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W. J. Tessier Esq



# The Farmer's Journal

And

## TRANSACTIONS OF THE LOWER CANADA BOARD OF AGRICULTURE.

VOL. II, No. 8, MONTREAL, DECEMBER, 1854.

POSTAGE FREE.

PRICE 2s. PER ANNUM, IN ADVANCE.

### The Farmer's Journal.

#### CANADIAN PRODUCTS AND THE PARIS EXHIBITION.

We have received from the "Commission Imperiale de l'Exposition Universelle" in Paris all the documents which have emanated from that Commission, and as Canada ought to be well represented in France at the great gathering of the industrial world, and as it behoves our agriculturists to be well informed in respect to the classification and arrangements of the proposed exhibition, we shall from time to time, publish such documents as will keep the Canadian Farmer fully informed upon the subject.

The principle of classification, adopted by the Imperial Commission, has been to group together not only all the products offered, but also the substances from which the products are obtained, the implements or instruments by which they are elaborated and procured, and the theory upon which the greatest results may be attained at the smallest expenditure of time and money. By taking this enlarged and comprehensive course, the greatest possible service will be rendered to the industrial arts, and in order that this service may be diffused as widely as possible, the Imperial Commission invites, and the Canadian Commission has re-echoed the suggestion, that descriptive accounts should be given, whenever it can be done with advantage, of all improved processes, and that such descriptions should be printed in various languages, for the benefit of all nations, who will profit by the discoveries and improvements made.

Fully conscious of the importance of providing ample supplies of labor for the immense and fertile territories of the two Canadas, the Canadian Commission have deemed it desirable to disseminate throughout Europe, information upon the industrial condition and capabilities of the provinces, and have offered for public competition three prizes of £160, £60 and £40, for the three best Essays presented to the Commission, on the subject of Canada, and its resources, its geological structure, geographical features, natural produce, manufactures, commerce, social, educational and political institutions, and general statistics.

Although the time for preparing and sending in these Essays is somewhat short, inasmuch as they have to be forwarded to the Committee by the 15th February next, we feel assured the competition will be active, and the result serviceable to the country. If the Canadian Commission will follow the plan of the French Imperial Commission, and have the Prize Essays printed in different European dialects, and circulated in France, Germany, Denmark, Sweden, Belgium and Holland, as well as in the United Kingdom, a large emigration will probably be the result. The introduction of new races of men is calculated to improve by intermixture the physical condition of existing races, and as they bring with them the arts, and industrial knowledge of other lands, they improve at once the mental, physical and educational condition of the people, besides furnishing the supply of labor which the country so much needs.

For these various reasons we regard the

Industrial Exhibition of 1855, as an event of great importance to the people of these provinces, and especially to our agriculturists, who may feel the advantages it will bring in the introduction of new implements and modes of cultivation, and more labor and capital. And we earnestly hope the agriculturists of Canada will respond heartily to the demands urged upon them by the Canadian Commission, and that this fine country will be well and worthily represented at the Universal Exhibition of 1855.

#### SYSTEM OF CLASSIFICATION FOR THE FRENCH EXHIBITION.

We give below for the information of our Farmers an outline of the system of classification proposed by the Imperial Commission in the Department of Agriculture. It will serve to explain the arrangement intended for the articles to be exhibited, and will show the careful and elaborate manner in which the International Juries will have to examine and form their conclusions, and the ample means which will be afforded to the agricultural exhibitor of presenting to the world the results of his study, labor, and expenditure.

#### CLASS 3.—AGRICULTURE.

##### 1st. Section.—Statistical Documents and Specimens.

- Charts of the Theory of Agriculture.
- Plans for laying out Estates.
- Specimens of Soils and of Sub-soils.
- Specimens of Manure.
- Chalk, Land-shells, Sea-shells, &c.
- Lime, Plaster, Potters Clay, Cinders and Ashes.

Phosphate of Lime, Bones, Animal Remains, &c.  
 Marine Plants decomposed, Terrestrial do.  
 Guano, Powdered Faeces, Farm Manure and Street Sweepings.  
 Liquid Manures of various kinds.

*2nd. Section.—Progress of Husbandry.*  
 Drainage.—General plans and modes of drainage.  
 Irrigation.—General plans and modes of operation.  
 Buildings.—Plans for dwelling-houses.  
 Buildings for Stock.—Plans of stables, ox-stalls, cow-houses, piggeries, sheep-folds, &c.  
 Buildings for Farm Produce.—Barns, granges, lofts and out-houses.  
 Special Buildings.—Dairy, cheese-rooms, drying and smoking rooms, ovens, &c.  
 Wells, Pumps, Ponds, and Reservoirs.  
 Gates, Doors, Barriers, Pens and Folds.

*3rd Section.—Agricultural Implements.*  
 Ploughs, Harrows, Rollers, &c.  
 Spades, Hoes, Rakes, and all Tools used for preparing and pulverizing soils.  
 Implements employed in pruning plantations, collecting seeds and distributing manure.  
 Implements used for collecting crops.  
 Scythes, Sickles, Knives, Reapinghooks, Rakes, Forks, &c.  
 Machines for mowing, reaping, &c.  
 Implements for preparing produce for sale to the consumer.  
 Flails, Threshing Machines, Rollers, Winnowing Fans, &c.  
 Straw Cutters, Root Cutters, &c.  
 Presses, Seed Crushers, &c.  
 Moveable Granaries, Portable Mills, &c.

For Transporting Produce.  
 Barrows, Trucks, Baskets, &c.  
 Carriages, Carts, Waggons, Sleighs, &c.  
 Barges, Boats, Rafts, Canoes, &c.

Motive Powers to Agricultural Implements.—Steam and Animal Power.

Specimens of Furniture Fittings and Utensils best adapted to farm-houses.  
 Best system of fitting up farm-houses, stables and buildings for stock.  
 Do. Dairies, Cheese-rooms, &c.  
 Do. of preserving food for home consumption and for stock.  
 Do. of preserving fruits and flowers.

*4th. Section.—Produce of General Cultivation.*  
 Grains.—Wheats of every variety, Barley, Oats, Rye, Maize, Buckwheat, Rice, Millet, &c.  
 Oleagenous Products.—Rape, Sunflower, Poppy, and its varieties.  
 Vegetables and Plants of which the roots or leaves or seeds are used as food.  
 Farinaceous.—Beans, Peas, Lentils, &c.

Tubers.—Potatoes, Sweet Potatoes, Artichokes, &c.  
 Roots.—Carrots, Parsnips, Turnips, Beets, Radishes, &c.  
 Bulbs.—Onion, Garlic, &c.  
 Herbs.—Parsley, Time, Mint, Sage, Fennel, &c.  
 Salads.—Lettuce, Endive, &c.  
 Other Vegetables.—Cabbage, Spinach, Asparagus, &c.  
 Champignons, Mushrooms, Truffles, &c.  
 Cucumbers, Pumpkins, Vegetable Marrows, Melons, &c.  
 Colouring Vegetables.—Madder Indigo, Safron, Sunach Wood, Carthamus, &c.  
 Textile Plants.—Flax, Cotton, &c.  
 Plants for Use.—Tobacco, &c.  
 Grass.—Prairie and Meadow Grass, Lucerne, Trefoil, Sanfoin, Spurry, &c.

*5th. Section.—Produce of Special Cultivation.*  
 Cultivation of Trees and Plants.  
 Best modes of cultivation and reproduction.  
 Planting, Grafting, Sowing, &c.  
 Produce of Trees.  
 Farinaceous.—Chesnuts, Acorns, &c.  
 Oleagenous.—Olives, and various nuts.  
 Fruits employed in the preparation of Fermented Drinks, Apples, Pears, &c.  
 Best modes of cultivating Trees for ornament, and for dividing land.  
 Do. Flowers indigeneous and exotic.  
 Essays on the acclimating and introduction of Trees, Plants, Vegetables and Flowers.

*6th. Section.—Rearing of Stock.*  
 The breeding and rearing of animals, their manures, and the employment of skins, horns, hoofs, hair, wool, blood, &c.  
 The rearing and management of poultry, the use of feathers, quills, &c.  
 The rearing of insects, the bee, the silkworm, the cochineal, &c.

*7th. Section.—Industrial Arts connected with Agriculture.*  
 The management of the dairy and cheese-room.  
 The uses and collection of the textile products of animals, wool, hair, &c.  
 The preservation and preparation of grain.  
 The construction of mills, distilleries, oil-works, &c.

## FARMING IN FRANCE.

It will be interesting at this present time to our farmers to know as much as they can of the state of farming in France. We traversed the country in 1853, and will describe what we remember of the then state of agriculture. A correspondent of the *North British Agriculturist* visited France in 1854, and we hope to be enabled as the

result of our united observation, to afford a good general notion of farming in France up to the present time.

The districts with which we are most familiar are the departments to the north and east of Paris, they include the large agricultural district which stretches towards the Rhine and the Meuse on one side and the sea coast on the other. The principal towns are Abbeville, St. Omer, Compeigne, Rouen, Caen, and the coast towns of Havre, Dieppe, Boulogne, Calais, and Dunkirk, all of which cities we have visited for a greater or shorter period. We take first the department of the *Oise* to the north of the Capital. The country here is generally undulating and open, the formations calcareous, and a continuation of the great chalk basin which stretches from Paris northwards. In some districts the soil is six feet deep, in the valley of the *Oise* the alluvial deposits are of great depth, while in the highlands and more elevated portions of the country, the chalk rises to near the surface, and is only covered by a few inches of light soil.

The farmers, as a class, are wealthy, much of the property is farmed by the owners themselves. The French law divides the whole of an estate, whether heritable or personal, equally among the family of the deceased, land is necessarily much subdivided. Still, subdivision is not generally carried out to an injurious extent as regards the size of farms, the immediate neighbourhood of cities and towns excepted. The size of the farms is large, those of the small proprietors excepted. The average size is about from 600 to 700 acres, but there are several above the latter. The length of the lease varies; 10, 18, and even 38 years are common.

The usual rent of land is about 80 francs or £4 sterling per French hectare; and the land-tax, amounting to about 13 francs per hectare, is also generally paid by the tenant. The farmers, though well off, are frugal, both as regards dress and living; their wives are "the very impersonations of industry." The French farmer's wife takes a lively interest in the homestead, and is as ready to show a stranger over the whole as the farmer himself, being alike at home among the cattle in the straw-yard as among the poultry. From the number of men boarded in the house, and the female servants being few in number, the farmer's wife has her hands full. "Still she never appears to overlook the

toilet, and in dress and in manner is always essentially the well bred woman."

One man to 25 acres of land is the usual compliment of labor on a French farm. Ploughmen are generally boarded in the house, sleeping over the stables. They marry early, and the laborers are frequently married men, the wives living away from the farm in the village, and the husband returning from his labor every Saturday evening. The ploughman's wages with board range from 200 to 300 francs, or £8 to £12 sterling, a year. The women are employed in attending to stock, weeding and clearing land, and during harvest they earn from 4d to 6d a day, and the men on day work from 10d to 18d during the winter, and from 1s to 1s 8d per day during summer, but the latter wages are considered high, and are seldom given except during harvest, and to the best hands. The high price and increasing scarcity of wood for fuel, is severely felt by the rural population, except in the neighbourhood of Mons, Namur and Liege; where coal supplies the place of wood for fuel. As a general rule the necessaries of life are cheap, but during the present year bread has risen high, and but for the bountiful harvest and the care of the government to prevent monopoly, the price of bread would be higher still.

The breeds of cows kept are chiefly crosses of the Flemish and Norman.

The proportion of sheep kept seldom exceeds one sheep for the acre of cultivated land, and as upon small holdings no sheep are kept, the numbers do not reach one sheep for each acre of land. The system is to breed, selling off the older sheep, the lambs taking their place.

The system of cultivation is of a primitive kind, a plain fallow, a green crop being followed by two cereal crops, wheat being taken after the fallow or green crops, followed by oats. The wheat crops average from 18 to 23 bushels per acre. But the produce this year will be considerably above this average. Oats average 40 bushels per acre. Rye also gives good crops, but barley is seldom productive. Part of the clover and tares is cut for sale in the cities, part used for the stock and for the folded sheep. The horses and cows and part of the sheep and tups are confined to the stalls and pens summer and winter. If the sheep are turned out during the day in summer they are attended by a shepherd and two or

three dogs to keep them from trespassing, the lands are generally open and uninclosed, and the lynx eyed dog is upon them if they attempt to stray. The shepherd stays night and day with the flock, in a small cot constructed of wood and mounted on wheels. This cot is moved with the fold, and is placed beside it at night to prevent the sheep from being stolen, sheep stealing being a not uncommon crime. The sheep are mostly crosses, the best being from the Spanish Merino tup, with native breeds of sheep. A good many Leicesters have been of late introduced, but in general they are leggy large framed animals and do not lay on flesh fast. In winter the sheep are altogether housed and fed on lucerne and sainfoin hay, and bedded with oat straw, part of which they eat. The horses and cows also eat a good deal of straw. Turnips are little given, but sometimes beet is allowed to the sheep and stall cattle.

