrescence, or hard swelling on the inside of the hock in a horse's leg, and sometimes owes its origin to kicks and blows, and sometimes to natnral causes; but in the former case it is much more easily cured than in the latter; and those that grow spontaneously on colts, or young horses, are not so bad as those that appear in horses, that have arrived at their full strength and maturity. In old horses they are generally incurable.

Our horse-dealers and jobbers make a second kind of Bone-Spavin, which they call a Jack, but this is only a polished name for a Bone-Spavin, as there is no difference between the two. Some call it a Dry-Knot, but still it is a Bone-Spavin.

Sometimes the horse is very lame when the Spavin is first coming out, and when it has come out is better for some time, and then grows lamer again as the bone hardens. I would advise you to apply a blister as soon as you have any suspicion that a horse is likely to put out a Spavin, and to continue blistering, every fortnight, for some time, by which means you may stop a Spavin in a young horse.

CURE. Mild medicines should be used if the horse is young, as they will in a short time wear the tumour down by degrees, which is much better than trying to remove it at once by severer methods, which often have a very bad effect, and produce worse consequences than those they were intended to remove. But in full-grown horses they are absolutely necessary, and accordingly various authors have given prescriptions for compounding medicines to answer the intention; but I will not enumerate them here, as the blistering ointment given in the last chapter will be found to answer better for young horses than anything yet found out; and for an old horse, or one that has come to his full strength, you may add a dram of sublimate, finely powdered, to two ounces of the blistering ointment, and stir it well up.

Before these are applied, the hair must be cut

off very close, and then the ointment laid very thick on the affected part. It is proper to make the application in the morning, and to keep the horse tied up to the rack all day without any litter; but at night he must be littered in order that he may lie down; and to prevent the blister from coming off, put a white pitch plaster over it, and tie it on with broad tape.

When the blister has done running, and the scabs begin to dry and peel off, it should be applied a second time in the same manner as before, and the second will have a much greater effect than the first.

When the Spavin has continued long, the blister will have to be often renewed, perhaps five or six times; but it is necessary to observe that after the second time you must not be less than three weeks before you lay on the third, or you will destroy the roots of the hair and leave the place bald. By these means Bone-Spavins may often be cured; but when they fail, recourse must be had to firing.

Before you fire a horse for the Bone Spavin, be careful to take the vein out of the way, for it generally lies over the Spavin, and you cannot fire deep enough to come at the callous substance without its removal. In order to destroy the vein, cut a nick through the skin upon it, just below the Spavin, and another just above it, and put a crooked needle under the vein, and tie both ends; then cut the vein across between the tyings, both above and below, and you may either draw the piece of the vein out or leave it in.

Let the iron you fire with be pretty sharp; cut four or five nicks upon the bone, and let the iron take hold of the superfluous bone, in order that it may waste away by mattering; and when you have done, lay on some white pitch, pretty hot, and put a cloth round it to keep it on. In three days open the place, and dress it with yellow basilicon.

Some people put lunar caustic, or sublimate, into the places; but it is a dangerous practice, and often lames the horse for ever. I wish those who have got a horse that has a Bone-Spavin to make a full trial of the directions here given, and I trust they will find them to answer the purpose as well as any hitherto found out.

A CORB.

This is a soft swelling that rises out of the joint on the back part of the hind-leg, just below the hock, and mostly lames the horse, besides being unpleasant to the eye. To cure it, strike a few holes into it with a pricker, made so as just to go through the skin, then rub well with oil of origanum, and blister as often as needful.

A RING-BONE.

This is so well known that I need not describe it, but only point out the remedy; yet I must observe that a Sprain in the Coffin is sometimes taken for a Ring-bone when it causes a rim to rise just above the foot. Ring-bones come out from the pastern, between the fetlock and the foot; but if the pastern is long, they are nearer the foot.

They will generally yield to the same method of cure as a Corb, especially if just coming out but if not, recourse must be had to firing.

