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THE

CANADIAN AGRICULTURIST,

AND

Journal and Transactions

OF

THE BOARD OF AGRICULTURE

OF

UPPER CANADA.

PUBLISHED SEMI-MONTHLY,

AND DEVOTED TO

Agriculture, Horticulture, Science, and Domestic Economy.

VOL. XII, 1860.

Toronto:

PRINTED AND PUBLISHED FOR THE BOARD OF AGRICULTURE

AT THE GUARDIAN PRINTING ESTABLISHMENT, KING STREET EAST.

1860.

INDEX.

THE

Canadian Agriculturist,

AND

JOURNAL OF THE BOARD OF AGRICULTURE

OF UPPER CANADA.

VOL. XII. TORONTO, JANUARY 2, 1860. No. 1.

NEW ARRANGEMENTS.

We announced in the closing numbers of the *Agriculturist* for 1859, that it had been determined to commence with the new year publishing twice a month. The present number is a specimen of the form in which the paper will appear henceforth. The necessity of issuing two sheets together heretofore, with a separate printed cover, has been the cause, owing to the amount of press work, folding, stitching, &c., to be done, of considerable delay in the regular appearance of the publication. Being dependent upon job offices for this work, it has often happened that a good many days would elapse, after the paper was ready for the press, before it could be mailed to subscribers. The cover will therefore be dispensed with, and instead of issuing two sheets of twenty-four pages each, once a month, a sheet of thirty-two pages will be issued twice a month. There will consequently be sixty-four pages of reading matter in the month instead of forty-eight as formerly, being equal to an enlargement of one-third upon the old size. By the method of publication now adopted, we shall be able to publish punctually on the 1st and 16th of each month, and every effort will be made to render the paper valuable and interesting. Each number will consist in part of the Transactions of the Board of Agriculture, and in part of the "Journal," or "Agriculturist." The pages of the Transactions will always be printed in the centre of the sheet, so that they can be readily taken out, after cutting the leaves, and put away separately, if desired, leaving the Journal complete of itself. The number of pages of Transactions will vary according to circumstances, but will as a general rule, be about equal to the present number. The pages herewith given are the continuation, from the December number of the *Agriculturist*, of the Transactions for 1859, which will be continued in future numbers till the volume for that year is completed.

The terms of subscription for the present year are advertised in another part of this issue, and we request particular attention to them. We think the arrangements now made cannot fail to be satisfactory in the fullest degree to subscribers. Officers of Agricultural Societies, or Clubs, who obtain subscriptions, will oblige by forwarding them at as early a date as possible, so that we may know the number of copies we ought to print for the year. The lists of subscriptions will be summed up on the 1st of April, and the premiums declared, according to the

programme, and immediately forwarded to the parties. We ask the farmers, and the friends of Agricultural improvement generally throughout the country, to lend their hearty co-operation in giving the *Agriculturist* this year, a larger circulation than it has ever yet had, and also to afford their valuable assistance in contributing to its pages, thereby rendering it increasingly useful and interesting to themselves and others.

PRIZES FOR REPORTS.

With the view of inducing the officers of Agricultural Societies to collect and embody in their annual reports more information of a character which will be valuable and interesting to the public at large, and to persons residing in other countries, than has heretofore been the case, and to draw up the reports in a more generally correct and painstaking style than the majority of those heretofore received, the Board of Agriculture offers the following premiums:—

For the best County Agricultural Society Report, adopted at the Annual Meeting and transmitted to this office before or on the 1st April next, a prize of	$30 00
For the second best do	20 00
For the third best do	15 00
For the fourth best do	10 00
For the best Township Society Report adopted at the Annual Meeting and forwarded as above along with the report of the County Society	20 00
For the second best do	15 00
For the third best do	10 00
For the fourth best do	5 00

By reference to the 42nd and 47th clauses of the Act, which was given in full in the April number of the Journal and Transactions, 1858, it will be seen that each report should consist of four distinct parts:—

1. The names of all the members of the Society, with the amount paid by each set opposite his name.

2. The names of all persons to whom premiums were awarded, with the amount of premium, and the animal or article for which it was given.

3. Such remarks and suggestions upon the Agriculture and Horticulture of the county or township, and arts and manufactures therein, as the directors shall be enabled to offer.

4. A detailed statement of the receipts and disbursements of the Society during the year. (If this is voluminous, a condensed statement or balance sheet ought to be added, showing the amount of receipts and expenditure under the several principal headings.)

It is in part 3 of the report, as above detailed, that improvement is mainly desirable. The majority of the reports have heretofore been sent in, without any attention being paid to this requirement of the Act at all. The remarks ought to be of such a character as to give the reader a correct idea, so far as possible, of the actual condition and progress of Agriculture, Horticulture, &c., in the County or Township, with the profits and advantages offered by those pursuits. And in order to do this clearly, the report ought not to embody vague generalities, so much as specific statements of facts. For instance, the generally prevailing character of soil may be stated, the average value per acre, as proved by actual sales, the prevailing system of cultivating and cropping the land, the actual returns of the various kinds of crops as nearly as can be estimated per acre, the current rate of wages for laborers and mechanics, or any other information of a similar character. If the crops have been injured, by any insect or other cause of blight, state the amount of damage done, and whether greater or less than other years. State the amount of improvement taking place in the different breeds of cattle, sheep, &c., and what breeds are believed to be best adapted to the locality. Give the details, with the cost and results, of experiments in breeding or feeding cattle for sale, or of dairy operations, or sheep farming. If any

farmer has commenced the thorough draining of his land, the cultivating root crops extensively, or any other ameliorating improvement, state the fact and the results, and the supposed amount of such improvement taking place in the county or township. State any improvements that may be taking place in the introduction of agricultural implements, the progress making in the cultivation of fruit trees, or other horticular operations, and the success attending it. If there is any particular improvement necessary in farm management, or for the proper development of the capabilities of the soil, let it be stated. The leading features of the annual exhibition, as a display of agricultural and mechanical products, and as showing the interest taken in the progress of improvements by the residents in the county or township, may also be briefly referred to. In short, the report should be such a concise and faithful sketch, supported by such brief details and statistics, as would enable the reader at a distance to estimate the general progress and capabilities of the county or township correctly.

It is not necessary that the portion of the reports here referred to should be very long. For a County, from ten to twenty, and for a Township, from six to twelve pages of ordinary writing on foolscap paper would afford abundant space. It is not desired, however, to restrict the reports in any way. The reports, or so much of them as may be considered suitable, will be published in the Transactions, and the names of the successful competitors will be immediately announced after the prizes have been adjudged. The amount of prize will be forwarded, unless in the case of instructions to the contrary, to the Secretary or other officer of the Society, from whom the report shall have been received. It is hoped that these reports will furnish a large amount of interesting and useful information for publication in the Transactions.

Should there not be considered to be sufficent time, after receiving this notice, to get up the information, the report might be adopted *pro forma*, and afterwards amended, with the consent of the Directors. It is highly desirable, however, that the reports should be forwarded to the Board of Agriculture, if possible, some time prior to the 1st of April, the date fixed by law.

HUGH C. THOMSON,
Sec. Board of Agriculture.

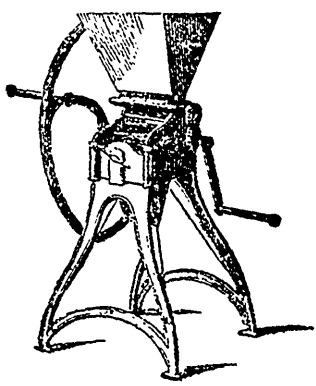
Toronto, Dec. 15, 1859.

GRAIN CRUSHERS.

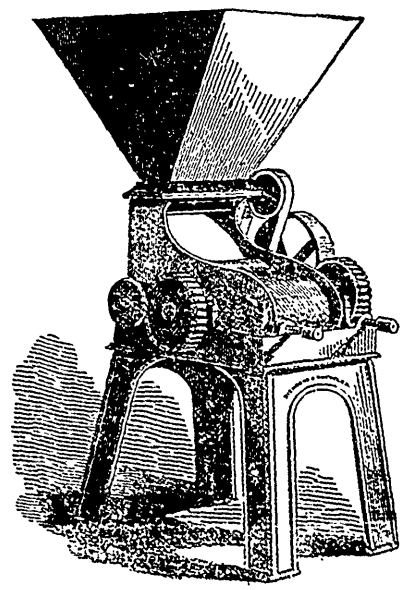
It is now a recognised fact in the improved practice of British Agriculture, that the food of cattle, such as hay, straw, oats, &c., when cut or bruised, is far more economical and nutritious, than when given in its crude state. By this means not only less masticating force is required, but the food itself, by being broken up, yields more readily and completely its nutritious ingredients to the wants of the animal. Bruised oats, for example, have been found by experience to go one-half further in measure after being crushed, and the horse put into better condition for work at less expense. Comparatively few of the grains of oats when given whole are masticated, as is obvious from their being voided in the same state, and consequently they cannot have been of much benefit to the animal. It is well known that grain given to animals in its natural state, sometimes produces injurious and even fatal consequences; especially when it is new and damp and given in large quantities. But if it is bruised, it can be taken by animals with safety, as it will be deprived of its vitality; while crushing greatly facilitates the mastication and digestion of the food, and all the functionary processes are thereby much quickened.