Corn is usually cut with the scythe or the "sape"—a Belgian implement introduced by the Belgian reapers, who go into France in great numbers during harvest. It appears to be used like the "bagging hook" in England. The Belgian reapers, seldom earn more than about 80 francs, or £4 sterling, during the harvest, but they are nevertheless decently clothed and respectable-looking men. The grain is stacked in the fields, partly from apprehension of incendiarism. The grain is allowed to become dead ripe before it is cut. Thrashing-machines of a simple construction are used with horses. Farm buildings are generally large and commodious, built of stone, with slate or tile roofing, or thatched roofs. The farm horses and other live stock are very healthy, which the writer attributes to the height and good ventilation of the buildings.

The vine is cultivated in the lower valleys, but the wine is sour and inferior; the temperature not being high enough for producing wine of even ordinary quality. The district is chiefly a cider one, which is also very indifferent; calcareous soils not producing good cider. Apple trees occasionally line the sides of the roads; the public highways being generally lined with trees, of which the apple and elm are the most common. Cider and the wine of the district are obtained at very low rates, and are used during harvest operations by the rural laborers. Hemp is also grown on small holdings in the deep alluvial damp soils.

Fruits are also grown for sale, but not to great extent. Bacon hams are cured in considerable quantities in certain districts, but the trade is not extending rapidly—sheep being preferred to pigs. The chief production is grain, wheat, and oats, and in certain districts beet is cultivated for being manufactured into sugar and brandy.

Few cattle are reared or fattened, sheep forming the principal stock. The pigs are long legged spare animals. The poultry are remarkably fine and kept in large numbers, and pigeons are more numerous in the French farm-yard than in any country we know of. Some horses are reared for the saddle or harness and fetch good prices. The English or Arabian sire with the Norman or Flemish mare being preferred.

ROBERT ABRAHAM LATE EDITOR OF THE FARMER'S JOURNAL.

This gentleman, who has conducted the *Farmer's Journal* from its commencement, and who gave in its pages such earnest evidence of his deep seated interest in agricultural pursuits, died in Montreal on the 10th November, 1854. Mr. Abraham was born in the fine grazing and agricultural county of Cumberland, where he first imbibed that fondness for the country and its pursuits, which shew themselves so constantly in his writings, and which did not leave him until the breath of life had left his body, for according to one of his biographers, his thoughts to the very last, wandered among green fields, and beds of flowers cheated his imagination, as he descended the dark path which leads to the valley of the shadow of death. Mr. Abraham was originally a man of robust and herculean frame, and was famous as a young man for excelling in all the manly and athletic sports and exercises, which prevail in the rural districts of the northern counties of England. He took a Degree as Doctor of Medicine in the University of Edinburgh, and practised his profession for sometime in Whitehaven. Subsequently Mr. Abraham conducted a political journal in that town,—he removed thence to London, and afterwards to Liverpool, where for many years he conducted with marked ability a leading newspaper. He came to this country about ten years ago, and was editor and proprietor of the *Montreal Gazette*, and afterwards edited the "Transcript" displaying great ability in the conduct of both journals. Mr. Abra-

ham edited the *Farmer's Journal*, and his name and memory will be associated in the minds of our readers with many an admirable contribution to its pages. A few years ago, Mr. Abraham qualified for the profession of the Law in Montreal, and nothing can shew the wonderful versatility of his talents more, than the facility with which he mastered the details of his new profession. About two years ago, his general health began to fail. His mental powers had been overtasked, and symptoms of softening of the brain, and threatenings of paralysis appeared, to warn him that the time appointed for all men was fast coming to him. He died on the evening of Friday, Nov. 10th, leaving a widow but no children. He was a man of genial habits, enlarged heart, and kindly feelings, and is much regretted by those who knew him best.

#### THE FALL OF THE LEAF.

The fall of the leaf is a most curious circumstance, and has puzzled many a wise philosopher. It cannot be merely because of the cold to which the leaf is exposed; for when a frost in June blackens our hedges, and desolates our gardens, the leaves do not fall off, they only wither and die. It may be because of the arrival of old age, but this is a phrase which explains nothing. One would naturally ask, moreover, why some leaves remain on the tree the whole winter, though others fall so early. To understand these things we must first learn what the leaf is, and how it is jointed to the branch. A leaf is the thin part of the outer layer of bark, pushed outwards and stiffened by tough fibres, which pass into it from the wood and from its veins. By these means, a simple and very curious apparatus is constructed; the green or bark part of which, consisting of small bladders, acts as stomach to digest with and lungs to breathe with, while the fibres convey food and air from the branch into the stomach and lungs. Now, when the leaf is first formed, its bladders and fibres have very thin sides, and whatever is introduced into them is readily returned again; and if what they receive was quite pure, it is not improbable that they would go on receiving and returning for a long time. But the fluids of plants are not watery; on the contrary, they contain a great deal of earth and other matters which they deposit every time they pass over the surface. We know that when a kettle first comes home from the ironmonger its inside is bright and clean, but as soon as we have boiled any water in it, the inside becomes a little furred, and when it has been thus used a great many times it becomes very much encrusted, till at last it is quite

lined with a substance like hard earthenware. Something of this sort takes place in the inside of the bladders and fibres of a leaf; they are at first quite clean, but by degrees they are furred till their sides are rendered so thick that the fluid which the leaf feeds can no longer pass through them very readily. As soon as this happens, the leaf begins to be starved and to leave off growing; want of food renders it weak, a sort of indigestion takes place, and at last it altogether dies. In summer time, leaves are always falling off as they die, those on the lowest part of the branches falling first; but we do not remark it, because the falling leaves are hidden by the living ones. Now, the reason why a leaf falls off when it is dead seems to be this: the bark to which it is attached goes on growing and expands; the leaf-stalk, as it dies shrivels and contracts; the contracts; the consequence of which is, that the one separates from the other. It is, in fact, just what happens when a piece of iron is heated and then cooled; the outer part, which is an oxide, cools much quicker than the inner part. The metal contracts, but as the metal and the surface cool at a different rate, they also contract at a different and so separate. Such is the case in the summer time; and, when the frost comes in the autumn, something of the sort takes place. At the time the leaves are generally in a dying state, for the reasons already explained; a partial separation has, in fact, taken place between them and their branches.—*Literary Journal.*

#### NOVEMBER.

"With kindred pleasures moved, and cares oppress,  
Sharing alike our weariness and rest;  
Who lives the daily partner of our hours  
Through every change of heat, and frost, and snow,  
Partakes our cheerful meals, partaking first  
In mutual labour and fatigue and thirst;  
The kindly intercourse will ever prove  
A bond of amity and social love."

Thus sang Bloomfield, the poor shepherd-boy, many years ago; and it is his *idea*, conceived amid the toils and hardships incident to such a condition, that we should like to introduce into the family of every farmer. That November should no longer be considered a month in which people may, with great propriety, hang or drown themselves, on account of its gloom, but rather with the poet, that each shall be with kindred pleasure moved, and that their kindly intercourse of life shall prove

"A bond of amity and social love."

And how much cause there is for this in November, about the farmer's home! Benevolent Heaven has crowned his labors with success. His barns, and granaries, and cellars, are filled with the fruits of the earth; his cattle come to their winter home sleek and fat with rich pasturage, while his cheerful fireside attractions invite to that

delightful intercourse of which the poet sings. And we believe this to be an object as worthy of culture and care, as were the glowing fruits and golden grain of the orchard and the fields. These will sustain our physical nature, but *that* will strengthen the immortal part, by giving elasticity and contentment to the mind.

Nature is the great Teacher—her school-house doors ever stand open, inviting inquirers in—but November is the month in which we may be more constant in her courts, because better opportunities are afforded for thought and application than in summer months. We urge the young to find benches and books and teachers all about them; in the solid earth and stones upon which they tread—in the air they breathe—in the leaves which dance upon the breeze—in the sunlight and shade, the vapors, frosts, dews and clouds. Each will impart some useful truth to him who is willing to seek it. Wisdom is the price of careful application—it cannot be gained by idle and listless minds. Study and labor will overcome all obstacles; books and teachers are now abundant everywhere. To become an earnest student, it is not necessary to enter the school-house with modern desks and seats and conform to codes and regulations. An active mind will find objects for research and contemplation everywhere, in every employment and place. If these occupy his attention, they will lead him to books, and these will reveal to him the thoughts and efforts of other minds as earnest as his own. Men of great acquirements, dull over systematic lessons, and resistive under arbitrary rules, have filled the ear of the world, and thus proved that they were students, all the while, in the great school-room of Nature. They prepared themselves for the active business of life, rather than to be nice and critical in mere book-learning.

For this preparation, none have better opportunities than the young farmer. Six months of the year afford him as much leisure as is desirable for study and investigation, and during the other six, while engaged in his out-door pursuits, he may apply his requirements to the things about him. In this way his mind will become stored with useful facts, such as are applicable to the profession of his choice. As these are mastered, the mind will stretch away into other studies, and scan the pursuits of other men through the whole range of the science and arts.

November, then, may be a pleasant and profitable month for the farmer. It has its characteristic, but they are not sad ones. It throws off its robes, as a warm man his coat, because it no longer needs them. November winds and storms remind us of the necessity of making our dwellings all tight and convenient for the still ruder winds and storms of more rigorous months. No house can be kept warm where the underpinning is loose, and the wind sweeps under the floors. Roofs

should be made tight, and the barn close, where the animals stand.

Cattle and hogs should be fattened rapidly now, both having dry and warm beds, and fed liberally.

Carrots and beets must be gathered before heavy frosts—turnips may remain later. Strawberry beds should be mulched, and tender raspberries laid down and protected.

Hardy, bulbous roots, such as hyacinths, tulips, crown imperials, lilies, narcissus, &c., can be planted as long as the ground remains open; but the beds should be immediately covered a few inches deep with litter.

Apple trees may be transplanted with success. Bank them up well with earth to support them through the winter; in the spring they must be removed.

"We now hear the busy flail in the barn, as the thrasher pursues his task from day to day, never looking company, for he is surrounded by the whole family of fowls, ever ready to hunt up a neglected ear that has escaped his hearty blows. In the farm-yard we see the cattle knee-deep in the broken straw which the thrasher has turned out, and lowing wistfully over the fence, as if they wondered what summer had done with all its green, and seeming to say, as plainly as they can speak, that they like not the dry provender which is given to them, and care not how soon they are ankle-deep in the rich, luxuriant grass."—*New-England Farmer.*

#### AMERICAN INSTITUTE FARMERS' CLUB.

NEW YORK, NOV. 21.

Judge LIVINGSTON in the Chair, HENRY MEIGS Secretary.

#### Bees.

The SECRETARY read an interesting paper, from the French, from a work transmitted by Mons. Vatenere, upon the subject of Bees. The eggs hatch in three days. The worm remains five days to the first change, three days to the next. In eleven days a queen assumes the form of a bee, but white. In seventeen days she is perfect. She lives several years. Her body is black, and legs and feet yellow. She is the mother of the whole colony, and they will all follow her lead. Swarming time may be known by her singing. She lays eggs in forty-six hours after fecundation, and will lay 60,000 a year. The old queen always goes out with the new swarm.

[A correspondent writes us that he succeeds in effectually keeping the moths out of his bee-hives by keeping them on a grass plot, which he keeps mown short, where he feeds his poultry. He pens young chickens and turkeys around the hives, and afterwards places feed there over night, so that the fowls come directly from the roost, at which time the millers are rising from their hiding-places in the grass. By this plan he has entirely got rid of the pest of the bee-moth.]

#### Cold Frames.

Upon the subject of winter management of cold frames—that is, frames for the preservation of plants, such as cabbages, tomatoes, &c., through the winter—Prof. MAPES said that he always prefers cold frames to hot beds; the cold frame plants are harder. They may be made of any dimensions, say six feet wide and 10 to 40 feet long, the back 12 to 15 inches high and front three to six inches, to give a pitch to covers. Raise the plants from seed in the ordinary way and set them in the frame, and when cold weather comes on, cover with shutters like batten doors. These plants freeze, of course, but, being shadded, they do not die. The plants are much earlier, and are worth four times as much as hot-bed plants. The advantage in cauliflower and brocoli is very great. Rhubarb plants are much harder and more likely to live through summer than by spring planting. The plants need scarcely any care during winter.