Splents, Osselets, or any other bony or fleshy substances on the legs, may be cured in the same manner. A Splent on the shank-bone is only a grievance to the eye, and will go away of itself when the horse comes to age; but the sooner those that are near the knees or the tendons are removed the better.

THE STRANGLES.

Most horses have this disorder while young, but at seven years old they are out of danger. There are two kinds of this disorder. The common kind is a swelling under or between the jaw bones. The other, which is called the bastard kind, is much the worst. Sometimes swellings appear on the buttocks, break, and discharge matter for a few days, and then dry up, after which others appear in a fresh place in the same manner. I have known horses that have had this complaint eight or ten weeks.

The common kind begins with a swelling between the jaw-bones, which sometimes extends to the muscles of the tongue, and is often attended with so much heat, pain and inflammation, that before the matter is formed the creature swallows with the utmost difficulty.

Symptoms. The Strangles is attended with great heat and fever, a painful cough, and great inclination to drink, without being able. Some horses lose their appetites entirely, and others eat but very little, occasioned by the pain resulting from the motion of the jaws in chewing and swallowing. When the horse runs much at the nose, it is not a good sign.

Although this disease is very troublesome, it is not dangerous, except when the swelling turns upwards against the windpipe and gullet, and then there is danger of suffocation if it do not break soon.

Cure. The Strangles is not properly a disease, but a discharge common to young horses, and therefore it follows that the discharge must be promoted in order to throw off the offensive matter. The best method of doing this is to keep the swelling always soft by soaking it with softening ointment, such as marshmallows, or elder ointment. I have known oil of swallows, with a little spirits of hartshorn in it, be very useful in bringing the swelling forward and causing it to break. A cloth in the form of a cap, put on the horse's head, and stuffed with wool to keep the swelling warm, will be of great service. Some people apply a poultice, but there is no need of this if the above be properly used. Give plenty of warm water, with a little meal in it; for in this disorder a horse cannot swallow dry meat enough for its support.

Sometimes the Strangles gather four or five times, and break in many places; and you must

observe that if the orifices are not wide enough, they must be opened with the point of a knife, and by this means it will be prevented from breaking out in so many places. After the swelling appears, it will be five or six days before it breaks and discharges. There is always a small discharge at the nostrils, but it is little or no grievance to the horse.

When the swelling is broken, and the orifice of a proper size to discharge the matter, dress with the following ointment spread on tow.

Take Yellow Rosin and Burgundy Pitch, of each one pound; Honey and Common Turpentine, of each half a pound; Bees' Wax, four ounces; Hogs, Lard, one pound and a half; and of Verdigrise' finely powdered, one ounce. Melt the ingredients together, but do not put the Verdigrise in till nearly cold, and keep stirring all the time till cold, or the Verdigrise will fall to the bottom.

This is one of the best salves for wounds that has been found out, and especially for old ones.

The Bastard Strangles requires the same kind of treatment, but it is proper to give the horse a dose or two of calomel physic also.