It is in every respect desirable that the practice of crushing grain, as cattle-food, should be generally introduced into Canada. Wherever it has been fairly tried in this country, the advantages of the practice have been acknowledged. In a season like the present, when the hay crop has fallen so much below an average, it behoves the

farmer to use every means in his power to economise his fodder and grain, which cannot be done without some efficient machinery to accomplish the work of disintegration. With this view we present our readers with a short description and illustrations of RICHMOND & CHANDLER'S GRAIN CRUSHERS, manufactured at Manchester, England. This firm has long been favorably known to the agricultural public, both at home and in the Colonies; and they seem determined to keep the pre-eminence in the manufacture of machines essentially their own inventions.—They have evinced untiring energy and skill in the improvement of Grain-Crushers, which continue to sustain their high reputation, by the very careful and accurate finish of their machines, thus causing exactness of performance and diminished friction. Conscious that to excel is a certain means of procuring increased trade, their utmost endeavors have been taxed to produce mills for all kinds of grain, upon the most approved and scientific principles, to attain which they have been aided by their safe and invaluable guides—long practice and great experience. The peculiar construction of these mills consists in their effective arrangement for bruising the various kinds of grain without change of rollers, and by the extent of their operations, materially reducing the cost of crushed grain, at the same time sustaining the commercial fact, that an article to be really cheap must be good.

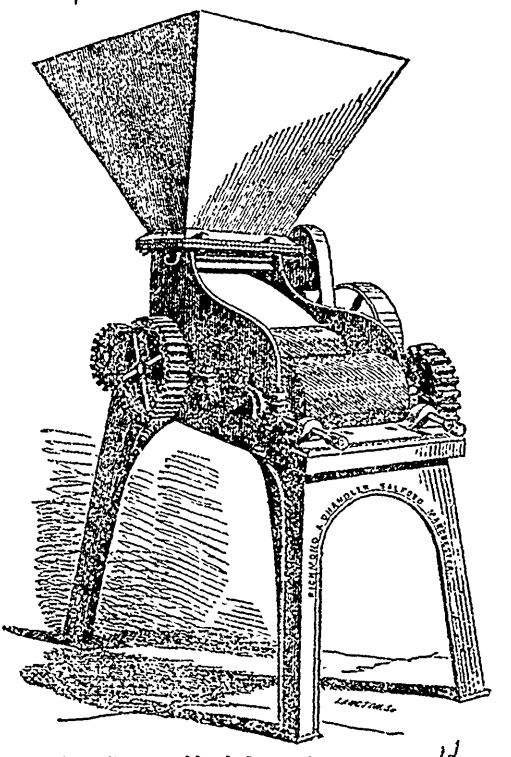


The above cut represents a perspective view of one of the smaller kinds of Richmond & Chandler's Grain Crushers; and is adapted, like the larger sorts, for reducing peas, beans, oats, Indian Corn, &c. It is simple in its construction, having diagonally machine-fluted and case hardened rollers, and for its size and price is of great efficiency and durability, and mounted on iron legs. A simplified feature in this mill is the employment of a setting screw on the back of the feeder, a slight turn being all that is required to increase or diminish the supply on the working rollers, which are so formed as to have both a cutting and a crushing action; and, by the new application of feeding, can be regulated to suit the strength of one boy, and will thoroughly crush by this small power a bushel in ten minutes. The rollers may be set any distance apart by a simple screw in front of the mill, which moves in parallel bars the front roller, and, with the least pressure of the finger can be made to adjust the rollers to bruise to any degree of fineness. Size of rollers 7 inches by 3½ inches. Price, £5 5s. sterling.



The above cut represents a mill manufactured by this celebrated firm of a larger size.

It is admirably adapted for power, being mounted on a strong iron frame, which imparts steadiness to its operations; while the great strength of machinery, which is the most accurately fitted with a parallel adjustment, can instantaneously be regulated by two hand-screws in front to crush to any degree of fineness. This mill, combining the best features of former inventions, possesses some important improvements, being fitted with strong brass bushes, loose caps, and counter-shaft. The feed apparatus is worked by a thumb-screw at the back, and can be regulated to suit any power employed, and will be found to effect an immense saving in wear and tear; it can be driven with a 16-inch pully, at 200 revolutions per minute, without danger to the working parts. Size of rollers 11 inches by 6½. Price, with pulley, £10 12s.



This newly improved mill, is of similar construction to the last, but much larger, and, from the extraordinary strength of machinery and the superior engineering workmanship displayed, is peculiarly well adapted to crush, with facility, a much larger quantity of grain than any other made; while the new process of hardening the rollers renders them indestructible in use, and unapproachable in operation. The possession of unlimited facilities in the use of steam machinery with the constant employment of the most skilled mechanics, together with the inventors' long practical experience, effect a saving of useless expenditure in the cost of crushing corn. Size of rollers, 14 inches by 8. Price, with 18-inch pulley, £14 15s.

We shall give in a future number a description and illustrations of Messrs. Richmond & Chandler's renowned CHAFF MACHINES. Such of our readers as may visit England, would do well to visit this manufacturing establishment in Salford, Manchester, or South John Street, Liverpool.

The amount of salt manufactured at Syracuse, New York, is seven millions of bushels annually. The annual revenue to the manufacturers is $3.000,000, and the income to the State is $70,000, as a tax of one per cent. is charged. The total of salt manufactured in the United States is sixteen millions of bushels yearly.

Thorold

At Thorlod, C.W., situated four miles above St. Catharines, on the Welland Canal, there is a small cotton mill, started a year since, running 2,000 spindles, and making very beautiful shirtings. There is also a batting mill, making 200 lbs. per day. The shirtings and batts sell at good profit, as the tariff of 20 per cent gives them a fine margin. Help is very plenty at very low wages compared to Lowell prices. Freight from New York, delivered at the mills, is 30 per cent per 100 lbs., averaging $1.25 per bale.

Agricultural Intelligence.

BIRMINGHAM FAT CATTLE AND POULTRY SHOW.

This Annual Show of the Midland Counties of England, took place, as usual, the beginning of December, and although it fell somewhat short of last year's, yet it has been propounced not below an average. There were 135 exhibiters of animals and roots, and 412 of poultry and pigeons. In the various classes there were 109 cattle, 44 sheep, and 81 pigs. The Herefords, as might be supposed from the contiguity of of the show to their native district, were in considerable numbers and of excellent quality. Mr. Shirley's Hereford steer won the gold medal, and several money prizes, as the best animal in the yard. Col. Townley's short horn heifer won similar honors. Her sire was the world-renowned "*Master Butterfly,*" which the Colonel sold about two years since to a firm in Australia for the unprecedented sum of 1200 guineas! From recent accounts, we regret to learn that this bull is dead; not, however, without leaving descendants both in England and the colony. Prince Albert gained a first prize for a beautiful Devon Steer of his own breeding. The now almost obsolete Long-horns, were favorably represented, together with some excellent specimens of the Welsh and Scotch breeds.

In fat sheep and pigs the show appears to have been satisfactory, but the Downs are said to have fallen short, especially in quality. A memorial was agreed to, requesting the Royal Agricultural Society to admit the Shropshire Downs as a distinct breed, to which they appear to possess strong claims. The following remarks of the reporter of the *Mark Lane Express,* will be read with interest on this side the water.

"There were three pens of Cotswolds, the prize sheep of which division had this note added on to the award:—"*The Judges complain of the unfairness of the way in which the sheep in this pen had been shorn;*" and very properly too: the only matter for surprise is that they did not complain of two-thirds of the sheep they inspected. In the Leicester and Southdown classes more particularly, the manner in which some of the animals were trimmed into form was really disgraceful, and little short of a positive insult to the spectator. It is hard to understand how judges can continue to pass such glaring abuses. However, at the meeting of the Smithfield Club to-morrow morning, Mr. Valentine Barford one of our oldest flock-masters, is to bring the matter formally before the members. It is to be hoped that this will not be without some very strong effect, or the art of shearing and showing a sheep will gradually demoralize the whole agricultural community. Thimble-rigging or horse-chanting is nothing to it as one of the occult sciences."