We never open the frames in freezing weather. When it is warm, the shutters may be lifted over part of them. It is not necessary to cover the boards with hay or straw. Lettuce grown in this way, comes as early as hot-bed plants are usually brought to market. No preparation of the soil, other than good garden mould, is necessary.

Mr. VAIL said that some of the Long Island farmers have a substitute for cold frames, in raising cabbages, by planting by the sides ridges, and covering the plants by matting. It is a good plan for those who will not build frames.

#### Ventilation of Stables.

Prof. MAPES remarked upon this subject, that the combustion of food was similar in the animal's stomach as in the stove. Hence, a stable should be kept at the right temperature as a matter of economy. A man renders 12 gallons of air a minute unfit for further use. Air is not only injured by breathing, but by the surface of his body, and an ox inclosed in a varnished bag, with his head free, will die. A healthy stable will have the ventilation so arranged that a current will not impinge upon the animal. All stables should be cleaned every day and mixed with something to save the gases. Mr. Mapes is opposed to box feeding. Heat may be retained, and yet a good ventilation given. Double boarding is one of the best arrangements; that is hollow sides. Charcoal dust, decomposed muck, plaster of paris, or diluted sulphuric acid, will absorb the ammonia. In a close stable, animals eyes suffer.

Mr. VAIL—My father's experience is this: One lot of cattle were kept in warm, ventilated stables, and produced more milk and better manure, with less feed, than same kind of cattle out-door.

The word vitality is often wrongly used. Animals' food must have the vital power, or the animal will die. The proper foods form fat, flesh and bone, in proportion as they are eaten. Nitrogenous substances

form flesh only. To transform these substances in the stomach, heat is requisite. In extreme cold, more food is necessary.

Dr. WATERBURY—Gum, starch, sugar, are the sources of heat. He thinks that a horse not worked will keep better on hay than grain; that is, keep warmer in cold weather. Grain fed horses, without sufficient exercise, are liable to inflammatory disease. Horses are liable to the same diseases as men.

SOLOMON ROBINSON—Many of the horses in this City are kept in dark cellars, and constantly breed disease by want of light and air, and the ammonia arising from the floor. It is a common practice in livery stables to put horses, kept by the month, in a cellar, where each horse has not a breathing hole twelve inches square, and scarcely a ray of light, and no exercise except walking a few feet to water. In the stables of some carmen who keep but a single horse it is still worse, for at night they are shut up in these close holes or cellars, almost air tight, and are kept more unclean than in public stables. Horses are often stabled upon floors one above another. It is difficult to say which tier is worse off, since the gas from the cellar rises to those above. On the corner of Grand and Mercer-sts., New York, a large church has been turned into a horse-stable.

I don't know how much pure and undefiled religion dwelt there when it was used for a place of worship; I do know, that those who stable horses in unventilated stables, like the basement of that church, have no mercy. "A merciful man is merciful to his beast."

In twenty-fourth-st. an average of five hundred horses are kept in stables upon two blocks, for sale. The stables are mostly above ground, yet those who use them are constantly in dread of an ophthalmic disease, called the pink-eye, which attacks horses from the country, and injures their sale. It arises from the excess of ammonia, and want of ventilation, and light. If the floors were kept white with plaster the disease would disappear. Disinfectors are scarcely ever used here in the city, where most needed. Stables cannot be made too light, or with too much ventilation. The Government of this City should prohibit the stabling of horses in cellars—it is a cruelty to animals, and nuisance to people, ten times greater than city cemeteries. It is a much-needed reform, that a Reform Common Council may very well busy themselves about. The use of one dollar's worth of plaster, copperas, sulphuric acid, or charcoal; all easily obtainable in the city, would often save one hundred times the cost, in preventing sickness, or saving the lives of horses. Shall we ever learn to do anything that our grandfathers did not do.

#### Bugs on Vines.

Mr. PAUL STILLMAN read a letter from a friend in California, inquiring how the seeds of water-melons succeeded (which he had

sent him from melons that weighed sixty pounds each.) Mr. S. stated that he lost all his vines by striped bugs, which, contrary to all theory, attacked his vines after they were loaded with fruit, and by eating the leaves destroyed the whole vines. They did the same thing to his bearing cucumber vines, in September; and he wants to know how to prevent a repetition of their ravages.

Prof. MAPES—I have never known such old vines attacked. I keep bugs off young vines by a simple four-sided box, ten inches square and ten inches high. There is no need of glass or cloth over the top.

The CHAIRMAN—I have saved my vines by dusting them with air-slacked lime and plaster mixed in equal quantities.

Prof. MAPES—A dusting of snuff or charcoal dust is generally effectual.

Mr. STILLMAN—I tried that, but it did no good. I only stopped the ravages of the bugs by pulling up the vines and throwing them, bugs and all, into the fire.

The subject for the first Tuesday of December is, The best Manner of Preparing Fuel, including the proper time to cut it, and Wood compared with Coal; and also, The best Manner of Constructing an Ice-house.—N. Y. Tribune.

PREMIUMS AWARDED BY THE AGRICULTURAL SOCIETY OF THE COUNTY OF HUNTINGDON, NO. 1, FOR 1854.

ON GRAIN, GREEN AND ROOT CROPS.

Wheat.

1. Alex. Graham, 25s; 2. James Stott, 20s; 3. Jas. B. Maston, 15s; 4. Joseph Whiteman, 10s; 5. John Remington, 5s.

On Pease.

1. William Lindley, 25s; 2. John Borrowdale, 20s; 3. William Robinson, 15s; 4. Edward Mussen, 10s; 5. George Hay, 5s.

On Oats.

1. John Stott, 25s; 2. William Robinson, 20s; 3. Thomas Dalby, 15s; 4. James Stott, 10s; 5. Gilbert Weldon, 5s.

On Barley.

1. Francis Durham, 25s; 2. Alonzo Force, 20s; 3. Ira Fosburgh, 15s; 4. Alex. Graham, 10s; 5. Edward Braithwait, 5s.

On Corn.

1. William Williamson, 25s; 2. Freeman Nye, 20s; 3. Roswell Canfield, 15s; 4. Francis Stead, 10s; 5. Eli Woodworth, 5s.

On Potatoes.

1. Ralph Moore, 25s; 2. Thomas Brisbin, 20s; 3. Robert Outhet, 15s; 4. Joseph Whiteman, 10s; 5. Henry Winterbottom, 5s.

On Hay.

1. Eli Woodworth, 25s; 2. Alex. Graham, 20s; 3. Alonzo Force, 15s; 4. Charles Robinson, 10s; 5. Henry Stephenson, 5s.

On Carrots.

1. Alexander Graham, 20s; 2. Roswell Canfield, 15s; 3. Robert Outhet, 10s; 4. William Williamson, 5s.

On Ruta Baga.

1. Alexander Graham, 20s; 2. Francis Cookman, 15s; 3. Henry Winterbottom, 10s; 4. Ralph Moore, 5s.

ON HORSES.

Stallions, Aged.

1. William Weldon, 40s; 2. John Bone, 30s; 3. Henry Stephenson, 20s; 4. Narcisse Letourneau, 10s.

Three year old Stallions.

1. James Clark, 30s; 2. Constant Bousquet, 20s; 3. William Canfield, 10s.

Two year old Stallions.

1. Ira Wilson, 20s; 2. Joseph Whiteman, 15s; 3. James Stott, 10s.

Brood Mare and Colt.

1. Henry Winterbottom, 50s; 2. Sixte Coupal, 45s; 3. Felix O'Neil, 40s; 4. Chs. Robinson, 35s; 5. Aaron Miller, 30s; 6. John Borrowdale, 25s; 7. Ira Fosburgh, 20s; 8. John Glass, 15s; 9. Rob. Beswick, 10s; 10. Freeman Woodworth, 5s.

Three year old Filly.

1. George Woodworth, 25s; 2. Freeman Woodworth, 20s; 3. Francis Cookman, 15s; 4. Charles Robinson, 10s.

Two year old Filly.

1. David Fosburgh, 20s; 2. William Lindley, 15s; 3. David Barker, 10s.

Yearling Colt.

1. John Bone, 15s; 2. Joseph Whiteman, 10s; 3. Peter Robinson, 5s.

Yearling Filly.

1. Thomas Brisbin, 15s; 2. Thomas Dibb, 10s; 3. Sixte Coupal, 5s.

Three year old Gelding.

1. Wm. Robinson, 15s; 2. Wm. Durham, 10s; 3. James McCallum, 5s.

Two year old Gelding.

1. Gilbert Weldon, 15s; 2. David Fosburgh, 10s; 3. Robert Barry, 5s.

Pairs Matched Horses.

1. John Remington, 30s; 2. Gilbert Weldon, 25s; 3. Robert True, 20s.

ON NEAT CATTLE.

Bulls, Aged.

1. Henry Winterbottom, 30s; 2. Freeman Nye, 25s; 3. Robert True, 20s; 4. Maurice Lavalley, 15s.

Two year old Bulls.

1. Freeman Nye, 30s; 2. Henry Borrowdale, 25s; 3. Wm. Lindley, 20s; 4. Gilbert Weldon, 15s.

One year old Bulls.

1. Freeman Nye, 20s; 2. Wm. Williamson, 15s; 3. Ed. Mussen, 10s.

Milch Cows.

1. Charles Robinson, 35s; 2. John Robinson, 30s; 3. Freeman Nye, 25s; 4. George Winterbottom, 20s; 5. Owen Odell, 15s; 6. Gilbert Weldon, 10s; 7. Edward Mussen, 5s.

Two Year Old Heifers.

1. Charles Robinson, 20s; 2. George Winterbottom, 15s; 3. John V. B. Hoyle, 10s; 4. Peter Robinson, 5s.

One Year Old Heifers.

1. Robert Outhet, 20s; 2. Owen Odell, 15s; 3. Charles Robinson, 10s; 4. John Robinson, 5s.

Yokes Oxen in the Yoke.

1. Freeman Nye, 20s; 2. Timothy Hoyle, 15s; 3. George Lavalley, 10s.

Best Lot of Neat Stock, two animals or more, not less than three years old.

1. Freeman Nye, 25s; 2. John Cookman, 20s; 3. Robert Outhet, 15s.

ON SHEEP.

Rams, Aged.

1. Charles Robinson, 25s; 2. Edward Mussen, 20s; 3. John Robinson, 15s; 4. William Robinson, 10s.

One Shear Rams.

1. Peter Robinson, 25s; 2. John Robinson, 20s; 3. Henry Winterbottom, 15s; 4. George Winterbottom, 10s.

Ewes, Aged.

1. John Robinson, 25s; 2. Henry Winterbottom, 20s; 3. Charles Robinson, 15s; 4. Peter Robinson, 10s; 5. George Lavalley, 5s.

One Shear Ewes.

1. John Robinson, 25s; 2. George Winterbottom, 20s; 3. Henry Winterbottom, 15s; 4. Robert Outhet, 10s; 5. William A. Canfield, 5s.

ON SWINE.

Boar Pigs.

1. George Lavalley, 25s; 2. Charles Robinson, 20s; 3. Roswell Canfield, 15s; 4. John Stott, 10s.

Breeding Sows.

1. John Borrowdale, 25s; 2. George Lavalley, 20s; 3. Eli Woodworth, 15s; 4. Edward Braithwait, 10s.

ON BUTTER.

1. Eli Woodworth, 25s; 2. Roswell Canfield, 20s; 3. George Lavalley, 15s; 4. John Borrowdale, 10s; 5. William Lindley, 5s.

ON CHEESE.

1. Alonzo Smith, 25s; 2. Roswell Canfield, 20s; 3. Thomas Brisbin, 15s; 4. Owen Odell, 10s; 5. John Odell & Son, 5s.

The Society's Ploughing Match was held on the 16th October, and a fall of snow on the morning of that day prevented as general a turn out as was expected; the weather cleared up about ten o'clock, eighteen ploughmen competed, and the following premiums were awarded:

Senior Class, over 21 years of age.

1. Robert Ward, 25s; 2. James B. Mastin, 20s; 3. Edward Scriver, 15s; 4. John Watson, 10s; 5. Thomas Cordux, 5s.

Junior Class, under 21 years of age.