DRAINING BY MACHINERY.—A series of interesting experiments have been made at the farm of Mr. Ruck, Down Ampney, Gloucestershire, for the purpose of proving the superior advantages of draining land by machinery, both in time and expense, as compared with manual labour. The machine is an invention of Mr. Fowler, of the firm of Fowler and Fry, of Bristol. The field selected for the experiment consisted of stiff clay land, exceedingly dry on the surface, and crossed by a gravel path. The machine is formed by two horizontal iron frames, nine feet long, placed two feet apart, supported at one end by three wooden rollers, of one foot diameter, turning on axles; at the other end by two cart wheels. At the end nearest the cart wheels, and between the two frames, is supported a perpendicular plough or coulter of iron, seven feet in height, nine inches broad, and three quarters of an inch thick; the side of this plough or coulter, intended to cut and drain, has a sharpened edge; the other side is formed into a rack, which can be raised or depressed at pleasure, by a pinion or winch working into it, so that the plough is capable of being placed in the ground at any required depth. At the bottom of this upright plough or coulter is a socket, in which is placed a lengthened horizontal cone or plug, the point or apex in the same direction as the sharp edge of the coulter; at the back of this plug is fixed a rope, upon which is strung as many drain pipes as its length will allow; a simple process is adopted to add fresh coils of rope, or more pipes are required. A hole is then dug in the ground, say two feet deep and a foot wide, as in the present experiment, gradually sloped at the back, so as to allow the rope with the pipes to enter freely, and the coulter is placed upright in the hole, with its sharp edge and the point of the plug in the direction the drain is to be formed; at the end of the horizontal iron framing, farthest from the coulter, is fixed a horizontal pulley, through which a wire rope is passed, fastened at the other end to a capstan placed at the opposite extremity of the field, up to which the drain is to be formed. Four horses were harnessed to the capstan, which they turned with very trifling exertion, thus drawing the coulter through the land, the plug forming the drain, and the ropes with the pipes following. The time occupied in laying the nine chains of piping was 33 minutes, and the surface land was not more disturbed than if a knife had been drawn through it; when the coulter was drawn up to the capstan, it was raised out of the ground, the rope disengaged from the plug, and the horses hitched to the other ends of the coils of ropes, which they immediately drew out, leaving the tiles accurately placed, as was ascertained by digging down to the drain. Another drain was then immediately formed in the same manner, at a parallel distance of about 15 feet, the capstan still in the same position. The estimated expense of draining land in this manner, independent of the cost of tiles, is about fourpence a chain. From 6000 to 7000 feet can be drained in one day, at an expense of about 30s.

GERMAN AGRICULTURE.

Each German has his house, his orchard, his roadside trees, so laden with fruit, that if he did not carefully prop up and tie together, and in many places hold the boughs together with wooden clamps, they would be torn assunder by their own weight. He has his corn plot, his plot of mangold wurtzel, or hay, for potatoes, for hemp, &c. He is his own master, and he therefore, and every branch of his family, have the strongest motive for constant exertion. You see the effect of this in his industry and in his economy.

In Germany nothing is lost. The produce of the trees and the cows is carried to market; much fruit is dried for winter use. You see it lying in the sun to dry. You see strings of them hanging from their chamber windows in the sun. The cows are kept up for the greater part of the year, and every green thing is collected for them. Every little nook, where the grass grows by roadside and river, and brook, is carefully cut with the sickle, and carried home on the heads of the women and children in baskets, or tied in large cloths. Nothing of any kind that possibly be made of any use is lost; weeds, nettles, nay, the very goose grass which covers waste places, is cut and taken for the cows. You see the little children standing in the streets of the villages, in the streams which generally run down them, busy washing these weeds before they are given to the cattle.

They carefully collect the leaves of the marsh grass carefully cut their potato tops for them, and even if other things fail, gather green leaves from the woodlands. One cannot help thinking continually of the enormous waste of such things in England—of the vast quantities of grass on banks, by road-sides, in the openings of plantations, in lanes, in church-yards, where grass from year to year springs and dies, but which, if carefully cut, would maintain many thousand cows for the poor.

To pursue still further this subject of German economy. The very cuttings of the vines are dried and preserved for winter fodder. The tops and refuse of hemp serve as bedding for the cows; nay, even the rough stalks of the poppies, after the heads have been gathered for oil, are saved, and all these are converted into manure for the land. When these are not sufficient, the children are sent into the woods for moss, and all our readers familiar with Germany will remember to have seen them coming homeward with large bundles of this on their heads. In autumn, the falling leaves are gathered and stacked for the same purpose. The fir cones, which with us lie and rot in the woods, are carefully collected and sold for lighting fires.

In short, the economy and care of German peasants are an example to all Europe. They have for years, nay ages, been doing that, as it regards agricultural management, to which the British public is but just now begining to open its eyes. Time, also, is as carefully economised as everything else. They are early risers, as may well be conceived, when the children, many of who come from a considerable distance, are in school at six in the morning. As they tend their cattle or their swine, the knitting never ceases, and hence the quantities of stockings and other household things which they accumulate is astonishing.—*Hewitt*

PRODUCE FROM A SINGLE GRAIN OF WHEAT.