We subjoin some excellent remarks from the *Times,* relative to the poultry department of the Exhibition:—

"Of poultry there are 1,342 entries, and pigeons 214, or 1,556 altogether, being within three pens of the number last year—a singular circumstance, considering the variableness of the exhibiting constituency, and the wide distances between localities represented. There no longer exists a poultry mania: but the taste for domestic fowls of the most perfect feather or the greatest weight, and other characteristics of excellence besides size and beauty, is in no wise diminished. Certain it is that while the egg —that most nutritive of albuminous meat, the invalid's joint, and the indispensable component in the cook's recipe—continues to be an article of such value in the provision market; and while table fowl, roast duck and goose, and turkey—that lordly dish,—are in such popular demand, the cultivation of good breeds of poultry must always be of high national importance. We keep good horses, bulls, and rams for the advantage of our humbler neighbors' breeding; why not also benefit our rural peasantry by distributing among them chickens of the best breeds, replacing worthless by really valuable poultry, such as the Spanish or Dorkings, that would yield large profits in eggs to the poorest cottager? It is estimated that 500,000,000 eggs, worth about a million sterling, are annually exported from Ireland, and we import from France, chiefly from the Pas de Calais, also from Sardinia and Holland, a large proportion of the eggs which supply

our metropolitan market. Probably we import as many as 700 millions of eggs every year. Good layers, then, are worth having, as well as good nurses and heavy weighers. The influence of the poultry shows may be seen in any district in the truer and more valuable sorts now superseding the coarse-legged and diminutive old-fashioned barn-door birds. At Bingley-hall we witness the poultry in all their best winter plumage; accurately classified; their points of excellence or demerit reduced to a system; the most minute points as to high condition, quality, beauty of plumage, purity of race, and uniformity in the markings, combs, and other characteristics, all determined by the highest authority. Hence, notwithstanding the vast number of exhibitors from all parts of the kingdom, every cage contains almost perfect birds. Still, we find continual progress— exhibitors every year successfully following out the suggestions of the judges, and establishing higher criteria of excellence, transforming breeds, indeed, in a most remarkable manner, by dint of attentive cultivation and selection. Thus, the Spanish cocks formerly had drooping combs; the judges pronounced an upright comb the standard, and, accordingly, at the present exhibition not a drooping comb is to be found. In silver-spangled Hamburgs and Polands clear tails were insisted on, and these are now the rule. Again, while the prescribed formula is for Aylesbury and Rouen ducks to be large, Buenos Ayres and East Indian ducks are to be small, and the result is that these are shown very little larger than widgeon—so extraordinary is the power of the skilful breeder to produce almost any characteristic or quality that may be desirable in greatest excess. The silver-gray Dorking fowls, also, used to have separate classes in many exhibitions because of their small size; but this year they enter into general and equal competition with the darker birds. The greatest advance, however, is in the early maturity of the young birds shown: so that we have chickens of 1859 equal in size and weight to their parents. The developments of increase in weight brought out by this show are really extraordinary. A few years ago, a Dorking hen of 7lb. was a large bird; this year there are 10lb. hens. A Dorking cock was formerly marvellous at 9lb.; now the cocks weigh 11lb. each, and the average weight is 2½lb. per bird heavier than a few years since. A 12lb. goose was once a marvel; at the present show three birds in one pen weigh 74lb, the gander by himself weighing no less than 30lb.—2lb. heavier than the celebrated white gander of the Rev. John Robinson, a few years since. The average weight of the geese is 9lb. per bird, an improvement of fully 1lb. upon a few years back. There is a pen of four Aylesbury ducks, weighing 32lb. Six pound ducks are common, whereas 4lb. was the average weight formerly. Even Rouen ducks at this show weigh 27lb. the four birds. And Christmas caterers will be glad to learn that turkeys of 17lb. and 18lb. each are quite common, while three turkeys in one pen weigh no less than 68lb. Such an advance in size alone, besides the improvement and aptitude to make flesh, must have added immensely to our capability of supplying the poultry markets. To show that legitimate trade in first class fowls for breeding purposes is still carried on at high prices, apart from the mere fancy and factitious dealing created by the late poultry-keeping mania, take the last two years' sales in Bingley-hall.— In 1857 were sold 201 pens for £800 14s., an average of nearly £4 per pen; a Dorking cock and three hens were sold for £31 10s.; a pen of Polish at 15 guineas, and several pens at 10 guineas each. Last year 206 were sold for £850 13s. averaging £4 2s. 6d. per pen. Three pens of Cochins fetched 15 guineas each; a pen of turkeys, 15 guineas; a pen of geese, 15 guineas; and several pens 10 guineas each. So that the birds in that exhibition are probably worth as much as all the fact stock put together. The largest number of entries we find in the Dorking classes—as many as 218 pens, with Captain Hornby and Mr. Wakefield as successful as usual. The single Dorking cocks are a marvellous fine class, and so, indeed, are all the single cocks exhibited. The Spanish fowls are very numerous and perfect, showing that a breed with special egg-laying properties is becoming duly valued. The Bramahpootras are also beautiful, testifying also to the attention which is directed to fowls most profitable for their eggs, articles of consumption that we might ourselves supply to our home market without being "dependant on foreigners." The Cochin Chinas are recovering from the unmerited neglect of latter years, and, after having been run up to fantastic prices, and then as extravagantly ridiculed, are now taking the position which their really valuable properties demand. In Hamburgh fowl classes it is to be observed that the golden are very superior to the silver feathered; and the spangled Hamburghs comprise many perfect birds. The old English game fowl shows well, as usual, the entries showing that in many counties he is still exclusively the favourite with a large class of poultry-keepers. No fowls are ex-

hibited in such good plumage as the game, which is the case every year. The Malays are much improved. The Sebright bantams are beautiful, and what we say of game fowls is true also of the game bantams—purely fancy birds; the large number of entries, no less than 55 pens in this wonderfully fine class, show them to be the pugnacious little favourites of the public. The exhibition of pigeons is of high order, the carriers, pouters, trumpeters, and fantails being especially admired.

Technology and the Beautiful.—The following beautiful paragraph is taken from the report of a lecture recently given by Professor George Wilson, in the University of Edinburgh, on "Technology as a Branch of Liberal Study." The scientific world has within these few days heard with profound respect of the decease of this distinguished philosopher, whose private life was adorned by all the graces of the christian character. He was a brother of Dr. Daniel Wilson, Professor of History and the English Language and Literature, in University College, Toronto.

"The highest authorities in æsthethics, and the greatest artists, have ever protested against sham adornments, and where they were not fulfilling a purely æsthetic conception, have rejoiced in clothing with grace the most homely things. In so doing they have walked in the way of God. A multitude, perhaps a majority, of created things are not less beautiful than useful. The nodding wheat-stalk, the clusters of the vine-grape, the stately pine, the gnarled oak tree, the granite peak, are as graceful as they are serviceable ministers to our daily industrial wants. A multitude of created things—flowers and birds, and gems, and stars—are, to appearance at least, simply beautiful: not serving our utilitarian necessities, although it would be folly and impiety to pronounce them useless. The stamp of ugliness nowhere comes before us as the index of utility. Nature hastens as it were on all sides to hide away and put out of sight what is noisome in any way, or unwelcome to the senses. Nay, she does more than conceal offensive things; she changes them, while she uses them, into forms of beauty. The daisies grow thickest over the graves of the dead. The battle-fields of Inkermann and Balaklava have long been distinguished only by the multitude of the flowers that spangle their thick grass. Already Solferino is growing green again, and except that the mulberry will wear in spring a richer foliage, and the silk-worm revel more greedily on their leaves, you will look in vain for traces of the awful slaughter.—If human industrialism cannot often imitate this divine example, it is want of skill and want of wealth, much more than want of will that occasions the failure."

A FRENCHMAN'S CHARACTER OF JONAS WEBB.

(*From the "Revue Agricole de L'Angleterre" of F. R. De la Trehonnais, translated expressly for the "Mark-lane Express."*)

Amongst the men who have best served the cause of agricultural progress in England there are, perhaps, none more illustrious than Jonas Webb. This eminent breeder is not only remarkable for the success which has crowned his life-long efforts in the breeding of Southdowns, but still more so for his agricultural practice in general, and, above all, his rearing of the Durham race. I shall say nothing here of his private qualities; all those who have the good fortune to know him in private life, agree in their appreciation of him as a father of a family, and a citizen; and the renown of his domestic virtues, and the general esteem in which he is held, suffice to give an idea of the excellence of his character to those who know him only by reputation. It is only of those who are no more, that we can say all we think, for eulogy of private life is eminently a posthumous work; and the respect we owe to the modesty of worthy men is quite as imperious as the meed of justice we desire to render them. It is therefore in a purely agricultural point of view that I undertake to sketch the life of Jonas Webb. He has succeeded in the accomplishment of the end at which he aimed; and this success, by the importance of its application to rural economy, belongs to entire humanity; and I believe I accomplish an eminently useful task in briefly depicting the principal traits of his agricultural life, in order to derive from it those invaluable lessons taught by his practice and experience.