1. Alex. Graham, Jr., 40s; 2. Watson Outhet, 35s; 3. Robert Stott, 30s; 4.

James Hutchins, 25s; 5. David Paine, 20s; 6. Charles Woodworth, 15s; 7. Chester Vanorum, 10s; 8. Alfred Moore, 5s.

THOMAS GORDON.  
Sec'y-Treas.

#### ORMSTOWN AGRICULTURAL SOCIETY.

This newly organized Society held their first Cattle Show in the village of Durham, on the 4th of October, when the following persons received premiums:

CLASS 1st.—Brood Mares for Draught.—Edward Sadler, Ormstown, 1st Prize; Thomas Steel, South Georgetown, 2nd do; James Sangster, Ormstown, 3rd do.

CLASS 2nd.—Two year old Geldings or Fillies.—William Rice, Ormstown, 1st Prize; John Pringle, do, 2nd do; James Sangster, do, 3rd do.

CLASS 3rd.—Milk Cows.—Neil McEwan, Ormstown, 1st Prize; James Sangster, do, 2nd do; James Sadler, do, 3rd do.

CLASS 4th.—Two year old Heifers.—William Coulter, Jamestown, 1st Prize; William Waddell, Ormstown, 2nd do; Neil McEwen, do 3rd do.

CLASS 5th.—One year old Heifers.—James Sadler, Ormstown, 1st Prize; Hugh McKeller, do, 2nd do; Patrick Dumphy, Jamestown, 3rd do.

CLASS 6th.—Pen of three Ewes.—John McCoig, North Georgetown, 1st Prize; James D. Bryson, Ormstown, 2nd do; Dugald Graham, do, 3rd do.

CLASS 7th.—Rams.—James Benning, North Georgetown, 1st Prize; James Coolin, South Georgetown, 2nd do; Alex. Younie, Ormstown, 3rd do.

CLASS 8th.—Ram of one shear.—James Cowan, North Georgetown, 1st Prize; William Logan, South Georgetown, 2nd do; William Cairns, Ormstown, 3rd do.

CLASS 9th.—Three Ewe Lambs.—James Benning, North Georgetown, 1st Prize; John McCoig, do, 2nd do; James D. Bryson, Ormstown, 3rd do.

CLASS 10th.—Boars.—James Adams, South Georgetown, 1st Prize; William Feltus, Ormstown, 2nd do.

CLASS 11th.—Brood Sows.—James Cowan, North Georgetown, 1st Prize; Dugald Graham Ormstown, 2nd do.

CLASS 12th.—Pair of Pigs.—John Alexander, North Georgetown, 1st Prize; Dugald Graham, Ormstown, 2nd do; James Cowan, North Georgetown, 3rd do.

CLASS 13th.—Cheese.—William Bryson, Ormstown, 1st Prize; James Cowan, North Georgetown, 2nd do, James D. Bryson, Ormstown, 3rd do.

CLASS 14.—Butter.—William Logan, South Georgetown, 1st Prize; Samuel Beird, Jamestown, 2nd do; Neil McEwen, Ormstown, 3rd do.

CLASS 15th.—Piece of *Ettoffe*.—Alex. Younie, Ormstown, 1st Prize; John Cook, do, 2nd do.

A prize was awarded to Mrs. P. Dumphy,

of Jamestown, for specimens of superior knitting, woollen yarn, &c.

The above Society's Ploughing match took place on the farm of David Bryson, Esq., of North Georgetown, on the 14th instant. Notwithstanding the previous frost, and the shortness of the notice given, eleven ploughs entered the field at an early hour, and after each had ploughed his respective portion, the Judges, Alex. Scott, of Ormstown, James McWhimney, of Ormstown, and Alex. Bryson, of North Georgetown, Esq., proceeded to determine who should obtain the prizes, and awarded them to the following persons:—

1st premium to Mr. Duncan Graham of North Georgetown; 2nd do to Mr. James Anderson, do; 3rd do, Mr. Alex. McDougall, Ormstown; 4th do, Mr. James Goundru, South Georgetown; 5th do, Mr. John Howe, do.

The Judges in handing in their report to the Committee, stated that it was with great difficulty and only with the assistance of the tape-line and rule that they were enabled to determine who, of the eleven ploughmen, should receive the prizes. After the business of the day, the Judges, Officers of the Society, and ploughmen, sat down to a most comfortable dinner provided D. Bryson Esq.

#### McCORMICK'S REAPING MACHINE.

The case of *Cyrus H. McCormick vs. William H. Seymour & Dayton S. Morgan*, of Rockport (N.Y.) which has been on trial in the United States Circuit Court for the Northern District of New York for a week, resulted yesterday in a verdict of \$7,750 for the plaintiff. The suit was brought for the infringement of two Patents granted to Mr. McCormick for improvements in reaping machines—one January 31st, 1845, and the other October 23rd, 1847.

The case has been tried before—in October, 1851—and resulted then, as now, in a verdict for the plaintiff. The trial was confined to the patent of 1847 alone, the plaintiff having elected so to confirm it, in consequence of the alleged absence of a witness for the defendants as to the patent of 1845, on which ground the defendants sought to put over the trial together. The defendants then carried the case to the Supreme Court of the United States, where the judgment of the Court below was reversed, and a new trial granted, solely on account of an error in the charge of the Court upon the question of damages. Upon all other points the instructions and rulings below were expressly confirmed. The validity of the patent of 1847 was thereby fully established, as the trial was a very thorough one, and every thing was adduced that could be to destroy the novelty of the inventions covered by the patent. This patent of 1847 embraces, as its main feature, the invention of an arrangement whereby a seat or position is secured

upon the machine for the raker who rakes the cut grain from the platform upon which it is deposited by the reel. This patent of 1847 was reissued in 1853, and since the reissue an injunction has been granted by the Court against Seymour & Morgan to restrain them from violating that patent by making reaping machines embracing an arrangement of raker's seat or position upon the machine.

The trial which has just been had was upon the patent of 1845 alone, the Court having held that by the reissue of the original patent of 1847 pending this suit, the plaintiff had abandoned all claim for damages in the suit, for the infringement of the original patent. The trial was therefore confined to the patent of 1845, and was thoroughly and ably conducted by Henry R. John K. Porter, and Nicholas Hill, Jr., Esqs., on the part of the defence, the plaintiff being represented by Gov. Seward and Charles M. Keller and Samuel Blatchford, Esqs., as his counsel.

The defences set up were those of want of novelty, non-infringement and an abandonment. The inventions covered by this patent of 1845 relate to the improvement in the cutting apparatus of the machine, by which that operation is made complete; and to the arrangement for dividing the grain, by which, in connection with the reel, a perfect separation of the grain to be cut from that to be left standing is secured. The importance of these improvements to the successful and perfect operation of the machine in all situations and conditions of the crop, seems to have been very clearly established.

Thus the novelty, as well as importance of this great American invention have been vindicated by an American jury in a Court of Justice, and the award of the Council Medal to McCormick's Reaper at the Worlds Fair in London in 1851, as the most useful single article there exhibited, has met with a response from this side of the water which will go far to refute the truth of the common saying, that "Republics are ungrateful."—*Albany Evening Journal*.

#### INGREDIENTS OF DIFFERENT PARTS OF CORN.

We have noticed that when a rat, mouse, or squirrel, gets hold of a kernel of Indian corn, he eats out the chit and lets the rest alone. It has generally been supposed that this was done by them because the chit was the softest part. Dr. Salisbury, of Albany, shows that it has, also, by far, the richest and most nutritious portion of the kernel.

If, therefore, a mouse gets into a full bin of corn, he is a fool to be spending his time in cracking the harder parts of it, when the softer and richer parts can be had for a tenth part of the trouble which he requires to grind the other.

A writer in the "Plough, Loom, and Anvil," says:

In composition, the chit differs materially from the rest of the kernal, in containing a very large percentage of oil and albumen, and a small percentage of starch. The oil amounts to from 26 to 30 per cent., and the albumen to from 17 to 20 per cent. of the dry matter, while the starch ranges from above 10 to 12½ per cent.

In the corneous or flinty part the oil does not exceed 3 per cent. and the albumen 1½ per cent., while the starch amounts to about 52½ per cent. The farinaceous or mealy portion affords a little over 3 per cent. of oil, and a little less than 2 per cent. of albumen, while it gives of starch 59 per cent.—The gluten exists more largely in the flinty than in the mealy portion.

**HEDGES.**—There is but one plant that now appears to be just the thing for hedges. This is the Osage Orange. Although somewhat liable to be winter-killed at the tips of its branches, we have never known the roots and larger branches to suffer; and in a thick hedge, with the moderate growth that such a thick growth must have, our severest winters will scarcely affect it. And it so happens, that nipping the tips is only beneficial to the hedge, operating in the same way as a shearing—an operation too often neglected in raising hedges. After many years trial, we are satisfied it will succeed perfectly in any localities where peaches are raised, or Isabella grapes ripened.

It is raised from seed, but as this requires skillful management, our correspondent will do best to obtain the plants from nurserymen, which he can do at 5 or 6 dollars a thousand. The best way, is to plant on the line of a ditch, made for this purpose, filled with mellow earth, the ditch keeping the soil dry, and of course enabling the plants to withstand the frost much better than of soaked with water.

If kept well and constantly cultivated, such a hedge will afford protection against cattle and horses in about five years, notwithstanding the heading down each spring for a few years, at successive heights, which is indispensable to a good and compact hedge. Without cultivation, the time required will be much longer.

Nothing can be better than an Osage hedge for a fruit garden, as from the innumerable sharp thorns, no fruit-stealer would be likely to undertake more than once to pass such a barrier, and he would probably remember the effort for a long time.

#### NUTRITION IN VARIOUS GRAINS.

Wheat is one of the most important of all crops. The grain contains from fifty to seventy per cent. of starch, from ten to twenty per cent. of fatty matter. The proportion of gluten is said to be the largest in the grain of quite warm countries.

It is a singular fact that, in all the seed of wheat and other grains, the principal part of

the oil lies near or in the skin, as also does a large portion of the gluten. The bran owes to this much of its nutritive and fattening qualities. Thus, in refining our flour to the utmost possible extent, we diminish somewhat its value for food. The phosphates of the ash also lie, to a great degree, in the skin. The best fine flour contains about 70 pounds of starch to each hundred. The residue of the hundred pounds consists of 10 or 12 pounds of gluten, 6 to 8 pounds of sugar and gum, and 10 to 14 pounds of water, with a little oil.

Rye flour more nearly resembles wheat flour in its composition, than any other; it has, however, more of certain gummy and sugary substances, which make it tenacious, and also imparts a sweetish taste. In baking all grains and roots which have much starch in them, a certain change takes place in their chemical composition. By baking, flour becomes more nutritious, and more easily digested, because more soluble.

Barley contains rather less starch than wheat, also less sugar and gum. There is little gluten, but a substance somewhat like it, and containing about the same amount of nitrogen.

Oat meal is little used as food in this country, but it is equal, if not superior, in its nutritive qualities, to flour from any of the other grains; superior, I have no doubt, to most of the fine wheaten flour of the northern latitudes. It contains from ten to eighteen per cent. of a body having about the same amount of nitrogen or gluten. Besides this there is a considerable quantity of sugar and gum, and from five to six per cent. of oil or fatty matter, which may be obtained in the form of a clear, fragrant liquid. Oat meal cakes owe their peculiar agreeable taste and smell to this oil. Oat meal, then, has not only an abundance of substance containing nitrogen, but is also quite fattening. It is, in fact, an excellent food for working animals, and, as has been abundantly proved in Scotland, for working men also.

Buckwheat is less nutritious than the other grains which we have noticed. Its flour has from six to ten per cent. of nitrogenous compounds, about fifty per cent. of starch, and from five to eight per cent. of sugar and gum. In speaking of buckwheat or of oats, we of course mean without husks.

Rice was formerly supposed to contain little nitrogen; but recent examinations have shown that there is a considerable portion, some six or eight per cent., of a substance like gluten. The percentage of fatty matter and of sugar is quite small, but of starch much larger than any grain yet mentioned, being between eighty and ninety per cent.; usually about eighty-two per cent.

Indian corn is the last of the grains that we shall notice. This contains about sixty per cent. of starch, nearly the same as in oats. The proportion of oil and gum is large—about ten per cent.; this explains the fatten-

ing properties of Indian meal, so well known to practical men. There is, besides, a good portion of sugar. The nitrogenous substances are also considerable in quantity—some twelve or sixteen per cent. All these statements are from the prize essay of Mr. J. H. Salisbury, published by the New York State Agricultural Society. They show that the results of European chemists have probably been obtained by the examination of varieties inferior to ours; they have not placed Indian corn much above the level of buckwheat or rice, whereas, from the above, it is seen to be "in most respects superior to any other grain."