An experiment on the fertility of wheat has, during the past year, been carried out in the garden of Mr. Stowe, a surgeon at Buckingham, of which the following is a correct account. On the 13th of July, 1850, a single grain of wheat was sown in the garden; the plant came up in ten days, and grew luxuriantly till the 13th of September; it was then taken up and divided into slips, and replanted, and suffered to remain till the 16th of April of the present year. The weather then becoming favourably wet, they were all taken up again and divided into no less than 114 plants, these being planted, were permitted to stand till the present month of August, when they were productive of the amazing number of 520 ears of wheat, many of them of full size, containing more than 50 grains of corn. The crop was gathered before it was fully ripened, as the birds attacked it in spite of revolving feathers and a protecting net. Whether the result of this trial will strengthen the opinion of those who contend for the thin sowing of wheat in ordinary field cultivation, must be left to the judgment of more practical agriculturists, but of the amazing productiveness of the wheat plant, under such treatment, any one may easily satisfy himself by repeating the experiment.—*English Paper.*

BURNING WATER.

A plan has been projected for decomposing water and obtaining light from the two gasses, oxygen and hydrogen, of which it is composed, the first being the best known supporter of combustion, and the other being combustible. The following notices of this invention will give some information as to its progress:—"Our readers are familiar with the fact that an American (Paine) had succeeded in decomposing water, and so combining its hydrogen with carbon so as to form an illuminating gas, which he proposed as a substitute for the gas produced by the destructive distillation of coal in iron retorts. The invention at first attracted a great deal of attention; but so far as we have been able to learn, the process by which the gas was produced was both costly and uncertain. Since the period at which the American discovery was announced, a German chemist of great eminence has announced the discovery of a process by which the water may be decomposed, and carburretted hydrogen formed at little more than a nominal cost, with unerring certainty, and in, practically, an unlimited quantity. The gas so produced is said to possess illuminating power far exceeding that of ordinary coal gas, and capable of producing, in the act of combustion, such an amount of caloric as to constitute an economic substitute for coal in the generation of water steam for the propulsion of boats and locomotives. The *Times* thus alludes to this strange and most interesting invention:—'*Steam and Gas without Coal.*—It is scarcely thirty years since a Committee of the House of Commons doubted the possibility of travelling at the rate of fifteen miles an hour. Winsor, too, was laughed at when he proposed to light street lamps with gas; Dr. Lardner endeavoured to prove the impossibility of a steam-ship ever crossing to America; Professor Wheatstone was treated as a clever enthusiast, when he first promulgated his ideas of the electric telegraph; yet all these things have been brought into successful operation. One or two of the principal railway companies have lately entered into an arrangement with Mr. Shepard, who has patented an invention for the decomposition of water, and negotiations are pending with some of the steam-boat companies for the application of this patent to propel steam-boats, locomotives, and other engines, by which the cost of working machinery and generating gas is likely to be greatly reduced.'

DISLOCATION OF THE JAW.

Mr. South says, in his "Household Surgery," that this may happen on one or both sides, more commonly the latter. It mostly takes place in gaping, when the lower jaw being violently and quickly drawn down, its joint-ends slip from their sockets, and the jaw becomes firmly fixed, keeping the mouth wide open. The face, in consequence, is lengthened considerably; the expression altered and vacant; the power of speaking lost; and any attempt at utterance producing only strange and incomprehensible noises and the oddest contortions of the countenance possible, and often rendered exceedingly ludicrous by the various shifts the person employs in endeavouring to make himself understood. An amusing illustration of this accident was used to be enacted by Abernethy, with great humour. An officer was dining with a party of friends, and his laughing faculties having been excited, he was rattling along and laughing heartily, when suddenly he became dumb, or rather, he ceased to be able to speak, his mouth remained wide open, and he uttered only a vast variety of strange sounds. At first it was supposed he was endeavouring to amuse the company by these uncouth noises; but soon it was perceived to be no joke, and that he was really unable to close his mouth or speak. After a little while he managed to make them understand he had dislocated his jaw, and that it would be necessary to send for a doctor, who in due time arrived, and set about replacing the jaw. But whether it was he did not know how to perform the operation, or whether he put in one side, and whilst attempting to put in the other, the former slipped out again, as it will sometimes do, he could not manage the job at all, and the officer, who had frequently suffered from the accident before, and had it replaced without difficulty, getting angry, and at last furious, at his bungling, induced the doctor to

