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**A Farmers' Advocate Company.**

Are we to be the serfs or the rulers? Are we to submit quietly to oppression? Shall we be united for our general advancement? The two great political powers are striving for the victory. Every influence is being brought to bear; fat offices are created for the friends of Party, and every politician must be rewarded. The railway, and legal and lumber interests have their representatives in Parliament. Why? Because they have their writers and papers to support them. It is a well-known fact that the PEN has more power than the sword. The Press is the result of the pen. The Press rules the world. Large and powerful companies are formed to establish and maintain the great printing establishments of Canada. The *Globe* and *Mail* of Toronto have their companies, each being political. Three political companies are formed in this city for publishing political papers. Each of these may talk about agriculture, and give some extracts, and write for party, or persons, or measures. Why cannot we, farmers of Canada, unite and establish a press for the advancement of our interests? Our agricultural interests should not be checked by or bound to party politics or religious sects. We have a large field of labour open to us; we have rights to be maintained and wrongs to be redressed. We, as a class, should have a voice in the nation, and let that voice be heard.

The FARMERS' ADVOCATE has now, unaided by political parties, attained a prominence, and it is admitted to be the leading agricultural paper in the Dominion. It has exposed fearlessly such things as have been against the interest of agriculture, and has fearlessly and independently brought before the notice of its readers plans and suggestions that have been of advantage to them and to the country; always striving, for the benefit of farmers, to extend their power and interest. It has been working up from an insignificant sheet to the head of the list—from a losing money establishment to one that can now show a respectable and profitable income. Of course, all papers require a vast outlay at first; and many never attain to the position of being able to show a profitable sheet. Very large offers have been made by both political parties to secure your ADVOCATE. The object of its editor has been to establish a paper true to its name.

Being desirous of extending its usefulness, and desiring more time and means to devote to the Agricultural Emporium, it is suggested to form a Joint Stock Company to extend the influence and utility of the paper. The proposition is, to dispose of a one-half interest to farmers and others. The stock proposed to be raised would be \$ in shares of \$ each. The Company to be called the "FARMERS' ADVOCATE COMPANY," the object to be to publish agricultural information and advocate the farmers' interests independent of party politics. A Committee of Management to be elected, with a Secretary, each shareholder to have the power to vote by proxy.

The grand question to be answered is, Will it pay? Offers have already been made sufficient to pay a handsome dividend even during the first seven years of its infancy, despite the many threats it has received, and the predictions of its failure. One advertising firm alone says its influence would be worth one thousand dollars per annum to them. But we do not wish to exclude others in the same line of business. Further, the test and trial of seeds now going on are of value to the paper. The Government may yet abandon their plans of establishing their Educational Farm. Even if they do not, we anticipate that if they should not aid this establishment, obstacles will not be thrown in its way. The paper may be encouraged or used by them. Perhaps the Emporium plans may meet with approval; and should the Emporium be thrown into a joint company, the stockholders of the paper will have the first offer of shares. There is a profit to be made from seed stock and implements. The institution now established is gaining in business. More aid in men of ability and means are required to push it in each county, and stockholders will have a voice in such appointments. We anticipate the shares would increase in value at a rapid rate—perhaps 25 or 50 per cent within one year.

This is merely thrown out as a suggestion. We would like to hear the opinions of our subscribers in regard to the plan. We hope some of our subscribers at each post-office will reply, as we wish to act to and for the interest of the farmers of the Dominion—not to be confined to local, personal or political influences alone. We respectfully ask your opinion of the above suggestions, if you are interested in independent agricultural progress, or wish for the farmers' interest or your own. Please reply.

**Small-Pox Again!**

When returning from Toronto we left the cars at Bronte station, and took the stage to Trafalgar township, in the county of Halton. We wished to see Mr. Main's stock of Suffolk hogs, having seen some of the best we ever beheld exhibited by him at the Guelph Exhibition. We found Mr. Main working in his garden; he informed us that an inmate of his house had the small-pox. No sign to that effect was put up; even the stage-driver, passing the house four times a day, did not know of it. Should there not be notices posted up at

such places to prevent strangers from calling and spreading the disease? The small pox was taken to his house by an emigrant only three days arrived. He applied to the Warden or Reeve to have him removed, but there being no place to remove him to, he was left for Main to do as best he could, with instructions to send in his bill. Main and his family were still living in the house. We advised him to abandon the house, erect another, and charge to the county, as there was no necessity to throw his family into the jaws of danger or death, and a good bill from him would do the county, country and government good, as we farmers have no right or necessity to turn our houses into hospitals or quarantine grounds for emigrants to recruit in and then leave for the States.