Sweet corn differs from all other varieties, containing only about eighteen per cent. of starch. Amount of sugar is of course very large; the nitrogenous substances amount to the very large proportion of twenty per cent.; of gum, to thirteen or fourteen; and of oil, to about eleven. This, from the above results, is one of the most nourishing crops grown. If it can be made to yield as much per acre as the hardier varieties, is well worth a trial on a large scale.—*Professor Norton.*

#### PARKS AND PLEASURE-GROUNDS FOR THE FARMERS.

The present is a time of agricultural improvement and progress without a parallel in this country. Improved implements, improved stock, better cultivation, better fences and buildings, meet us everywhere in the country; and farmers are growing "rich," in the common acceptance of the term. We rejoice at this, and so must every man who feels a lively interest in our national welfare, because agriculture is our main stay. If it fails to prosper, we can have no prosperity. It is the produce of our farms—the fruits of farm industry—that animate trade and commerce, that build up cities and villages, construct railroads and canals, and cover our lakes and rivers the broad seas with fleets of vessels. What a calamity—what an universal panic and prostration of business would the failure of even one crop over the whole country bring upon us!

Agricultural progress and prosperity, then, are subjects that no man, whatever may be his calling, can regard with indifference; and the agricultural classes themselves, as a body, by their intelligence, industry, energy, and manly independence, command universal admiration and respect. These are our honest sentiments—not the fulsome flattery of a stump speech or holiday oration. Our sympathies are, and ever have been, and will be, with the tillers of the soil. Our own life, so far, has been spent in the country, and we have earned our bread by the cultivation of the soil. We can speak of both its toils and pleasures from actual experience. We know some regard it as a vulgar and plodding pursuit, fit only for strong, rough, and uneducated men; but the number of those who think so is diminishing rapidly.

Men of taste and intelligence are now ambitious of being agriculturists; and schools and colleges for training the sons of farmers are beginning to attract attention, and will soon work a change in the public sentiment in regard to the respectability and importance of the agricultural profession.

This brings us to the point on which we proposed to make a few suggestions, when we took up our pen. We wish to see the farmer's home—the farmer's life—made more attractive. Hitherto, as a general thing, the improvements which have been made are of the *useful* kind, having reference mainly to the supply of man's physical wants. Most of our farms must be regarded as mere manufactories of food and clothing; very little has been done to gratify the intellect, taste, or feelings—the higher and nobler attributes of our nature. And this is one reason, beyond a doubt, why many young persons who have, by means of education, reading, and society, acquired a certain degree of refinement, become dissatisfied with agricultural life, and have sought the city. Intelligent, educated men, cannot surely remain satisfied with being mere growers of grain and breeders of stock,—they must love their home; and to merit their love and attachment, that home must possess something of beauty, for the love of the beautiful is an instinct of man's nature. A large portion of the population is continually on the move;—the old home has no hold on their affections—or at least not enough to overcome the novelty of a new one. We see the population diminishing in the very heart of the finest agricultural districts in America, where nothing is so much needed as human beings. It is at certain seasons impossible to procure laborers enough to do the work. This state of things is unfavorable to the perfect development of the country's resources, and equally unfavorable to the attainment of a higher and happier social condition.

It is not unreasonable, we trust, to expect, and even to urge, some reform on this point. Make home attractive;—cultivate the taste, and feelings, and affection, as well as you do your fields. Why should a wealthy farmer, with his 50, 100, or 200 or 300 acres of land, content himself with a rod or two of a door-yard, and a dozen of shade trees, shaped and managed after the precise fashion of a village plot? Why can he not, just as well, have a park and pleasure-ground of several acres around his house, broad glades of lawn, and groups of trees, separated from the cultivated portions of the farm by green hedges? This, well stocked orchard and good ample kitchen-garden, would come up to our ideas of a country home; and it would be impossible for children to grow up in such a home without becoming attached to it, and having their tastes expanded, their feelings refined, or without appreciating the comforts and blessings of a country life. A rod or two of a door-yard for a farm-

house!—what a mockery! There is something incongruous in the very look of it that cannot fail to strike every observing person.—*Horticulturist*.

#### CHEAP ICE-HOUSE.

The following is a plan of a cheap and convenient ice-house—one which every farmer can afford to have.

Make a box eight feet square, by nailing hemlock planks which are two inches thick, on to hemlock scantling. Let one side of the box be seven feet high, and the side opposite ten feet high. This gives a roof eight feet long, with a slant of three feet. It is well to have the roof boards extend over the sides of the box. Double boarding with hemlock makes a sufficient roof. Set this box on the top of the ground, in a dry and shady place, where surface water will not accumulate. No planks are needed at the bottom of the box, but sawdust must be placed on the ground inside the box to the depth of one foot, and over this place loose boards for the ice to lie upon. Cut the cakes of ice two feet square, and build a tower of ice six feet square in the centre of your box, (or ice-house, we will now call it,) by laying the cakes compactly together, and filling all crevices with sawdust as you proceed. We have now six feet cubic of ice, with a space of one foot all around between the ice and planks. Fill this space with sawdust, and cover the top of the ice with the same eighteen inches deep, and you have ice enough secured to last a family through the season. The upper three feet of the side which is ten feet high, should not be boarded up, but left for ventilation, and a place of access to the ice, and this aperture may be enlarged as convenience may require while using the ice, and for more conveniently filling in. About 800 feet of lumber will be required, and the merest tyro in the use of tools, can make it. Fresh sawdust is best, but it may be used a second winter. The dust can easily be washed from the ice at the time of using.

The importance of giving a better education to farmers as a class, is becoming quite a common topic in the addresses delivered at our annual Fairs, and I think the good effects of these alone can hardly be over estimated. The truth is that hitherto as a class, they have had no rallying point. They have almost nothing of that *esprit de corps* which belongs to other professions, and as the business naturally confines them for the most of the time within the bounds of the farm, they miss most of those opportunities of improvement which are possessed by those who live in cities or thickly settled towns. They have seldom an opportunity of hearing themselves addressed as a distinct body, and their duties clearly pointed out. Our agricultural papers do this to some extent, but they lack the unction of the living voice, and besides they reach but few of the mass of the farmers. Hence the value of fairs

which call the farmers together, not only to exhibit the fruits of their labor and skill, but also to listen to counsels, warning and reproof. If only heeded, they cannot fail, in course of a few years, to elevate the standard of the profession, and make it more nearly what it ought to be. It is indeed strange enough, that while three years at least of special preparation are required of the student of theology, medicine or law, before he can begin to work, a common school education, and that often a very ordinary one, is thought amply sufficient for him who is to be but a farmer. Rev. Mr. Clift, of Stonington, Ct., who delivered the address before the Hampshire Co. Society a few days since, spoke very forcibly on the subject of Scientific Agriculture. He looks to this as the grand means of renovation in some of our old townships, now in an evident decaying state, through the loss of some of its most enterprising sons and daughters who seek in other pursuits for that position in society to which they feel themselves entitled, but which they despair of obtaining on the old homestead. He argued that if each of these towns contained but two or three farmers of the right stamp—men who honored their calling, and were an honor to it—the aspect of things would very soon be changed, and thrift and enterprise would take the place of stagnation and decay. In furtherance of the subject, he recommended the Agricultural Societies to offer a premium for success in certain departments of husbandry, the privilege of free attendance at a course of agricultural lectures at some one of the institutions now open for the purpose. I thought the suggestion a good one, and worthy of particular consideration.—*Country Gentleman*.

FENCE POSTS.—The *Hereford Times* mentions a farmer who took up a fence after it had been standing fourteen years, and found some of the posts nearly sound, and others rotted off at the bottom. Looking for the cause, he discovered that the posts which had been inverted from the way they grew were solid, and those which had been set as they grew were rotted off. This is certainly an incident worthy of being noted by our farmers.—*Mark Lane Express*.

FARMING IN CALIFORNIA.—The *Alta California*, speaking of farming in that state, says "there is no branch of business considered at a lower ebb in this country at present than farming. It is the general impression that every one engaged in this occupation is driving a ruinous business. It is scarcely reasonable to suppose that it would be otherwise, when it is borne in mind that wheat is not selling at one half the price it brings in New York, while labor on this side of the continent is three or four times as high. The native richness of our soil makes up, however, in some instances, for this discrepancy. In conversation yes-

terday with a farmer from Alameda County, on the bay, about ten miles south of Oakland, he informed us that he had found his crop this year quite profitable. His land is a very choice selection. He had 76 acres of oats, which yielded 7,200 bushels, or about 95 bushels to the acre; 23 acres of wheat, which yielded 1,800 bushels or about 78 bushels to the acre; 25 acres of barley yielded 1,500 bushels, or 60 bushels to the acre; and 53 acres of potatoes, 17 of which had been dug, producing 2,600 sacks of 130 lb. each, or nearly 20,000 lbs. to the acre.

#### IMPORTANCE OF THE ONION.

The onion is worthy of notice as an extensive article of consumption in this country. It is largely cultivated at home, and is imported, to the extent of seven or eight hundred tons a year, from Spain and Portugal. But it rises in importance when we consider that in these latter countries it forms one of the common and universal supports of life. It is interesting, therefore, to know that, in addition to the peculiar flavor which first recommends it, the onion is remarkably nutritious. According to my analyses, the dried onion root contains from twenty-five to thirty per cent. of gluten. It ranks in this respect with the nutritious pea and the gram of the east. It is not merely as a relish, therefore, that the wayfaring Spaniard eats his onion with his humble crust of bread, as he sits by the refreshing spring; it is because experience has long proved that, like the cheese of the English laborer, it helps to sustain his strength also, and adds, beyond what its bulk would suggest, to the amount of nourishment which his simple meal supplies.—*The Chemistry of Life.*

**SHELL MARL.**—Allow me to invite attention to the advertisement of S. B. Raymond & Sons. I have used their shell marl the past season on garden vegetables, and am so well satisfied of its richness as a manure, that I purpose to use it extensively. Its discovery will add materially to the stock of fertilizers in this section. I hope the lovers of good crops abroad, will avail themselves of its cheapness to order and test it. An article in the Edinburgh Encyclopedia, says "shell marl is composed of animal shells dissolved; contains oil, affects the soil like animal manure, increases the food of plants, aids the soil in attracting food from the air and prepares the vegetable food for entering the roots of plants. This marl is so rich in carbonate of lime, an active stimulant, that it must mix advantageously with the animal manures of the farm-yard. If so, we have discovered an invaluable mine.

#### TRAINING HORSES.

A colt of good blood is always a colt of good courage, and the best way of ascertaining a good blooded colt, his to try is courage. See if anything will frighten him—

see if he delight in loud noises, such as the sound of a drum—the noise of a bridge—the sound of cannon, &c.

A good colt will generally precede his dam in travelling. If he lags behind—if he is easily frightened at sights, or sounds,—get rid of him at once. He will not be worth raising. If you have a colt from a good stock, treat him with kindness, never irritate him. Feed him with salt, crusts of bread, pieces of carrots, &c. from the hand. Feed him well—give him a warm stable, and good bed in winter. Halter him and lead him about when he is a year old. Bridle him at two years, and occasionally put a saddle on his back, and always keep him in hand, and under kind control. Keep up this practice till three years old—you may then put a harness on him, and lead him round in it. Take care that he never gets a chance to break from you or run away. In the spring, summer and fall, give him a good pasture to exercise in, where he can run and consolidate his limbs. At four years you can harness him in a sled, and afterwards in a light wagon—always remain by his head. Do not blind him—let him see every thing that is going on around him. A harrow is a good thing to tame him down.

If you want him to work with another horse, you may now harness him with a horse that is perfectly gentle, and kind, and sure in all situations. At five years old he will be fit to put at any light work, in saddle and harness. But he should not be overloaded or strained at this, or any other age. At eight years old, the horse is mature. His bones, muscles and cords, are fully developed, and consolidated. I had a spirited blood horse, that was very fond of running, and no common bit would stop him. I had broke all kinds of curb chains on his jaws, without stopping him. I therefore took an old saddle bit, and put a strong cod-linc through the rings under his jaw, and started him, and immediately pulled my cod-linc, and brought such a crushing power on his jaw, that it brought him on his haunches.