change his tack, and declare the sufferer was mad. This of course alarmed the whole party, who seized on the unfortunate soldier, carried him to bed, and put him in a straight waistcoat, whilst the doctor prepared for shaving his head and putting on a blister. The poor fellow finding by this time he could not hope by further exertions to make his condition understood, or free himself from his tormenters, and the doctor still persisting he was mad, he at last made signs for pen ink and paper, which it was thought he could do no mischief with, and that his asking for them was rather a sign of returning reason, they were brought, and he immediately wrote, 'For goodness sake send for Mr.——, The surgeon of my regiment, he knows what's the matter with me.' The letter was dispatched, the surgeon soon arrived, the dislocation was quickly put to rights, and the ignorant blockhead who had caused all the turmoil slunk off in disgrace.

WHAT CANADA IS CAPABLE OF.—The Canada Company's prize wheat, for which their premium of £25 was awarded at the Provincial Exhibition, held at Niagara in the autumn of last year, and for which a similar sum was awarded at the Exhibition for British America held subsequently at Montreal, has gained a prize at the Great Exhibition of all Nations in London. This should stimulate farmers to improve their grain, and compete for the annual premiums awarded under the direction of the Provincial Agriculture Association. There are some parts of the world—such as Australia—where wheat larger in the berry has been grown, but the flour manufactured from the Canadian wheat is not, we believe, surpassed. The yield per acre of the wheat that gained the above prize was 36 bushels, weighing 67 lbs. per bushel measurement, and we are inclined to think that a comparison in these respects—which are really the important ones—would show Canada to advantage.—*Colonist.*

TASTE OF TURNIPS IN BUTTER.

About six or seven years ago, I saw it stated in a provincial newspaper, that to feed cows with turnips immediately after being milked, and on no account to give them any a short time before milking prevented the milk or butter from tasting of turnips. The method I pursue is this: immediately after being milked in the morning, they get as many turnips as they can eat. During the day they are fed on hay, and immediately after milking at night, they get the same quantity of turnips.—The milk and butter are very much admired by all who take them, both for color and flavor, and I have often been called upon to give a statement of our feeding by visitors. I have several times given the cows turnips a short time before being milked, just to prove the thing. On such occasions the milk and butter tasted strongly of turnips.—*Gardeners Chronicle.*

YOUNG STOCK.—These should be provided with a tight shed, have a yard for excercise, and be so fed as to keep them continually growing. They should in addition to hay or fodder, receive a feed of grain daily. Oats is the best for such purpose. They should be salted twice a week; it would probably be better to give them a mixture of equal parts of ashes, lime, and salt.—*American Farmer.*

DURABILITY of timber depends more on the treatment after cut, than the time of cutting. The amount of sap in a tree is about the same at all times. But a large log, in hot weather, with the bark on, having no chance to dry, soon decays; but if immediately sawed into boards, they dry in a few days, and become hard and durable.

SAVE all the bones, and having mashed them, place them in a tub, and pour over them a quantity of sulphuric acid. They will be dissolved, and may then be applied as manure to your turnip and other crops. Not a bone should be thrown away.—*Germantown Telegraph.*

DOUBLE FRUITAGE.

The Pittsfield (Mass.) *Culturist* notices a grafted pear tree on the premises of Mr. Gideon Beals of Windsor, which produces two crops of pears each year. For three years in succession, says the *Culturist*, the tree has blossomed at the ordinary time in the spring, and perfected in due time, (1st to 10th September) a fair yield of large and beautiful pears. For the same three years it has blossomed a second time in the early part of July and started a second crop of pears which go on towards maturity until the season closes, and stops their progress. They are now one and a-half inches long and three-quarters of an inch in diameter, and thrifty in appearance. Of the first crop there is said to be more than a bushel on the tree, and that in numbers the two crops are about equal, and that there is not a limb in the tree but has both kinds upon it.