The fall wheat through Trafalgar had the worst appearance of any we have seen. Many pieces appeared as if they would not pay for harvesting. The meadows looked as if they would only yield a light crop.—The land appeared to be of good quality. Very little stock was to be seen. Plough! plough! plough! has been the order in this section of the country. The farming operations are not carried on here as well as in some sections. Very few in this part appear to take agricultural papers. If those farmers would even go as far as Guelph they might be much profited by copying some of the plans adopted there. Such is our opinion after examining the soil and inquiring into the modes of procedure in both places.

**To Destroy Insects and Colorado Potato Bugs.**

One of our subscribers informs us that the fly and insects were destroying his cabbage, and the vine and melon bugs were making a particular raid on his vines. He gave them a little dust from his dredge; it was "Farewell, bugs and flies!" There were none to be found the next day. He keeps his potato vines clear in the same way; he applies a mixture, consisting of 30 lbs. of plaster to 1 lb. of paris green; it acts like magic on these pests. Why would not this suit our turnip fly? We hope some of our readers may profit by the above hint; some of them may save their cabbages, potatoes, turnips or vines; and this may be worth to you more than the price of the paper if you live for sixty years yet. A dredge should be made to hold two or three quarts; it is a tin box, with a lid and holes punched in the bottom. A socket should be attached to put a handle in, which should be at an angle of about 45 degrees with the dredge, and a sufficiently long wooden handle placed in the socket. One can walk along the rows and soon go over an acre of land, and keep the paris green away from the operator.

**The Devil's Nose.**

We paid a visit to Dundas a short time since, and after viewing the various manufacturing of that thriving town, we were induced to pay a visit to the "Devil's Nose," this being one of the most remarkable features around Dundas. It consists of a long, projecting, perpendicular rock, running about a quarter of a mile in length and twenty-five feet high, on the summit of a large bluff or ravine, on the property of Dr. Hamilton. It is situated immediately back of the station, and only about a quarter of a mile from it. The rock is so steep that it is impossible to ascend it, except from the table land. On the top of the rock are beautiful shade trees, and a wide space of grass land admirably adapted for pic-nics. The scenery here is unsurpassed by anything to be found in Western Ontario, and affords a most pleasing, attractive and romantic impression, not to be obtained in any spot we have seen or heard of this side of the Rocky Mountains, until we enter the Lower Province, or go to our new Western territories. From one of these high hills, at an elevation of 180 feet above the town of Dundas, a most charming view may be obtained, commanding a lovely panorama of Lake Ontario, Burlington Bay, the city of Hamilton, the town of Dundas, the villages of Ancaster, Waterdown, &c., &c.

Dundas carries on more manufacturing business, for the number of its population, than any other place in Canada. Another business is just about to afford a new source of wealth to Dundas, viz., the immense quarries of choice building stone that has recently been discovered underlying the stratum of rock above. Gangs of men are now employed in clearing off the shale and dressing the stone, which is now being sent to Chicago and other western points. We are surprised that this valuable quarry had not been long since discovered, as the best building stone used in this city had to be imported from the States; now we hope to see Canada able to supply our requirements, as well as to reap a harvest from the export of it. Besides the attractions of the beautiful distant scenery, there are two waterfalls at Dundas, one of which is two feet higher than the Falls of Niagara; the body of water that passes over the highest is comparatively insignificant. The falls are situated about 1½ miles from the station, and are located in large, wild-looking chasms or ravines. To those who desire to see the rough beauties of Nature, Dundas scenery affords a rare opportunity. We were so delighted and charmed with the scenery here that we wished our friends could enjoy the sight also. The thought struck us what a beautiful place for a farmers' pic-nic! Would it not be well to have a harvest-home pic-nic in September next?

Let us hear from some of our readers in the neighborhood of Dundas and other places if there are any that will second the proposition—that is, to have a harvest home at Dundas, or at any other place.