I served him in this way three or four times, at each pull, crying "whoa." After that, if he was in a very high glee, if he heard that sound he was as dead as an Arab's horse,—all his feet planted firmly forward, and I never had any more trouble about his running away. He delighted in military music, in the cry of a hound, in the noise of a cannon. He feared nothing. He was very fleet in all his gaits,—fleet as a deer and gentle as a lamb. I sold him after a few years use; and one thousand dollars would not have tempted the purchaser to part with him. I am sorry to say, he was finally burned in a stable.—*American Paper.*

#### FATTENING TURKEYS, ETC.

Mr. EDYFOR.—Much has been published of late in our agricultural journals in relation to the alimentary properties of charcoal. It

has been repeatedly asserted, that domestic fowls may be fattened on it without any other food, and that too, in a shorter time than on the most nutritive grains. I have recently made an experiment, and must say that the result surprised me; as I had always been rather sceptical. Four turkeys were confined in a pen, and fed with meal, boiled potatoes and oats. Four others, of the same brood, were also, at the same time confined in another pen, and fed daily on the same articles, but with one pint of very finely pulverized charcoal mixed with their mixed meal and potatoes. They had also a plentiful supply of broken charcoal in their pen. The eight were killed on the same day, and there was a difference of one and a half pounds each in favor of the fowls which had been supplied with the charcoal, they being much the fattest, and the meat greatly superior in point of tenderness and flavor.—*German town Telegraph.*

#### RESULTS OF THE HARVEST—PRICES AND WEATHER.

The harvest weather has been on the whole unprecedentedly favorable; the harvest may be assumed as concluded, and the yield is decidedly above an average. It has been computed by persons qualified to judge, that the increase on wheat over last year's crop, would be seven millions of quarters, or fifty-six millions of bushels. All crops are a full average, and considerably above last year's produce. Still, in the present condition of Britain, and of Europe, all this increase will be required for British consumption. The destruction of the potato will not amount to anything like what was anticipated two months ago.

The general effect of so good a harvest, and so large a product of food for man and beast, will be to give an impulse to our manufactures, and to spread peace and plenty among the industrious hives of Manchester, &c. However high, therefore, butchers' meat is at present, we do not expect it will be much lower this season. As to grain, notwithstanding the plentiful yield of harvest, 1854, it is probable that prices will remain sufficiently remunerative to the growers for at least a considerable time, and until larger breadths of grain crops are brought into culture.—*Irish Agriculturist, Dublin.*

#### AGRICULTURAL STATISTICS.

The following clear and satisfactory explanation by J. Hall Maxwell, Esq., Secretary to the Highland and Agricultural Society of Scotland, is well worthy of the perusal of all who feel interested in the working of a correct and authoritative method of acquiring Agricultural Statistics. The Highland Society have, as might be expected, gone about their business in a business-like and efficient manner. They first obtain the returns of the extent of crops from the tenants themselves, after which the average

of each kind of crop is struck in each district by first class judges, called together to give a verdict upon them like a jury. Mr. Maxwell said:—

Since I was Secretary to the Highland Society, I have been in communication with no fewer than four Presidents of the Board of Trade, all differing in their political views, but all agreeing that information in reference to agricultural matters was of great importance to the public, and to the farmer, their only point of difficulty being how these statistics are to be got at. It is now two or three years since Mr. Labouchere first applied to the Highland Society for a statement of their views, and a plan of this inquiry. That plan was prepared, went into the hands of Mr. Henley, the President of the Board of Trade under Lord Derby. It met with his approval, and afterwards came before his successor in office, Mr. Cardwell, under whose sanction, as you are all aware, an experimental trial was instituted last year in three of our Scotch counties, and in two English counties. The results of that experimental trial, owing to the active assistance and co-operation of the tenant farmers in these three counties, were so satisfactory that Government found itself in a position to extend the inquiry to the whole of Scotland; and I think it is honourable to you, as a class, that the example which your brethren in these three counties set has enabled—in fact, has induced Government to place Scotland in the van in this matter. Government has thought proper in extending this inquiry over Scotland, again to employ the Highland Society, and again to ask for the assistance of the farmers; and we have every reason to believe, when we look to the assistance obtained from the farmers last year, and the results of the meeting held this year, that the co-operation which Government seeks at your hands will not be withheld. The plan of this inquiry, as recommended by the Highland Society for the adoption of Government, is characterised by certain distinguishing features. In the first place, we took the liberty of strongly advising Government not to make this matter compulsory—not to come down upon the farmer, through any central board, or by any act of Parliament, extracting by main force that information which Government seeks. We recommended Government to try, in the first place, the voluntary system, and to try to work that system by means of the farmers themselves, in the manner adopted last year. In the next place, we insisted as emphatically as we could on the importance of stripping this inquiry of everything of an inquisitorial character, and at the same time of publishing the results in such a shape as to make it totally impossible for any party to extract from the published returns the particulars applicable to any one farm or farmer. It will be for you to say, when I describe the manner in which we conduct the inquiry, whether we have suc-

ceeded in giving effect to these features. We thought them necessary, and I think we have succeeded in providing for these characteristics, by the machinery we employ, which I shall now explain. In the first place, I am now engaged in framing a list of the whole of the farmers of Scotland. I was startled, when I last looked at that list, to find that there are 48,000 names upon it. With each of these farmers I have to communicate, and I hope that next month every farmer in Scotland paying £10 a year of rent will receive a schedule with a letter from my office, containing all the the questions to be put to the farmer. What are these questions? We do not ask the farmer to tell us what crops he raises, how much of wheat, of oats, or of potatoes. We do not ask any one for information that would lead us to discover the amount of crops raised on any particular farm. We only ask him to tell us that which every neighbour knows—namely, how many acres he has under cultivation. The return is divided into two heads, crop and stock; and with reference to the crops, we simply ask how many acres the farmer has under cultivation, and how these are subdivided into the different crops? And as that is all we ask, I think I may assure you that we do not ask anything that any man has any great interest in concealing. And I beg you to remember that I do not publish your lists. They are confidential between you and me. Last year the schedules were sent to farmers in certain districts, who sent them to their neighbours, and after they were filled up, sent them back to me. That was found objectionable, as the farmer did not like his schedule to be submitted to his neighbour, especially the stock schedule, however respectable that neighbour might be. But this year the schedules go from me direct to the farmer, who fills them up and sends them back directly to me, so that no man can be the wiser for what he communicates to me. For example, I divide the county of Fife into three districts—one of these is the Cupar district, with ten parishes in it. Every farmer tells me how many acres he has under cultivation, and how many are under each kind of crop. I add them all up as they come in, and after harvest I am in a condition to tell Government that the whole of the farmers in that district have a certain quantity—say a thousand acres under cultivation, of which so much is under wheat, and so much under the other kinds of grain—so that all that Government or the public knows is not what a farmer has in this district, but what the whole district has of any particular crop. You will see, therefore, that the questions I put to you are not inquisitorial, and the way I put the answers cannot divulge anything; and the best proof of that is, that the returns for last year have been before the public eight months, and I defy any man to extract from these nuclei of intelligence in reference to any par-

ticular man. After alluding to the importance of giving to every farmer, early after harvest, correct information as to the state of the crops throughout the country, Mr. Maxwell proceeded to explain more particularly the manner in which he collected the required information, by stating that in each district they had a committee composed of one practical farmer from each parish in the district, each committee having an enumerator or convener—the enumerator for the Cupar district being the Secretary of the Fife Agricultural Society (Mr. Dingwall, of Ramornie), whose services he had secured in that capacity. These members of committee would in a short time receive their instructions, their duty being to make their own observations as to the state of the crops in their respective parishes, ask the opinions of their neighbours, and after some experiments are made on the barn floor, to compare notes, and make up their minds as to what they consider shall be put down for the Cupar district as the fair average produce of bushels per acre of the various crops, which average would be sent to the office of the Highland Society by the enumerator. Thus, continued Mr. Maxwell, if it is reported to me that the average of a particular kind of grain is thirty bushels per acre in this district, then I am enabled, from the information I have already received as to the total number of acres under cultivation in the district, to return the number of bushels for the district. And when this is done for every district by experienced farmers, I have no doubt it will come very near the mark, and will tend to relieve you from the speculators of the country. As to the stock, we require to be a little more inquisitorial there, simply because acreage will not give us any criterion for stock. A number of sheep farmers were at first unwilling to tell the number of sheep on their farms; but when it was explained to them that it was not the stock of their farm, or their parish, but of a large district comprising a number of parishes, they found they were as safe as the grain farmer was, and I am proud to say that in the sheep districts we were in last year not a single farmer refused the information. I have just come from Argyleshire, which is a difficult county to work. There was an opposition there, but it fell to the ground. I have met men strongly opposed to the whole thing, not understanding what was to be done, and not being convinced that any practical good would be effected by the inquiry, but having always received a fair hearing, the result has in every case been a hearty vote of approval, and a promise of support and co-operation.

**PUBLIC WANTS.**—Immediate and decisive answers are wanted to the following questions: How to gain a reputation for talent in your native town? How to give advice or to argue with a fool? How to borrow money on the plea of extreme

poverty? How to get long credit of tradesmen, if they generally see you in shabby clothes? How to make your children tell fibs for you, and not teach them to tell fibs for themselves? How to make evasive excuses without incurring the guilt of lying? How to screw down a mechanic below the fair living price of a job, and not at the end cheat yourself?

**TO RAISE GIANT ASPARAGUS.**—A writer in one of the early volumes of the *Horticulturist*, (Mr. Downing we believe,) tells us how to grow common asparagus so that it will always rival any giant production. He says:

Every one who has seen my beds has begged me for the seed—thinking it a new sort—but I have pointed to the manure heap—(the farmer's best bank)—and told them that the secret all laid there. The sight was such as might be seen in every garden.

About the first of November—as soon as the frost has well blackened the asparagus tops—I take the scythe and mow all down close to the surface of the bed; let it lie a day or two, then set fire to the heap of stalks, burn it to ashes, and spread the asher over the bed.

I then go to my barn-yard; I take a load of clean, fresh stable manure, and add thereto half a bushel of hen dung; turning over and mixing the whole together throughout. This makes a pretty powerful compost. I apply one such load to every twenty feet in length of my asparagus beds, which are six feet wide. With a strong three-pronged spud or fork, I dig this dressing under. The whole is now left for the winter.

In the spring, as early as possible, I turn the top of the bed over lightly once more. Now, as the asparagus grows naturally on the side of the ocean, and loves salt water, I give it an unusual supply of its favorite condiment. I cover the surface of the bed about a quarter of an inch thick with fine packing salt; it is not too much. As the spring rains come down, it gradually dissolves. Not a weed will appear during the whole season.

#### THE EXECUTIVE COMMITTEE.

*Of the Provincial Commission appointed to ensure a fitting representation of the industry and resources of Canada at the World's Exhibition to be held in Paris in the year 1855, have the honor to report:*

That the success of the present effort to procure a creditable exhibition of Canadian industry at the Paris Exhibition must depend, in a great degree, on the cordial and zealous co-operation of the public at large through the several Local Committees. It has been deemed absolutely necessary, in order to ensure unity of action as well as efficiency, that there should be a Central Executive Committee, the Members of which,

or at least a large majority of them, should be able to meet together. The Executive Committee will, however, be most anxious at all times to receive the counsel and advice of the Local Committees. It is recommended that such Local Committees be organized in the chief towns of each County in Lower and Upper Canada, and that they should consist of all Members of either Branch of the Legislature, all Members of the Commission lately appointed by His Excellency the Governor General, all Wardens, Mayors, and Reeves, the Professors of Incorporated Colleges, the Presidents and Secretaries of Agricultural Societies, and Presidents of Mechanics' Institutes or other scientific bodies. The Committees should have power to add to their number, and it is hoped that in each locality some one or more of the classes indicated will at once organize a Local Committee, the Secretary of which should put himself into communication with the Secretary of the Executive Committee, and give him all the information in his power as to the employment of the people in his locality. Where any special Manufacture is carried on, it should be noticed, and accompanied with any propositions which may be made for its illustration. For reasons which will be explained elsewhere, it is proposed that at Montreal and Toronto there should be Central Local Committees, and as the duties of these Committees will be much more laborious and responsible they should be organized in a different manner. It is proposed that until further arrangement can be made, the resident Members of the Executive Committee should correspond with the Secretary, and that they should submit, with as little delay as possible, the names of such gentlemen as may be eligible for serving on the Central Committees, bearing in mind that the most important qualifications are the ability to be useful, active and energetic co-operation, and disconnection with parties likely to be exhibitors. Having provided for the organization of the Committees, the next subject for consideration is the mode to be adopted to secure a creditable representation of our industry at Paris. The Executive Committee would earnestly press on the public the importance of systematic and, when practicable, scientific arrangements. They beg to call attention to the following extracts from the Jurors' reports on the London Exhibition. In the report of the Jurors of class 1 on mineral products, by Mr. Dufresnoy, member of the Institute of France, Inspector General of Mines, &c., it is said:

"Of all the British Colonies, Canada is that whose exhibition is the most interesting and complete, and one may even say that it is superior, so far as the mineral Kingdom is concerned, to all countries that have forwarded their products to the Exhibition. This comes from the fact that the collection has been made in a systematic manner, and it results that the study of it furnishes the

means of appreciating at once the geological structure and the mineral resources of Canada. It is to Mr. W. E. Logan, one of the members of the Jury, who fills the office of Geological Surveyor of Canada, that we are indebted for this collection, and its value arises from the fact that he has selected on the spot most of the specimens that have been sent to the Exhibition, and arranged them since their arrival in London."