FRUIT TREES.—If the bark on your fruit trees is affected by moss, scrape it off, destroy the moss by burning, and give the body of the tree a dressing of a mixture composed of 1 gallon soft soap, 1 lb. flour of sulphur, and 1 qt. of salt, well stirred together—to be put on with a hard brush. Such dressings destroy the tendency of the trees to become mossy, destroy the germ of insects which may be lodged in the bark, and encourage a healthful growth the ensuing spring.—*American Farmer.*

JAPANESE GARDENS.—The gardeners of Japan display the most astonishing art. The plum tree, which is a great favourite, is so trained and cultivated that the blossoms are as big as those of dahlias. Their great triumph, however, is to bring both plants and trees into the compass of the little garden attached to the houses in the cities. With this view, they have gradually succeeded in dwarfing the fig, plum and cherry trees and the vine, to a stature so diminutive as scarcely to be credited by an European; and yet these dwarf trees are covered with blossoms and leaves. Some of the gardens resemble pictures in which nature is skilfully modelled in miniature—but it is living nature! Meylon, whose work on Japan was published at Amsterdam in 1830, states that in 1826, the Dutch agent of Commerce at Nagansi was offered "a snuff box, one inch in thickness and three inches high, in which grew a fig tree, a bamboo and a plum tree in bloom."

PUMPKIN PIES.

BY A VERMONTER.

(*From the New York Tribune*)

Let some folks boast of spicy mince,
Care not a fig for such do I;
Or largely talk of sweetened quince,
Fine as the luscious grape of Linzt,
Plums doubly dipped in Syrian dye—
I deem them tasteless all as flints,
Compared with one good pumpkin pie.

I know our pumpkins do not claim.
The honored growth of foreign soil;
They never felt the torrid flame,
And surely they are not to blame,
Though reared not by the bondman's toil,
Incline where man, to burden tame,
Unpaid consents to tug and broil.

Talk not of vineyards broken down,
And fields that droop with oil and wine;
Where burning suns with ripeness crown
The sweets that man's best manhood drown,
By lying poets sworn divine.
I'd rather have than all—don't frown—
The product of my pumpkin vine.

See, on you melon covered height,
My chosen fruit, like globes of gold,
Lies ripening in the sunbeam light;
Ah, 'tis a stomach-staying sight.
And soon to house them from the cold
Shall freemen with strong hands unite,
Paid laborers and freemen bold.

And then the girls who make our pies,
Bless them! all other maids outshine;
Their raven locks, and hazel eyes,
And cheeks, whose ever changing dyes
The lilly and the rose combine,
Make mad the hearts that love the prize
Of all this loveliness divine.

Vermont! thou art a glorious State,
Though small in acres and in skies;
But 'tis not length that makes one great,
Nor breadth that gives a nation size
Thy mountains and thy mountain air
Have reared a noble race of men,
And women, fairest of the fair,
Their labors and their love to share;
Where shall we see thy like again?
I love them all, which most I shan't advise,
Thy mountains, maidens, or thy pumpkin pies.

GOLD DUG FROM AN ONION PATCH.—Robert Smith, at the San Jose Mission, California, has raised two acres of onions, which yielded 2,500 sacks, averaging 42 pounds each, and the average of the whole is 24 ounces each! He was selling them at 29 cents per pound. If he gets but 15 cents per pound for his entire crop, it will amount to the snug sum of $30,750! This will do pretty well for two acres of wild land. This is said to be but the average yield of the onion crop throughout the Santa Clara valley. It eclipses famous old Wethersfield entirely, and shows that an onion patch is by no means a despicable gold placer. Neither indeed is a potato patch, nor a hayfield, in that most wonderful country. Dr. Basham of Santa Clare, raised 800 bushels of potatoes to the acre there, and sold them at from six to seven cents per pound. Gen. Vallejo sold his standing grass for $15,000. The party purchasing it, expended $20,000 to cut and cure the same, and afterwards realized $100,000 profit in the sale of hay! The market price for hay is somewhere between $30 and $50 per ton. —*Albany Register.*