Jonas Webb was born the 10th November, 1796, at Great Thurlow, in the county of Suffolk, on the confines of Cambridgeshire. He was the second son of Mr. Samuel Webb, a venerable veteran in agriculture, who died at the age of ninety-three,

free from infirmity, and enjoying to his last hour the use of his faculties.

In this family the career of agriculture has been an heir-loom, transmitted from generation to generation. Jonas Webb has four brothers, who, like himself, are farmers. He has four sons, of whom three also are agriculturists. One of them, the oldest, succeeded his grandfather, and conducts the farm so long occupied by the old patriarch.

It was in 1822 that Jonas Webb commenced his agricultural career, by taking the Babraham Farm, where he has always remained. Trained in the school of his father, who was already noted for his intelligent method of rearing the old Norfolk breed of sheep, he soon attached himself to the breeding of Southdowns, which he immediately began to improve. Following the principles of Bakewell, the object he had in view was to form animals for meat. Before his time, the ovine race of the country was the old Norfolk breed, like that which his father reared. Mr. Webb rejected it as incapable in itself of improvement; for all the efforts of his predecessors had failed. This race had the dorsal spine projecting, the sides flat, the reins narrow, the chest little developed, and the thigh short, and far removed from the ham. It, therefore, presented none of the conditions essential to the constitution of the races for the butcher. The results already obtained by Mr. Ellman, the example of the Earl of Leicester, who had also not only rejected the Norfolk breed, but even that of Bakewell, contributed, probably, to determine him in choosing the Southdowns in preference to every other breed. But what exercised the greatest influence over his choice were the numerous experiments made by his father on a great number of different races. The result of these experiments was to convince the son, that the Southdown breed produced per acre more meat, and wool of a better quality, than any other on nine-tenths of the surface cultivated in England, where it is the custom to fold the sheep on the land, especially where the soil is not naturally fertile.

Urged by this conviction, and strong in the experience he had acquired under his father, Jonas Webb went into the county of Sussex, the native country of the Southdowns, and there he purchased, regardless of price, the best rams and ewes he could procure. Such is the origin of that famous flock of Babraham Downs; there were no others, for Mr. Webb assures us himself, that he has never since introduced into the blood of his stock any other element of reproduction, and that all his Southdowns come direct, and without mixture, from the first breeders that he purchased in 1822. Thus the merit of having fixed the eminent qualities by which the Babraham flock is distinguished belongs exclusively to Mr. Webb himself. For having taken his elements from the aboriginal race, as it then existed on the Sussex Downs, he has been enabled, without having recourse to other rams than those of his own flock, that is to say, by a process essentially in-and-in, to creat first, and then to fix in his products, qualities till then unknown in that race, and which no other has yet equalled. It was in 1840 that Mr. Webb began the series of triumphs in the competitions. That year the Royal Agricultural Society held its annual exhibition at Cambridge, and Mr. Webb sent thither some of his animals, which gained for him the first prize for sheep and lambs intended for breeding, and also that for ewes fifteen months old. At this meeting, all the short-woolled breeds competed with each other, and it is the only time that Jonas Webb has exhibited ewes from his flock. I shall give presently the reasons which induced him not to exhibit his sheep for competition. Since that period he has only exhibited rams.

To enumerate all the prizes carried off by Mr. Webb since 1840, would be too long and monotonous a task. It is sufficient to say that since that period he has received only two checks in the competition where he has exhibited. The first took place at the great Exeter meeting, in 1850, and the second at Chelmsford, in 1856. On these two occasions he had reason to think that the decision of the judges was not founded on a just appreciation of the qualities of his animals, and he determined to present his beaten rams at the following meeting, and in the two instances the results fully avenged him for his defeat. In 1851 he presented the unsuccessful of the Exeter meeting at that of Windsor, and took the first prize. In 1857 he exhibited at Salisbury the vanquished at Chelmsford, with a similar result; that is to say, he triumphed there also, over every opponent. Since 1851, after his first revenge, he exhibited no more till 1856, at Chelmsford, where, as I have just said, he was beaten by Mr. Overman. This defeat occasioned his revenge at Salisbury, in 1857; but since that period he has no more competed.* In 1855 and 1856, we know with what success he presented himself at the Universal Exposition at Paris. At that

*Mr. Webb re-appeared at Warwick, where he was beaten by the Duke of Richmond.—Ed. M. L. E.

of 1855 the Emperor came himself to admire his beautiful animals, and congratulated him on his success. It was on that occasion that Mr. Webb offered the Emperor his prize ram, for which he had refused a fabulous sum. The Emperor accepted this splendid present, and some time after sent the generous breeder a splendid chandelabra in massive silver, representing an old oak under which is sheltered a group of horses at liberty.

The ovine race of Jonas Webb is now disseminated throughout the whole world. The French Government, the Emperor himself, and a great number of the proprietors of France, and of every other country in the world, have made numerous purchases of them. Amongst these last, Mr. Allen, the zealous director of the ancient colony of Petit-Bourg, has imported into France some of the finest types of Mr. Webb's flock.

I have stated above that after the Cambridge meeting, in 1840, Mr. Webb had determined not in future to exhibit any ewes. The following are the reasons that induced him to adopt this resolution:

It is well known that one of the most unfortunate effects produced by competition—perhaps the only one—is to display the tendency of certain breeders, and certainly almost all exhibitors, to load their animals beyond measure with fat, in order to give them a better shape. The consequence of this system is almost always fatal to young animals intended for reproduction, especially the females; and Jonas Webb had very soon acquired fatal experience of it. In preparing for the Cambridge meeting, he did what all the competitors practised—he fatted his sheep excessively. They undoubtedly bore off the honours, but he paid dearly for them. Out of nine ewes in lamb exhibited, four died after yeaning dead lambs; and out of the products of the others, he saved only two or three lambs. At the Derby meeting, in 1843, the Babraham flock, as before, carried away the first prizes; but this new triumph was again fatal, for it occasioned the death of the two best rams intended for competition; they were killed before the meeting, their fat having rendered them useless.* These two animals were two-shear sheep, and had received an honourable mention at the preceding meeting at Bristol, where Mr. Webb had refused to let them for the season at £130, having intended to reserve them for the use of his own flock. During the season preceding the Derby meeting, they produced absolutely nothing, and they were consequently sent to the butcher. From that period Mr. Webb exhibited only ram lambs, for fear of destroying his best rams over two years old by excessive fatting, that was more fatal amongst them than amongst the lambs, which found in the abundance of food an element probably favourable to the development of their growth and the sustentation of their utmost activity.

Mr Webb's flock consists of seven hundred breeding ewes, with a proportionate number of lambs. The number of rams is about four hundred, of different ages. It is from these rams that the animals are selected that are let by Mr. Webb at Babraham every year, which are sent into every country in the world. This annual letting takes place in the month of July, a few days before the general meeting of the Royal Agricultural Society. Last year was the thirty-second letting. It is a proceeding regarded in England as a public event, and all the journals give an account of it with the most exact care, assembling from every country, and even from foreign countries. The sale begins about two o'clock. A circle is formed with ropes in a small field very near the mansion, where the rams are introduced; and an auctioneer announces the biddings, which are frequently very spirited. The rams to be let are exposed round the field from the first of the morning, and a ticket at the head of each pen indicates the weight of the fleece of the animal it contains. Every one takes his notes, chooses the animal he approves of, and can demand the last bidding when he pleases. The evening after the letting, the numerous company assemble under a rustic shed ornamented with leaves and agricultural devices. There tables are laid, round which are placed two or three hundred guests; and then commences one of those antique repasts described by Homer or Rabelais. In other respects, the house is opened to all comers. The tables groan under the weight of enormous pieces of beef, gigantic hams, &c., which have almost always disappeared before the commencement of the sale. From eight in the morning until two in the afternoon, tables laid out in the hall and dining-room are furnished only to be refurnished immediately, the end being equal to the beginning. The consumption of meat, bread, strong beer, and port and other wines, on these occasions, is almost incredible.