Again, in the report of the Jurors of class 3. "Substances used as food," by Dr. Hooker, it is said:

"Messrs. Lawson's collection exhibits the ear and grain of every variety of cereal and also models of all the roots which it has been found practicable to cultivate in Scotland; the specimens are beautiful, and the arrangements scientific and excellent. No consideration of cost or trouble has been allowed to interfere with providing all that is necessary to render this collection a true and complete illustration of the vegetable products of Scotland. A Council Medal has been awarded to Messrs. Lawson for their admirably displayed, very complete, instructive and scientifically arranged collection of the alimentary products of Scotland."

The Jurors of class 4, in their report on animal and vegetable substances chiefly used in manufactures, as implements, or for ornaments, by Professor Owen, say:

"Among the numerous samples of raw produce contributed by different countries, there are several collections of especial value which derive additional merit from their completeness and from the fact that they illustrate the trade and manufactures of an entire country. The importance of such collections not only in a commercial but in a statistical and scientific point of view, is very great, and the Jury therefore, being desirous of expressing their approbation of the practical benefits to be derived from the formation and study of such collections and the advantages which the commercial and manufacturing community may obtain by their means, have determined to recommend the award of the Council Medal to the Governments of those countries the natural products of which were so instructively and completely exhibited."

The three classes above adverted to comprise the great staple products of Canada, her minerals, agricultural products, and timber, and the Committee hope that efforts will be made to ensure a satisfactory representation of them. They would likewise suggest that the respective manufactures should be illustrated by exhibiting the materials in their various stages, up to the highest point of perfection. It is most important in the opinion of the Committee that copies of the Jurors' Report of the London Exhibition should be placed within reach of as many as possible, and all persons desirous of exhibiting are strongly recommended to read such parts of that interesting work as may be specially important to them. Those

who have copies of this work are requested to place them at the temporary disposal of the Central Local or Local Committees.

To assist the public as much as possible in the meantime, the Committee propose appending to this report a concise table shewing the classification adopted at the London Exhibition, and the awards of the Council Medals, also the names of Canadians who obtained Medals or "Honorable Mention." A more detailed list may be given hereafter, but the Committee are anxious that as little delay as possible should take place in developing their scheme to the public.

The Committee being of opinion that voluntary efforts is not to be relied on, have obtained the sanction of the Commissioners to the principle of paying for all articles sent to the Paris Exhibition, but at the same time they propose that the contributors should receive all prizes or honours which may be awarded to the articles sent by them. The great difficulty in carrying out the plan of purchasing is to avoid partiality, and the Committee have anxiously considered this point, and have determined to recommend:

1. That all who have received prizes or honorable mention at the London Exhibition in 1851, or the New York Exhibition of 1853, and all who have received first prizes at either of the Provincial Exhibitions of Upper and Lower Canada in 1853 and 1854, should be invited to send propositions to the Local Committees stating whether they will send specimens of their products and manufactures for exhibition to Montreal or Toronto, on or before 1st February next, payment to be made for such articles at the fair wholesale market value to be decided in case of dispute by the Judges at the Local Exhibition.

2. The Local Committee may further recommend for consideration a proposition from any party who has received a first prize at any Local Exhibition, which shall be referred to the Sub-Committee of the Executive Committee charged with that branch of industry.

3. In case of failure to obtain contributions from the above classes or under special circumstances, the Sub-Committee may take such steps as they may think best to ensure a proper representation of their particular branch. By these means it is hoped that public confidence will be inspired in the impartiality of the Committee. But it is proposed to go further. The whole public are invited to compete at the Local Exhibitions, at Montreal and Toronto, and any successful competitor will have his contribution purchased on the same terms as those furnished by the classes already described. The Executive Committee do not bind themselves to send to the Paris Exhibition any of the articles which they engage to purchase. They must be guided by circumstances such as the extent of the contribu-

tion, the quantity of space allotted, &c., &c. The articles not sent will of course be resold on account of the commission. The propositions made by the parties entitled to furnish articles under the above regulations must be as specific as possible, and must be forwarded at once to the Secretary so that the proper Sub-Committee may dispose of them. It will be advisable to prevent as much as possible similar articles being made by different manufacturers and mechanics. It is hoped that no delay will now take place, and that the Local Committees will be active in obtaining and promptly procuring the propositions of intended contributors. It is recommended that all the contributions be sent to Montreal or Toronto, where they will be delivered free of expense to the Central Committee at each place, and exhibited to the public at a small admission price. Jurors will be appointed to aid the Committee in determining on the articles to be sent to Paris, but no prizes will be awarded. Such is the scheme which the Executive Committee are of opinion will, if zealously supported by the Local Committees and the public, ensure for Canada an honorable position at the great Paris Exhibition.

F. HINCKS, *Chairman.*

J. C. TACHÉ, *Secretary.*

#### EXPERIMENTS AT BALMORAL WITH M'GLASHEN'S PATENT TRANSPLANTING APPARATUS.

We have already called the attention of our readers to this apparatus, and to some recent improvements which the inventor has made upon its details. Every additional experiment seems to point out some new feature in its construction, or some new application of the invention.

On Wednesday last Mr. M'Glashen, the inventor, had the honour of exhibiting the apparatus in its most improved form, in full operation, in the Palace grounds at Balmoral, in presence of his Royal Highness Prince Albert, the Hon. Eleanor Stanley, Major-General Charles Grey, Colonel Phipps, the Baron Stockmar, and Dr. Robertson.

Mr. M'Glashen first showed the simplest form of the invention, viz., that adapted for transplanting herbaceous plants, with which he lifted a plant of common heather, with an adherent ball of earth 9 inches in diameter. He then applied a machine, with four spades or cutters, with which he lifted a tall poplar tree with an adherent ball of earth 22 inches square. By adding four other spades to those used in this operation, the apparatus was in a few minutes converted into one suitable for lifting a ball of earth 4 feet 8 inches in length by 3 feet 5 inches in breadth; and with it he proceeded to operate upon a fine birch tree, about 20 feet in height. The cutters being driven in, and the apparatus adjusted, the tree was speedily raised out of the ground, with a fine ball of earth around its roots, the operation being

conducted by Mr. Paterson, her Majesty's gardener at Balmoral, with the assistance of two workmen. His Royal Highness was greatly interested in the invention, and with the satisfactory manner in which the work was performed. In the course of the different experiments, His Royal Highness remarked to Mr. M'Glashen that he perceived several important improvements had been made in the apparatus since its exhibition in the London Horticultural Society's Garden eighteen months ago, when a poplar, 55 feet high, was successfully transplanted.

While preparations were being made for lifting the birch tree, His Royal Highness took up one of the small sized transplanters (adapted for removing herbaceous plants), and having lifted with it a young poplar tree, remarked the great facility with which the operation was performed. The large birch tree was afterwards conveyed by the improved transplanting carriage (drawn by a horse) to a distance of a quarter of a mile, where it was safely replanted. Notwithstanding the roughness of the road, the conveyance of the tree was effected with great ease, the construction of the carriage being such as to require comparatively less strength for propelling a given weight than an ordinary cart.

The whole of the experiments were so highly satisfactory that His Royal Highness gave orders for the immediate purchase of the apparatus employed on the occasion, for use on the Balmoral estates.

Dr. Robertson (Her Majesty's Commissioner) was likewise highly pleased with the invention, and ordered a transplanter for use on his own property.

From our account of the experiments, it will be seen that the machine used at Balmoral is applicable to various sizes of trees. When all the spades are used, it is adapted for lifting trees with a ball of earth 4 feet 8 inches long by 3 feet 5 inches broad; but by using only four of the spades, a ball of 27 inches square may be raised with equal facility.

It is not only to the transplanting of trees that this apparatus is applicable. The carriage (without the spades) can in a few minutes be converted into a machine for clearing ground of the stumps or roots of large trees, and equally well for raising stones or blocks of rock, without blasting or digging a trench around them; and they can be conveyed to any distance by the same machine as that with which they are lifted.

The Balmoral machine is suited for raising tree-roots or blocks of rock from 2 to 3 tons in weight. But as trees of any size can be transplanted with perfect safety by machines of larger size, so in like manner stones or blocks of rock of any weight can be raised by having the carriage of corresponding size and strength.—October 6, 1854.

A DROP OF OIL.—Every man who lives in a house, especially if the house be his own,

should oil all the various parts of it once in two or three months. The house will last much longer, and will be much more quiet to live in. Oil the locks, bolts, hinges of the street-door, and it will shut gently, with luxurious ease, and with the use of a small amount of force. A neglected lock requires great violence to cause it to shut, and with so much violence that the whole house, its doors, its windows, its very floors and joints, are much shaken, and in time they get out of repair in all sorts of ways, to say nothing of the dust that is dislodged every time the place is so shaken. The incessant banging of doors, scrooping of locks, creaking and screaming of hinges, is a great discomfort. Even the bell wire cranks should be sometimes oiled, and they will act more certainly and with such gentle force that there will be little danger of breaking any part of them. The castors of tables and chairs should be sometimes oiled, and they will move with such gentle impulse and so quietly that a sleeping child or old man is not awakened. A well-oiled door-lock opens and shuts with hardly a whisper. Three pennyworth of oil used in a large house once a year will save many shillings in locks and other materials, and in the end will save many pounds in even the substantial repairs of a house; and an old wife living and sleeping in quite repose will enjoy many more years of even temper and active usefulness. Housekeepers, pray do not forget the oil. A stitch in time saves nine, and a drop in time saves pounds.—*The Builder.*

#### SLATE FOR ROOFING PURPOSES.

What shall we use for roofing for our buildings, is a question that is yearly becoming of more importance, as shingles that are generally used for farm buildings are every season becoming scarcer and dearer and are at best very indifferent for the purpose. Many substitutes are proposed, but for durability, beauty, and comparative cheapness, slate is probably the best thing that can be used. Many causes have conspired heretofore to bring this material into disrepute in some sections. One was, ignorance in those working quarries, of what should be used and what rejected. It was supposed that the scaly material alone could be split to the requisite thickness, and that the solid stone could not be worked; but with more experienced workmen, the scaly stone is now rejected and the solid only used. Of the slate, there are various colors—black, blue, red, &c., found in different localities and occasionally in the same quarry. The writer had the pleasure a short time since, of visiting the quarries at North Hebron, Wash. Co., N.Y. The slate found here is of a fine red color, and said by good judges to be of a very superior quality. No slate of this color had, until within a year or two, been known to exist in this country, the few specimens seen being imported from Wales or from France. A Welshman, who had been

a practical quarryman in his own country, first opened one of the quarries, since when some three or four companies have invested a considerable amount of capital in the business of getting out the slate for roofing, and the tiles for stone floors, known as Mosaic. The quarries are worked mostly by Welshmen, who were familiar with the business before coming to this country. The refuse slate is ground, making a very fine material for painting.

As a matter of economy, the slate must in time come into general use. It is furnished at a price but little above that of the best shingles; it is not, like them, liable to take fire from sparks from chimneys or elsewhere, and will last a long time. We have seen it stated that an old house was torn down lately in Boston—the slate from the roof of which sold for eight dollars a square—after covering the house for more than a hundred years. A square of slate will cover about the same superficial area as a thousand shingle. For suburban cottages, a very pretty roof may be made by using the different colors of slate in alternate squares.