WEIGHTS AND MEASURES.—The following table of the number of pounds of various articles to a bushel, may be of interest to our readers:

Of wheat, sixty pounds.
Of shelled corn, fifty-six pounds.
Of corn in the cob, seventy pounds.
Of rye, fifty-six pounds.
Of oats, thirty-six pounds.
Of barley, forty pounds.
Of potatoes, sixty pounds.
Of bran, twenty pounds.
Of clover seed, sixty pounds.
Of timothy seed, forty-five pounds.
Of flax seed, forty-five pounds.
Of hemp seed, forty-four pounds.
Of buckwheat, fifty-two pounds.
Of blue grass seed, fourteen pounds.
Of castor beans, forty-six pounds.
Of dried peaches, thirty-three pounds.
Of dried apples, twenty-four pounds.
Of onions, fifty-seven pounds.
Of salt, fifty pounds.

Mr. Thomas Park, of Pickering, brought us a turnip the other day, which measured two feet eleven inches and a-half in circumference, and twelve inches in depth.—*Ontario Reporter.*

RATS.—The following, from the Buffalo *Republic*, is worth trying: "Rats may be expelled from your cellars and granaries simply by scattering a few stalks and leaves of *mullen* in their paths. There is something very annoying in this plant, to the rat. It affords, therefore, a very easy remedy for a most perplexing evil, and much more economical and less troublesome than gunpowder, 'rat exterminator,' cats or traps. The mullen is a very common production, and may be found in almost every field as well as in pastures, and by the sides of the highways."

VINEGAR.—Many families purchase their vinegar at a very considerable expense; some "make do" with a very indifferent article; and others, for want of a little knowledge and less industry, go without. It is an easy matter, however, to be at all times supplied with good vinegar, and that without much expense. The juice of one bushel of sugar beets, worth twenty-five cents, and which any farmer can raise without cost, will make from five to six gallons of vinegar, equal to the best made of cider or wine. Grate the beets, having first washed them, and express the juice in a cheese press, or in many other ways which a little ingenuity can suggest, and put the liquor into an empty barrel; cover the bung with gauze, and set it in the sun, and in twelve or fifteen days it will be fit for use.—*Farmer's Advocate.*

An old Scottish proverb says "Muck is the mother of the meal-chest."

MACE is the second coat of the kernel of the nutmeg.

To Societies and Subscribers.—As the present is the last number for the year, we beg to state that we shall be exceedingly glad to receive the amounts due us from those Societies and individuals who are in arrears. The *Agriculturist* has been a heavy drag upon the proprietor, but under the new arrangements we hope for a brighter future.

Morton's Cyclopedia of Agriculture.—This original and elaborate work maintains as its publication progresses, the high opinion we have expressed on several occasions. Each article is written by a person distinguished for his practical knowledge of his subject, and the printing, engraving, &c., are executed in the best style of their art. When completed it will form the most valuable book extant on the subject of Agriculture, in all its wide ramifications, in the English language, bringing down all improvements and discoveries to the latest moment. We shall have frequent occasion to refer to it, in subsequent numbers. It can be procured in parts, as published in Scotland, of Mr. Thomas Maclear, Bookseller, Yonge Street, Toronto, or of his travelling agents in the country.

"Carbonic Acid" came safe to hand too late for the present number. As he thinks that our correspondent on ventilation, in our last, has somewhat misrepresented his character, and professing ourselves lovers of fair play, Mr. Carbonic Acid will be heard in his own defence in our next.

Improved Breeds of Cattle.—We regret to be informed that Mr. Parsons is prevented by an attack of sickness, from replying to Messrs. Tye and Sotham, as promised in our last.