At the dinner, in the evening—when the

* The translator's father (in 1807) purchased a splendid Leicester ram of a tenant of Mr. Coke's, after or at the Holkham sheep-shearing, where it was exhibited. He put this ram to 100 ewes, and the produce was "one very poor lamb." The ninety-nine ewes failing were fattened the next winter for the butcher; and "Mr. Leicester," as the aristocratic ram was called by the labourers, met a similar fate, being like Jonas Webb's perfectly useless.

appetite of the guests is somewhat satisfied, and the bottle has begun to circulate—the president rises, and inaugurates a speech in praise of Old England in general, and of every Englishman in particular, commencing with the Queen, Prince Albert, the Prince of Wales, and all the royal family: with an interminable series of toasts, in which extravagant compliments are lavishly bestowed. I have, however, always observed that the replies made by Jonas Webb, upon his health being drunk, are character ized by great modesty and good taste, that contrasts agreeably with the redundant and set phrases of the president's speech.

The average prices of the lettings of Mr. Webb's rams during the thirty-two years is nearly £24 sterling each; but there were rams that have let for £180.

The weight of the fleeces of the Babraham flock averages 5¾lbs., and that of the rams 8¾lbs., after the sheep have been washed.

Besides the celebrity Mr. Webb has acquired by his rearing of Southdowns, his farming at Babraham is not less remarkable for the splendid herd of Durhams he has collected. It was in 1838 that he began to rear this invaluable bovine race. At that time he purchased two cows of Mr. Alison, of Bilby, in Nottingham; and a short time after he made the acquisition of the celebrated cow "Dodona," belonging to the herd of Lord Spencer. It appears that this great breeder had despaired of making it reproduce; and it was on account of this supposed sterility that he parted with it in favour of Mr. Webb, who took her to Babraham, and, having probably subjected her to a more intelligent treatment, she produced successively four calves, and has formed one of the most valuable herds of the Babraham herd.

At the sale of Mr. Beauford, at Blitsoe, in Bedfordshire, Mr. Webb purchased his celebrated cow "Celia," daughter of the famous bull "The Third Duke of Northumberland," bred by Bates. It was to this remarkable cow that a great number of the best of the Babraham herd owe their origin.

A short time ago two of her granddaughters were sold for £472 12s. 6d. sterling.

At the Wiseton sale, Mr. Webb purchased some other celebrated cows of the herd of Lord Spencer; and at that of Lord Vane he bought "Boddice," daughter of "Surer," and the bull "Cheltenham," son of the famous "Duke of Gloucester," from whence sprung the most estimable animals of the Babraham herd. The cow "Boddice" was in calf by the "Duke of Gloucester," when Mr. Webb purchased her at the sale at Tortworth; and she produced a heifer, which is now one of the finest cows in England. He has been offered £320 stg. for her, but he refused to sell her.—Amongst the other principal bulls employed by Mr. Webb, and whose blood prevails in his herd, we note "The Minstrel" (8687), son of "Battus" (7816), and the famous cow "Bessy," sister of the celebrated "Buttercup" of Mr. Towneley's herd.

At the Hendon sale, Mr. Webb obtained new elements of perfection from the herd of Mr. Tanquery; and at the present time his breed of Durhams is certainly one of the most considerable in the whole world, and yields perhaps in beauty and perfection only to that of Mr. Richard Booth and that of Mr, Towneley. When Mr. Strafford, the editor of the English "Herd Book," decided to publish the last volume of that collection, Mr. Webb sent for insertion a list of sixty one cows with their products. He has always some twenty or thirty bulls in his stalls.

I shall say a few words on Mr. Webb's system of farming. His occupation is very large, something like 2,500 acres, and his crops are always splendid. He has assured me that his farming has always yielded him a profit. This assurance is the best proof of his skill in husbandry that can be given. I add, that he is a member of the Council of the Royal Agricultural Society of England, and president of the Nitro-phosphate-of-lime Company, of which material he employs immense quantities in his cultivation, and attributes to it the best results. His name alone, allied with this manufacture, is sufficient to guarantee its respectability. In the last place, I think I may say that Jonas Webb has amassed a considerable fortune, which he owes entirely to his industry and skill. There exists no person who has gained the esteem and good will of his contemporaries in a higher degree than Mr. Webb. His probity, his scrupulous good faith, his generosity, and the affable equality of his character, have gained for him the respect and affection of every one. Since I have had the honour of knowing him, which is already many years, I have never known of his having a single enemy; and in my constant intercourse with the agricultural classes of England, I have never heard a single malevolent insinuation respecting him. When we consider how much those who raise themselves in the world above others are made the butt for the attacks of envy in proportion with their elevation, we may conclude that there are in the character of this wealthy man very solid virtues,

well fixed principles, transcendent merit, to have passed through his long career of success and triumphs without having drawn upon himself the ill-will of a single enemy or the calumnious shaft of envy.

Unprecedented Loss of Cattle.—Messrs. Editors:—In accordance with your request I have to state that the disease now prevailing in my herd is that known as "*Epizootic Pneumonia*,"—a disease comparatively rare here, but which has prevailed to an alarming extent in Russia, Austria, Germany, and some portions of Great Britain. The first case upon my farm was of a Dutch cow imported in May last, one of an importation of four cows, two of which died in a few days after arrival here, as was supposed, in consequence of neglect on the voyage; the third animal seemed to be doing well for about four weeks after, when she was prostrated by the above disease, and died in about ten days. The next case was a Dutch cow, imported in 1852, and, of course, perfectly acclimated; she died in August, about two months after the first cases. Symptoms of the disease about the same time appeared in other animals, and down to this time I have had some thirty cases, twenty-four of which have proved fatal. It attacks animals of all ages, but seems most fatal with milch cows.

The disease first shows itself by loss of appetite, a hard dry cough, ears cold and drooping, grinding of the teeth, the eyes presenting a dull look, the animal appearing languid and dejected, loses flesh and strength very rapidly, and, if a milch-cow, soon becomes dry; disease progresses, the breathing becomes more and more difficult, the animal making a sort of grunt at every respiration; fœtid matter is discharged from the eyes, mouth and nostrils—the breathing becomes still more difficult, until in the last stages the animal stands with the nose elevated almost on a line with the back, and the mouth open. In some two or three cases, the animals have become much swollen after death.

I am happy in being able to state that my favorite stock, the Dutch, have proved more hardy, and show a much greater power of endurance than any other breed. The only milch cows that have recovered so far, are two of my imported Dutch stock.

W. W. Chenery.

Wellington Hill, Nov. 7th, 1859.

Mr. Chenery stated, in answer to an inquiry, that the cash value of the twenty-four head which have died was $4000; and the loss in view of his plans in experimental breeding, he placed at nearly twice that sum.

An English writer, treating of the Epizootic pneumonia, says, "The disease requires eminently knowing treatment from beginning to end, and cannot be managed by a mere ordinary cow-doctor, and even if properly treated at the outset, is liable to be most mischievously treated as it proceeds. Every cattle-owner ought to adopt the precaution of promptly and effectually separating the sound portion of his herd from any beast that may have become effected, and of keeping his whole herd away from the vicinity of a neighboring farm on which the disease has appeared."—*Boston Cultivator.*

A New Race of Cattle from an Old One.—We see it stated in some of our exchanges that a Belgian paper, the *Le Nord*, says that M. Dutrone, one of the most distinguished cattle-breeders of France has succeeded, after twenty years trial, in producing a bovine race without horns which carried the first prize at the great Cattle Show of Poissine in 1854.

Mr. Dutrone probably slyly borrowed some of the Galloway blood from his neighbors in Scotland with which he beguiled his Dutch friends into the belief that he manufactured it by his superior skill in hornological operations. The paper goes and states that a cow of this species, which had been raised on the farm of the king of Belgium, at Lacken, near Brussels, was killed in the presence of the professors of the veterinary school and the surveyors of the public slaughter house. They reported that the quantity, both of suet and meat, was much more considerable than that of ordinary cattle.

As far as the suet is concerned this is characteristic of Galloways. They give more suet according to their size, and a far better quality of meat than some other breeds.

Irish Landed Estates Court.—The purchases in the Irish Landed Estates Court made by English or other speculators are far exceeded by the investments of Irishmen—the cash expended by the latter being as six to one of that belonging to the former. This is satisfactory in various aspects—it proves the prosperity of the people—that they have been amassing wealth, and that they prudently secure it in the best possible manner; and it indicates a confidence in the settled order of things.