There is abundance of fine slate in Canada and it is now to be had to purchase in Montreal, Quebec and other leading towns.—*ED. FARMER'S JOURNAL.*

**SETTING HENS.**—In setting hens, thirteen eggs is enough to give them; a large hen might cover more, but a few stronger, well-hatched chicks are better than a large brood of weaklings, that have been delayed in the shell perhaps twelve hours over the time, from insufficient warmth. At the end of a week, it is usual, with setting turkeys, to add two or three fowl's eggs, "to teach the young turkeys to pick." The plan is not a bad one; the activity of the chickens does stir up some emulation in their larger brethren. The eggs take but little room in the nest, and will produce two or three very fine fowls.—*D. KIRTLAND, Albany.*

**VENTILATION OF FARM BUILDINGS.**—Most of the stables and cattle-sheds in modern farm buildings are defective in regard to ventilation. Nor is the remedy easy. Openings in the lower part of the building for the admission of cool air invariably produce drafts and currents of cold air are by no means conducive to the health or comfort of stock. For cattle, indeed, we are satisfied that a shed open on one side is altogether the best, where the animals are kept in boxes. Where they are tied up to the manger, they have so little opportunity of choosing their position, and are so little in motion, that a close building is generally thought to be necessary. In all such cases a good plan of ventilation is much needed. We have been in many cattle buildings erected at great cost, in which the atmosphere is vitiated, both from want of fresh air and from the manure. At a recent meeting

of the Fettercairn Farmer's Club, Sir John Stuart Forbes, of Pitsligo, brought a plan, invented by Mr. Watson, of Halifax, before his audience, as well adapted for farm buildings. It consists of a tube passing from the top of the place to be ventilated into the open air, such tube being longitudinally divided into equal parts. The hot air ascends on one side and the cool descends on the other, and effects a perfect ventilation without producing a draught or unnecessarily cooling the room. The upper part which is in the open air is protected by a cap. A 33 inch ventilator, made of zinc, and costing £8, will completely remove all effluvia from a four or six-horse stable.—*Economist.*

#### THE CATTLE SHOW AT ARMAGH.—

The show of the Royal Agricultural Society of Ireland will be held at Armagh on the 9th, 10th and 11th days of the ensuing month. The council of the society have arranged for the reception in the show-yard, of agricultural implements for competition, on Saturday, the 5th of August, and Monday, the 7th; for the reception of cattle, on Tuesday, the 8th; and for the reception of horses, on the morning of Wednesday, the 9th, before the hour of eight o'clock a. m. It is stated that the entries of stock, farming produce, of implements, &c., &c., for the ensuing show, far exceed those of former years, and are double the number of those entered for the grand show which was held at Killarney last year. The forthcoming show has had the most beneficial effect already on the business and trade of the town.—*Mark Lane Express.*

#### PLANTING SMALL POTATOES.

We have given no little attention to this subject for many years, and have settled the matter conclusively in our minds, that it does not pay to plant small seed. For fifteen years we planted the same nameless variety, on the same soil, and at the end of that time found no deterioration in the quality or yield, but rather an improvement. We have invariably thrown out from our seed all potatoes less in size than a hen's egg, and also rejected those overgrown, pitted or irregular shaped.

In some favorable seasons, and on particular soils, those purchasing and planting the small potatoes which we have rejected, have raised crops equal to or more prolific than our own; but one year with another, we have averaged thirty to fifty per cent. better crops of good potatoes, than our small potato neighbors.

What we have found true in regard to potatoes, we have also, by long practice, proved true in regard to other kinds of seed. Our plumpest and earliest grains have always been reserved for propagation, and our neighbors can testify that our practice has been attended with good results.—*American Agriculturist.*

AN AMERICAN TRAVELLER IN RUSSIA.

St. PETERSBURG.—After travelling six nights and seven days without resting, I am here a member by invitation, of the family of Gov. Seymour, of Connecticut, our Plenipotentiary at the Court of Russia. On Friday I made the acquaintance of Count Nesselrode, for thirty years past the Russian Minister of Foreign Affairs, a gentleman who has not wrinkle on his brow, and who told me was within two years of my age, and consequently 73. A man of more amiable address I never met with. He proposed to introduce me to the Emperor, offered me a letter of introduction to the Russian Commander of an army of 35,000 men at Revel, and inquired if I had a military costume with me, that I might today accompany the Emperor to a review of 40,000 men. He was opposed to this war, and is universally regarded here as a man of great virtue, as well as of great intelligence.

In a few days I shall proceed to Revel, leaving most valued, I may say beloved Russian friends, who accompanied me from Rome to Naples, and nursed me at the former when laid up and attended by a physician whose prescriptions were much less efficient than their kind attentions. Mrs. de G. speaks six languages, among them the English as well as I do, and free from all foreign accent. She is the most beautiful woman I have seen in Europe. Her husband speaks seven fluently, and in all respects worthy of the finest woman I have met with since I left America. I spoke most highly of them to Count Nesselrode, as I shall to the Emperor, if I have a suitable opportunity. But he is at present, I have no doubt, greatly depressed by the recent news from the Crimea, where Menschikoff is said to have lost 5,000 men in the encounter with the Allies at the river Alma, where he attempted to arrest their march upon Sebastopol. The government here acknowledged the loss of 4,000 out of 35,000 of Menschikoff's army. Of the fall of Sebastopol melancholy forebodings are entertained by the Russian population here, and as it is assailed by 66,000 men, the present force marshalled against Fort Constantine, which commands the city and harbour, I have never entertained doubt.

But of the effect of this reduction I have altered my opinion since my arrival here, for I have heard and seen at two large dinner parties, one German and one American, given in the last week, more of the country I am in, than I did of Prussia in Berlin, France in Paris, or the three great cities of Italy in all my much longer visits to any of them.

I find K., formerly Secretary of Legation, and Consul General of Russia, at Alexandria, in Egypt, and at London, a most valuable and intelligent acquaintance. He is the uncle of Mad. de G., and is to accompany me shortly to Revel, which, it is said,

will be assailed by the British and French fleet.

I came here, believing that the conquest of the Crimea would end the war. I am now thoroughly convinced that it will protract it. All that you hear through England about poverty and distress here, is false. The Emperor's popularity imputable to his excellent private character and his figure and personal address is unbounded.

The manufacturer of Russia are so far advanced as to supply all her wants, and the wealth of this city alone concentrated upon her churches, would sustain an army of 500,000 men for a twelvemonth. She has entered upon a war not anticipated, and for which preparations are to be made. She claims an armed force of two millions, and can readily raise one half that number, and that she is now doing.

I am a Turk in this contest, and therefore impartial in these estimates. C. D. M. Louisville Journal.

CARE OF CATTLE.—A man who takes good care of cattle must be fond of the business. Never hire a man to take care of farm stock unless he shows an inclination to be with them much of his time in preference to sitting by the fire.

Cattle should be carefully attended to in the fall, just before the winter commences.—They will eat of the poorest hay if they can get it, while they are yet permitted to ran at large in the pastures.

Let them have some of the poor hay and learn gradually what they must come to before the winter is over. Fall feed is shorter than usual, and other food is in demand; but cattle must not be suffered to go hungry, though hay and grain may be dear.—Massachusetts Ploughman.

REVIEWS OF BOOKS.

GEOGRAPHY OF CANADA, by T. A. Gibson, First Classical Master of the High School Department McGill College, author of the Canadian Guide Book, &c., 1854-55: Hew Ramsay, Montreal.

An admirable work designed to make people, and especially the youth of Canada, better acquainted with the external features and natural resources of their native country. It is compiled with great care and ability, and should be found in every school and house in the country. Part I. gives an excellent description of Eastern or Lower Canada. Part II., of Western or Upper Canada. To the work is appended Tables of Reference, containing a large amount of statistical information in regard to population, income, expenditure, public works, imports, exports, railways, shipping, emigration and agriculture, which should be in the hands of all who wish well to the country. We advise every one of our readers to procure a copy of this small but comprehensive and valuable work.

MONTREAL MARKET PRICES.

Rules at which produce is purchased from the Farmers.

Hay per 100 bundles,	15 to \$17.
Straw do	6 to \$7.
Eggs, from 10d to 1s.	
Fresh Butter, per lb.,	from 1s 3d to 1s 6d.
Salt Butter, do	from 11d to 1s.
Country Cheese, from 6d to 7½d.	
Wheat from 9s 6d to 10s.	
Barley, per minot, from 5s to 5s 3d.	
Rye, none.	
Oats from 2s 6d to 2s 9d.	
Indian Corn from 4s 9d to 5s 3d.	
Buckwheat, 4s 6d.	
Peas, from 5s to 5s 3d.	
Beef, per 100 lbs, from 4 to \$7.	
Mess Pork, \$18.	
Mutton, per carcase, from 2½ to \$6.	
Lamb, do	from 1½ to \$2½.
Veal, do	from 4 to \$10.

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Nov. 29.

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THE MUTUAL FIRE INSURANCE COMPANY of the County of Montreal, insures the properties of farmers in Lower Canada, at 5s. for £100 currency, for 3 years, &c.

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- Frs. Quenneville, " St. Laurent.
- Joseph Laporte, " Pointe-aux-Trembles.

P. L. LE TOURNEUX, Secretary and Treasurer.

Montreal, 1st July, 1854.

NOTICE.

AGRICULTURAL SOCIETY No. 2, County of SHEFFORD, will hold its first WINTER SHOW at the MARKET HOUSE in GRANBY Village, on WEDNESDAY, the 10th day of JANUARY next, at 10 o'clock, A. M.

By Order,

F. WOOD, Sec.-Treas.

Granby, 1st Nov., 1854.

SUPERIOR FRUIT TREES.

A CHOICE ASSORTMENT of the various kinds best adapted to this climate, for sale at GEO. McKERRACHER'S, Parthenais Street, Quebec Suburbs, and of the Undersigned, at Summer Hill, (late J. McGregor's,) Guy Street, Cote des Neiges Road.

JOHN AULD.

Montreal, 2nd October, 1854.

THIS DAY IS PUBLISHED  
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It will be seen from this abstract of the contents of the *Illustrated Annual Register*, that it has been prepared with special regard to the wants of our rural population, and we hazard little in saying that it will afford more valuable information on several of the subjects of which it treats, than has ever before been presented at so small a cost. The chapters on Country Dwellings—Improving and Planting Grounds, and the Culture of Fruit, have been prepared by Mr. J. J. Thomas, with his usual taste and ability, expressly for this work, and are each well worth more than its cost.

This number of the "Annual Register" is intended as the first of a series, to be issued annually at or near the close of each year. Filled as they will be mainly with matter of permanent interest, they will form a series which no man, having a farm or garden, or hopes of future retirement to rural scenes, should be without.

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NOTICE

IS hereby given to the Censitaires in the Seignories of Lauzon, Sillery, Notre-Dame des Anges, St.-Gabriel, Belair, Batiscan, Cap de la Magdeleine and Laprairie and to those in the Fiefs and Arrière-Fiefs, belonging to Her Majesty, situated in the City of Quebec, the Town of Three-Rivers and their Bailliages, or in any other part of Lower Canada, that His Excellency the Administrator of the Government, desiring to facilitate the change of tenure in these Seignories and Fiefs, has directed, by and with the advice of His Council, that any purchaser, who within one month from the date of his purchase, shall make application and commute the tenure of the property acquired, in conformity to the Provincial Statute, 10 & 11 Vict. Ch. 111, will obtain a remission of the Lods and Ventes due upon his purchase, provided he pays cash the indemnity fixed by law, or at least twenty-five pounds, if the property is situated within the City and Bailliage of Quebec; and twelve pounds ten shillings, if out of these localities, when such indemnity exceeds these respective sums.

A. N. MORIN,

Commissioner of Crown Lands.

Crown Lands Office, }  
Quebec, 29th May, 1854. } 1 July

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NOTICE.

MR. WILLIAM BROWN, of the Firm of COCKBURN & BROWN, Nurserymen, Seeds-men, and Florists, Montreal, being about to make a prolonged visit to Europe, offers his services to Agricultural Societies, Farmers and others, for the purchase and shipment of Seed, Grain, Implements, Stock, &c. Terms and particulars can be obtained, by addressing Messrs. Cockburn & Brown, at 40, Great St. James Street; or orders (in all cases accompanied by a Bill of Exchange, for the probable amount of the purchase), may be sent direct to Mr. Wm. Brown, 1, Cumberland Street, Glasgow, Scotland.

Montreal, 15th August, 1854.

3 m

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LETTER FROM MR. STEPHENS.

"REDBRAE COTTAGE, EDINBURGH, }  
Sept. 30, 1851.  
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"HENRY STEPHENS.

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