VERMONT SHE. AND WOOL.—It is scarcely half a century since the Merino sheep could be said to be fairly estabtished in America; yet it has for some time formed the basis of one of the most important branches of our agricultural interest—wool-growing. In its acclimation, the breed has undergone more or less change, and in no section, perhaps, has this change been more beneficial than in Vermont. The sweet and generally abundant herbage of that State, with the pure and healthful air of her mountains, has gradually wrought the Spanish Merino into a different animal in some respects, from what it was on its first introduction. The constitution has become more robust, the carcase increased in size and improved in symmetry, the fleece greatly increased in weight, while in the hands of skilful breeders the staple has lost nothing of its original quality. So obvious have been these improvements, that the Green Mountain State has of late constituted a nucleus, from which many sheep have been annually drawn for the improvement of flocks in other parts of the country, or for the formation of wool-growing colonies in our Western States, in Texas, California, and Oregon. We believe that with due attention, the farmers of that State may maintain, and even improve those qualities in their sheep which have given them so deserved and wide-spread a reputation, and that the favorable position they have attained in a pecuniary view may be continued.

In this connection we would acknowledge the reception of samples of wool from the following parties, many of whom will be recognized as among the most successful sheep-breeders in Vermont:—Isaac T. Pardee, Victor Wright, Loyal L. Wright, F. W. Baldwin, Levi Peck, Anson Woodward, J. A. Williams, John Preston, Seymour Harwood, Loomis Root, J. B. Harwood, John W. Clark, Amos Spring, German Cutting, Isaac Jackway 2d, John O. Hamilton, Augustus Farnsworth, Cephas D Sweet.

We shall be pleased to show the samples to any persons who may wish to examine them.—*Boston Cultivator.*

UNIFORMITY IN A BREED OF CATTLE. In attending cattle-shows in England, we are particularly struck with the uniformity of the Herefords and Devons as compared with the Short-horns. According to the *Mark Lane Express*, this characteristic is very apparent at the late show of the Herefordshire Agricultural Society. It is said—"Nowhere could such a scene be commanded. It was one continual throng, or drove, or group of cattle, but all of the same uniform stamp and character. To the stranger, indeed, it became somewhat of a question whether, if an animal did break away from his own lot, his owner would ever be able to again identify him. ..... With all our experience of the Short-horns in Yorkshire, and the Devons in their own native county, we never witnessed such a distinct race of animals, exhibited in such numbers, with so much uniform excellence, and general characteristics of their kind. The strength of whole herds, moreover, was called for. There was scarcely an exhibitor that depended upon any one picked animal or so. The very rules and conditions of the Society are very peculiar in this respect. It offers a series of premiums not merely for a bull, but for a bull, a cow, and their *produce*, all in one entry. It stipulates for breeding cows to be shown in lots of twos, threes, fours, or fives, according to the sizes of a man's holding. Feeding beasts are got together in the same way, and there are prizes for 'pairs' of heifers and steers of every possible age they could enter at. Indisputably, there never was a fairer way of testing what a herd, or even a breed was equal to."

Horticultural.

HORTICULTURAL HINTS AND MEMORANDA FOR JANUARY.

"For never-resting Time leads Summer on
To hideous Winter, and confounds him there;
Sap checked with frost, and lusty leaves quite gone;
Beauty o'er-snowed, and barrenness everywhere."

The severity of our Canadian winters puts a stop to all working operations in the garden. Very little can be done this month, except getting a good supply of well-rotted manure drawn on to the ground, for spring work; putting all *tools* and *implements* in thorough order, repairing *hot-bed* sashes and frames, and collecting stable manure for early forcing—on which proper directions will be given next month. Old *Apple* Trees covered with moss should be thoroughly scraped, and well washed with a strong solution of *Ley* and Flour of Sulphur; all young orchard trees should have the snow well treaded round the stems, to prevent the depredations of mice from barking the trees.

GREEN HOUSE.

The management of this department requires, at this season, particular attention, to preserve the plants in good health, and carry them through the next two months. When the weather will admit, give a little

air to the house, by letting a few of the top sashes down a few inches during the middle of the day, which will be found to be very beneficial to the health of the plants. With regard to the temperature for common green house plants; it should not be more than 50°, during the night, and from 55° to 60° during the day, with sun heat. Care is required in watering plants during the winter months; no plant should get water except the soil in the pot is becoming dry. Succulent plants, such as cactus, *Aloes*, &c., require very little water at this season.

PLANTS AND FLOWERS IN ROOMS.

Plants that are kept in rooms are generally such as require a temperature from 45 degs. to 55 degs; a higher temperature will draw them up and weaken them. The best situation for house plants is a room with a good large window fronting the South, and adjoining a room or hall where there is a fire kept; when air is given it should be admitted from the top of the window for a short time during the middle of the day.

Insects such as the *Aphis* or *Green Fly*, are very destructive to plants if not speedily removed; the general mode of killing them is by fumigation with tobacco, but as it might not be agreeable to fumigate the room, the following method may be adopted with safety,—take two plugs of common *Tobacco*, infuse in one quart of boiling water for two hours, take a small wash tub that will hold four gallons of water, put the infusion of tobacco into the tub, then invert the plant holding the hands over the soil in the pot. Put all the branches and folige in the water, keeping the plant in the hand, drawing it well through the water, take it out and sprinkle a little clean water over it, and if any insects are remaining give it another dip; this application, if well done, will keep the plants clean for one month.

DRAINING.

All plants grown in pots should be well drained at the bottom, with bits of broken pots, &c. Worms are sometimes very destructive to the roots of Flowers in pots. When their casts are seen on the surface of the soil, no time should be lost in cleaning them out. Stop the bottom of the pot up for a short time, and water the soil well with clear lime-water, which will kill all the worms, and will not injure the plant.

SOIL.

A general soil suitable for most kinds of Common Green-house and Soft-wooded Plants, may be made as follows:—three parts of good black or yellow loam, from the surface of an old meadow; one part of well rotted cow dung; one part of good sharp sand: mix all well together, and sift through a half inch riddle before using. It is a very common fault to put plants kept in rooms, in too large pots; or, as the gardeners term it, over-potting them. The effect of over-potting is to produce leaves with very few flowers. The way to ascertain when re-potting is necessary, is by turning the plant out of the pot, with the ball of earth attached, and if the roots are round the outside of the mould, then the plant should be put into a pot a size larger, and afterwards the plant may be re-potted again but only into a pot a size larger than it was in before. Plants treated in this way will grow well, and produce abundance of flowers. J. F.

Miscellaneous.

RAILWAY STATISTICS OF CANADA.—The Board of Railway Commissioners of Canada have published in the form of a Blue Book the report of Mr Samuel Keefer, Inspector of Railways, dated Toronto, February 28th 1859, for 1858, a copy of which we have received. The report is elaborate. Mr Keefer's introductory remarks occupy thirty-one pages. In addition there is a voluminous appendix, containing minute additional details relative to the Railways of Canada, and once useful and interesting.

This is the first report that has been made by Mr Keefer since the passage of the Accidents on Railways Act in 1857. The act, he says, was passed too late to enable him to complete a report that year.

At the time of the passing of the act, in 1857, there were 1,402 miles of railways in operation in Canada; Great Western and its branches, 279; Grand Trunk, (in Canada) 685; the Northern, 95; Buffalo, 144; London and Port Stanley, 24; Erie and Ontario 17; Cobourg and Peterboro', 28; Prescott and Ottawa, 53; Montreal and Champlain (in Canada,) 81; Grenville and Carillon, 14; St. Lawrence and Industry, 12.

In 1857, after the passing of the act, the additional miles of railway were opened in Canada: the Galt and Guelph, 16 miles; Preston and Berlin, 11; Port Hope and Lindsay, 43.

In 1858, 140 miles were opened: Buffalo and Lake Huron—Strattord to Goderich, 95; Port Hope, Lindsay and Beaverton—Millbrook and Peterboro' Branch, 13; Great Western—Sarnia Branch, 51.

Altogether at the close of 1858 there were 612 miles open in Canada, besides the anches in the United States connecting th them, and controlled from this side the es, as the Grand Trunk to Portland.

Mr Keefer says it is worthy of remark that nada has now more miles of railway open an Scotland or Ireland, or of any of the New England States; more than the three lantic States of New Jersey, Delaware, d Maryland, or the two Carolinas, North d South, and is only exceeded in the num- of miles open by the five following States:

w York, which has	2726	miles.
nsylvania	2678	"
io	2978	"
iana	1939	"
inois	2774	"

465 miles of the Railways in Canada have Provincial medium guage of 5 feet 6in; 147 have the narrow guage of 4 feet 8½ es.

r Keefer says:—

ere are now in course of construction ss than seven lines or sections of Rail- of which, in all probability, about 327 will be completed and opened for traf- the course of this year. They are:—

ie Grand Trunk—St. Mary's to rnia	70	miles
e Grand Trunk—St. Thomas o R. DuLoup	78	"
e Grand Trunk Junction at Vic- ria Bridge	6	"
	154	miles
ckville and Ottawa—to Perth d Land Point	86	"
stead, Shefford and Chambly St. John's to Stukely	45	"
Welland	25	"
Hamilton and Port Dover— milton to Caledonia	17	"
In all	327	miles

al of the above sections have been finished.

rther gather from the report that—

verage speed of express trains, in- stops, is 26 miles per hour; and in etween stations, 35 miles per hour. imum speed is got upon the Mon- Quebec division of the Grand Trunk which is 36 miles an hour. The peed of accommodation trains is per hour, including stops, or 27 n in motion. The average speed trains is 15 miles, including stops, les when in motion. The average rate of freight trains is 13 miles including stops, and 19 miles when in motion. The total number of locomotive engines upon all the roads, at the end of 1858, was 336. The following table shows the amount of rolling stock of the several classes:—

	Number.	Per mile of road.
Locomotive engines	366	0.23
First-class passenger cars	213	0.14
Second-class passenger cars	122	0.08
Box mail and express cars	112	0.07
Box freight and cattle cars	2,477	1.58
Platform cars	1,841	1.17
Construction cars	1,063	0.67

Of the locomotives, the Portland Company have furnished 52, the Amoskeag Works 48, the Schenectady Works 32, the Boston Works 23, Lowell and Manchester each 12, Philadelphia 10, and other United States Works 20; Messrs. Peto & Co., 50, Fairbairn 12, Stothert and Slaughter (Eng.) 20, and other English builders 28. Canada has built 47. Of the whole number, the shops of the United States have furnished 209, England 110, and Canada 47.

The total number of miles run by passengers trains in 1858, was 1,735,821 miles; by mixed and freight trains 1,671,137; by wood and construction trains 878,648; by all trains 4,532,742; the total number of passengers was 1,613,935; the total number of miles travelled by passengers was 91,027,299.—*Mont. Gazette.*

Wealth of Brazil.—The diamond mines of Brazil continue to contribute largely to the mineral wealth of the world. A few days ago, the Royal Mail steamer *Tyne* left Rio for Southampton, having no less than $750,000 worth of diamonds, collected within a very brief space of time from the exhaustless treasures of Brazil. The greater part of this shipment is from the celebrated mines of Serrado Frio, a rocky barren locality, which is guarded with vigilance. In 1851, a diamond weighing no less than 1382 carats, was taken from Frio, and at different periods since, very large ones have been found there. Indeed, few nations send more of these stones to England and the United States than this, a fact not many often think of when admiring breastpins and bracelets.

Something New.—A File and Sickle manufactory has been established in Dundas, C. W. We are told that the files which are re-cut in that establishment are equal, and in some cases superior to many classes which are imported, while the saving to the consumer is considerable.

PROPERTY OF THE HUDSON'S BAY COMPANY.—The capital employed by the company is £1,265.068, and consists of stock standing in the names of the proprietors, £500,000; valuation of the company's lands and buildings, exclusive of Vancouver's Island and Oregon, £318,884. Amount expended up to September 16, 1856, in sending miners and laborers to Vancouver's Island, in the coal mines and other objects of colonization, exclusive of the trading establishments of the company, and which amount well be repayable by the government if possession of the island is resumed, £81,071. Amount invested in Fort Victoria and other establishments and posts in Vancouver's Island—this amount is not exactly ascertained—estimated at £75,000. Amount paid to the Earl of Selkirk for Red River settlement £85,111. Property and investments in the territory of Oregon ceded to the United States by the treaty of 1846, and which are secured to the company as possessory rights under the treaty, $1,000,000—say £200,000. The distribution of profits to the shareholders for the years 1847 to 1856, both inclusive, have been: 1847, 10 per cent; 1848, 10 per cent; 1849, 10 per cent; 1850, 20 per cent, of which 10 per cent was added to stock; 1851, 10 per cent; 1852, 15 per cent, of which 5 per cent was added to stock; 1853, £18 4s 6d per cent, of which £8 4s 6d was added to stock; 1854, 10 per cent; 1855, 10 per cent, and in 1856, 10 per cent. The price of stock ex-dividend was:—July, 1847, £200; 1848, £200; 18 9, £200; 1850, £210; 1851, 210; 1852, £215; 1853, £225; 1854, £210; 1855, £207½; 1856, £200. Out of 268 proprietors in July, 1856. 196 purchased their stock at from 220 to 240 per cent. —*London Times.*

SOURCE OF THE NILE.—The great problem of the source of the Nile, which has occupied the attention of the world during so many ages, may now be considered as definitely solved. Capt. Speke, who has just returned to England from an extended tour in Central Africa, in company with Capt. Burton, discovered a lake, called by the natives Nyanza, but by the Arabs Ukerewe, which appears to be the great reservoir of the Nile. It extends from 2 deg. 30 min. south, to 3 deg. 30 min. north latitude, lying across the equator in east longitude 33 deg. Its waters are the drainage of numerous hills which surround it on almost every side. The new lake washes out the Mountains of the Moon, as present existing in our atlases.

COAL AND HEALTH.—During the season of summer, when the atmosphere is warm and balmy, the cheerful breezes have free scope to dance through all our apartments and ventilation is effected upon natural and conclusive principles. The time, however, is at hand, when the approach of cold weather, when doors and windows must be closed to shut out the piercing wind, and when fires must be maintained in all dwellings to heat our sensitive frames. This is the season when means should be adopted for securing the requisite amount of the pure air of heaven, under all the circumstances of artificial heating, in every dwelling—public and private.

The importance of ventilation is generally recognised, as the evils that have been caused by dwelling in ill-ventilated apartments have been set forth in various publications. There are some facts, however, connected with this question, which are not well understood. Thus, many persons mistake warm for impure air; hence they do not make a distinction between the two, and do not seem satisfied that a room is habitable until they have expelled all the warm air from it. There can be no question, we believe, about the salubrity of warm dwellings in cold weather, if the air in them is constantly maintained in a pure condition. The circulation of air in a room is dependent upon the heat which is generated in fires, grates, stoves or heaters. The hot air expands, rises, and seeks vent, and the cold air rushes in to supply its place. The grand secret of good ventilation, therefore, is a plentiful supply of fuel—an important fact too generally overlooked. The houses of the poor are kept close and ill-conditioned in cold weather, because the inmates cannot procure sufficient fuel for their wants. Coal is as much an article of life and health, in the winter season, as food, and yet how few think of this! In those churches, schools and other public buildings, where fuel is saved at the expense of an inefficient supply of fresh air, a cent-wise and dollar-foolish economy prevails; and this is the principal idea we wish to impress upon the public mind at this time. Arrangements for ventilation may be made in endless variety; but without an abundant supply of fuel, neither comfort nor proper ventilation will be secured. Fuel is to ventilation, in cold weather, what steam is to an engine—its governing power.—*Scientific American.*

GOLD RETURNS.—$1,400,000,000 is the grand total of the amount of gold brought from California and Australia, during the last ten years.

How to make a Smoke-house.—No farmer should be without a good smoke-house, and such a one as will be fire-proof and tolerably secure from thieves. Fifty hams can be smoked at one time in a smoke-house seven by eight feet square. Mine is six by seven and is large enough for most farmers. I first dug all the ground out below where the frost would reach, and filled it up to the surface with small stones. On this I laid my brick floor in lime mortar. The walls are brick, eight inches thick, with a door on one side, two feet wide. The door should be made of wood, and lined with sheet-iron. For the top I put on joists, two by four, set up edgewise, and 8½ inches from centre to centre, covered with brick, and put on a heavy coat of mortar. I built a small chimney on the top in the centre, arching it over and covering it with a shingle roof in the usual way. An arch should be built on the outside, with a small iron door to shut it up, similar to a stove door, with a hole from the arch through the wall of the smoke-house, and an iron grate over it. This arch is much more convenient and better to put the fire in, than to build a fire inside the smoke-house, and the chimney causes a draft through into the smoke-house. Good corn-cobs, or hickory wood, are the best materials to make a smoke for hams. The cost of such a smoke-house as I have described, is about $20.—*Rural New Yorker.*

New Copper, or Bronze Coinage in England.—Preparations are being made in England for the issue of a new coinage of a bronze alloy, to replace the existing copper coinage. The engines to drive the stamping presses, and also the boilers needed for the purpose, have been constructed, and have been forwarded to the works of Messrs. R. Heaton & Sons, of Birmingham, who have executed all the copper coins struck for England for many years, and who also successfully competed for the execution of the new French currency issued by Napoleon III. It is expected that two or three years, at least, will be needed for getting in and replacing the existing copper coinage.

Horse Shoes of Gold.—There was lately an exhibition at Sidney, Australia, a set of horse shoes made of native gold, weighing 24 ounces, and worth about $500. They were made for a favorite pony in New South Wales.

Earthquake.—St. John (N.B.) papers notice an earthquake on the morning of the 5th October. The houses shook with the vibration.

To Make an Obstinate Horse Pull.—A correspondent of the *Cotton Planter* says: "Let me tell you of an infallible method of making a balky or obstinate horse or mule pull up a hill or anywhere else that his muscles are able to carry him. Take a small rope, (a plow line for example,) double it, make a loop of the double end, and draw it snugly around the under jaw of the animal, just behind his front teeth, with the loop underneath. Throw the loose end over your shoulder, and 'walk in the way he should go,' holding fast and pull steadily and firmly. Don't be troubled about him, for he will follow without fail, after he has discovered how you have got him. This will also compel an animal to stand quiet to receive the bridle or collar."

Hair Brushes and Combs—Children should be taught, from their earliest remembrance, the importance of keeping the hair clean, not so much by the use of the comb as the brush. Two sorts of combs are used, fine and coarse, made either of ivory or bone; when the brush has been well used, there is seldom any necessity for the fine-tooth comb; and the intention of using the coarse comb is merely to disentangle the hair and prepare it for the brush. Nothing is more injurious to the skin of the head than the frequent application of the small-tooth comb, the points of the teeth of which scratch and otherwise irritate the scalp, tending more than any other cause whatever to the formation of the scurf. It cannot be too strictly impressed upon the minds of parents, if they would see their offspring blessed with a good head of hair, to refrain as much as possible from the use of the small-tooth comb; a moderately hard brush is quite sufficient to keep the head and hair clean, and should be used the first thing in the morning, on account of the hair being more supple at that time than any other. When children suffer from a scurfy head, the following wash used occasionally will remedy the evil at once, and will eventually cure the complaint. Take of salts of tartar, four drachms; tincture of catharides, twenty drops; spirits of camphor, twenty drops; lemon juice, half a pint. Dissolve the salts of tartar gradually in the lemon juice, till the effervescence ceases; then add the other ingredients, and after leaving it exposed to the air for a short time, it may be perfumed and bottled for use. This is the finest and most innocent hair-wash that can be made.—*Scientific American.*

Over 20,000 men are employed in lumbering on the Ottawa.

Editorial Notices, &c.

ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS, FOR 1860. ALBANY, N. Y.: *Luther Tucker & Son.*

This useful annual, edited by J. J. Thomas, and published by the enterprising firm of Tucker & Son, the publishers of those very valuable agricultural papers, the *Country Gentleman*, and *The Cultivator*, increases in interest and utility every year. Here we have a volume of 130 pages, very neatly printed on good paper, with 180 engravings on the most interesting matters pertaining to agriculture—gardening and rural affairs generally, for the insignificent sum of 25 cents! No farmer imbued with the true spirit of his pursuit, but would find this little annual a most useful and interesting remembrancer.

THE RURAL ANNUAL, AND HORTICULTURAL DIRECTORY. JOSEPH HARRIS, *Office of the Genesee Farmer*, 1860.

This too is an annual, and of a similar character to the above, being of the same size and price, and profusely illustrated, particularly in Horticultural matters, and insects affecting garden and farm crops.—Although these two publications occupy common ground, embracing such subjects as are characteristic of rural life, the articles of which they are made up are of course different. And we feel that we shall be doing a good service to our readers by recommending them to purchase *both*; assuring them that they will never repent of their bargain.

Market Intelligence.

TORONTO MARKETS.

Monday, Jan. 2, 1860.

The extreme cold of Saturday morning prevented an attendance at the market, and but very little business was done.

WHEAT—Only a few loads of wheat changed hands at from $1 15 a $1 20 per bushel. In one or two cases slightly higher figures were realized, but $1 20 was the current outside rate.

SPRING WHEAT was in active request at $1 a $1 04 for prime and extra prime; for white and good 95c was freely paid.

BARLEY was quiet and steady at 60c a 65c.

RYE *dull and nominal at 70c a 75c.*

OATS more brisk at higher rates, 35c a 37c per bushel paid pretty freely.

PORK in fair request but not very animated at $5 00 a $6 00 per 100 lbs. for medium to heavy weight.

HAY in large supply at $17 a $24 per ton $20 being the figure most frequently paid.

FLOUR very quiet and quotations nominal at $4 50 a $4 55 for superfine; $4 80 a $5 for fancy, and $5 20 a $5 40 for extra, per barrel.

In other articles there was nothing done.

MONTREAL PRODUCE MARKET.

FOR THE WEEK ENDING DEC. 31, 1859.

ASHES.—Both kinds have been in fair demand throughout the week, with very little variation in prices. Pots are saleable to-day at $5 50 for good bills, and Pearls are rather quiet at same figures.

FLOUR.—The market has ruled very steady this week with, however, only a limited amount of business—principally in Superfine which may be quoted at 5c higher, good brands having been placed at $5 20. Fancy is not offered very freely and is held firmly at $5 50. Extra has been sold to a limited extent at $5 90 a $6 00 for common brands. Double extras range from $6 25 a $7 in retail lots. The market closes to-day quiet but firm at quotations.

OATMEAL.—Is in few hands and held firm at quotations, with sales.

GRAIN.—Wheat—Several small lots of C. Spring have been sold at $1 15½ a 1 from railway depot, and a shipping lot Chigago Spring (ex Store) at $1 15. Oats are a shade firmer; distillers paying 42c 43c per 40 lbs. Peas are readily saleable at 75c a 76½c for good samples. Barley remains as last quoted, but in active demand. Corn—None here.

PROVISIONS.—Beef—Several small lots sold during the week, but are scarcely a basis for quotations. Pork is held firmer, but absolute views of buyers. The latest sales of Mess were at $17 25 a 17 40. The lower qualities are saleable at quotations. Butter is again dull; fair lots are held at 16c. Lard is in limited demand, and sells at 12½c.

NEW YORK MARKETS.

NEW YORK, Dec. 31.

FLOUR very firm with good demand; sales 12,000 bbls. at $5 20 a $5 25 for superfine State; $5 40 a $5 50 for extra State; $5 20 a $5 30 for superfine Western; $5 35 a $5 55 for common to medium extra Western; $5 70 a $5 80 for inferior to good shipping brands extra round-hooped Ohio. Canadian flour unchanged; sales 200 bbls. at $5 50 a $6 75. Rye flour is steady at $3 60 a $4 40.

GRAIN.—Wheat is very firm with some enquiry; sales of 3,600 bushel White Canadian at $1 41. Rye unchanged. Barley quiet at 76c a 86c. Corn a shade firmer; sales 7000 bushels at 87c a 89c for new yellow. Oats steady, sales at 45½c a 48c for Canadian, Western and State.

PROVISIONS.—Pork market very dull, at $16 for mess, $11 62 for prime. Beef quiet. Lard very dull; sales 75 bbls, at 10⅜c a 10⅝. Butter in fair request at 11c a 16c for Ohio.

THE AGRICULTURIST.

ARRANGEMENTS FOR 1860.

THE "AGRICULTURIST, AND JOURNAL AND TRANSACTIONS OF THE BOARD OF AGRICULTURE OF UPPER CANADA" for 1860, will be published on an entirely new system.

It will appear twice a month, and will consequently be much more useful as a medium of intelligence on all subjects affecting Agricultural Societies, and farmers generally, than heretofore.

Each semi-monthly number will consist of 32 pages, and will be printed on fine white paper.

Notwithstanding the increase of size, and of times of publication, the price to single subscribers will be only half a dollar for one copy per annum.

Further, even at this low rate, a bonus will be given of one free copy for every 10 copies ordered and paid for in advance. That is to say, for $5 remitted, 11 copies will be mailed; for $10, 22 copies; for $15, 33 copies will be mailed, and so on.

The *Agriculturist* is Post Free.

It will consequently be the cheapest paper of its kind, and contain the largest amount of reading matter of any published on this continent.

In addition to the very low terms of subscription, as a further remuneration to those who exert themselves to obtain subscribers, the undermentioned money premiums will be paid to those who send in the largest lists, accompanied with the amount, before or on the 1st day of April next. Subscriptions will be received at any time, and the amount of each list reckoned up on the 1st April. The money must be received, not merely mailed, on that day. The following are the prizes offered:—

To the officer of any Agricultural Society, member of a club, or other person who shall send in the largest list of subscribers, accompanied with the cash, on or before the 1st April next, a money prize will be paid of.. $20

To the person who shall send in the next largest list..... 19

To the person who shall send in the next largest list..... 18

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To the person who shall send in the next largest list..... 1

"AGRICULTURIST OFFCE,"
Toronto, November, 1859.