**Government Reports.**

We acknowledge the courtesy of the Board of Public Works for the Report of the Commissioner of Arts and Manufactures for the Province of Ontario, and several other valuable works. The Report of the Commissioner we have already laid under contribution in our present issue, and will refer to it from time to time. Though not a work that will be read by ordinary readers, it is an excellent volume for our editorial library, and we will often have occasion to refer to it, and draw from its stores for the benefit of our readers. The article on the wheat midge is from its columns. Would it not be well if items of such general interest, and tending to do such an amount of service, were made more generally known, and published weekly or monthly in a proper form? It is with great pleasure we make our paper the means of disseminating among the agricultural community all the results of modern investigation.

**Public Expenditure.—\$200,000 for Stock.**

All must know that public expenditures are necessary. They are required for the maintenance of every nation; and without them a nation would be swallowed up by some grasping power. This is a cause of heavy taxation. We do not say we are taxed heavily in proportion to our resources or capabilities, if we compare Canada with other countries. It is also necessary to expend large sums for state show, pomp, and glitter. There are rivalries in the world. Some rulers will try to excel in arms, some in honor—Britain, for instance; Solomon in wisdom; Noah in navigation. Canada appears about to excel (considering her age, means, population, &c.) in agriculture, judging from present prospects. The recent government commenced the expenditure of between one and two hundred thousand dollars (which appear to have been thrown away), nominally for agricultural purposes. Since our last paper was published, we called on the Hon. A. McKellar, the present Minister of Agriculture, to ascertain what the intentions of the government were. It appears that the Mimico Farm has been purchased; but, from the unfitness of the soil, the location, the lack of water, and other causes, it is not approved of, and the present government are still in quest of a more suitable place to expend money on. A farm has been examined in the vicinity of Guelph, but we have not heard the report about it. We also spoke to the Minister of Agriculture in Toronto at the commencement of the last session of Parliament, when he then informed us that the government were intending to carry out the expenditures for the Agricultural College, and that they were contemplating expending \$50,000 for the importation of stock; but during our conversation with him in June, he informed us it was contemplated to expend \$200,000 for that purpose. We said we did not think it would be of advantage to the agriculturists of Canada to do so. Mr. McKellar said he had conversed with some prominent farmers on the subject, and they considered it would be desirable to do so.

The stock business of Canada appears to us to be progressing most favorably at the present time, in the hands of our enterprising breeders and importers. The fact is, we are even now exporters of choice breeding stock. By far the majority of our best stock is sent to the States.—Canadians are not able to vie with the Americans in paying such high prices as the fancy animals now bring. It is our opinion that a government expenditure for such a purpose would tend rather to an injury than a benefit. It would most probably act injuriously against some of our importers and breeders, who have already done so much in improving our stock, and giving a reputation to our country for sheep and cattle. If they were to be sold on arrival, most probably nine-tenths of the stock imported at our expense would go, direct or indirect, to the States, and we should be using our money for the benefit of the Americans, and our country as a quarantine ground for them, as, in reality, Canadian cattle of the same quality are more valuable than cattle imported from England, because we have no rinderpest or mouth disease in Canada, therefore we cannot export it; while, on the other hand, there is a danger of importing it from Europe.

We hope some of our stockmen and farmers will furnish us with their opinions on this question, as it is but right that all subjects connected with agriculture should be openly and fairly discussed.

We do not look on the expenditure that has already been made nor the contemplated expenditure for stock as being for the interest of the agriculturists of Canada. We look on both as being more calculated to serve the purposes of political parties or friends than for the good of the farmers.—We have failed yet to meet a farmer who approves of either. We think this subject should be openly and fairly discussed, and

the farmers of Canada should not, at any future date, have it stated that such expenditures were made for them or for their benefit.

The cost of the contemplated works must be beyond our powers of estimation, as all our government undertakings are known far to exceed any estimate made. Look at the Parliament building, estimated at \$900,000, but which cost between four and five million dollars. At the same ratio, \$200,000 might cost \$1,000,000.—Who could estimate the cost of the Farm, with its other appurtenances, museum, &c. &c.? The question might arise, Who are the farmers that have suggested these plans? Have there not been other less expensive and more beneficial plans recommended? Would not a smaller sum expended on ordinary agricultural clubs be beneficial? Would not an increased grant to township societies enable them to purchase the stock that our breeders now have, and which is continuously leaving our country for the States? We cannot throw blame on our Ministers of Agriculture for all the suggestions that may be given to them, as it is well known that their time must be fully occupied with different political questions, so that agriculture, being of less importance apparently, may not have received as much attention as it may have deserved.

We again ask any of you to send us your opinions on the above subject, and we will give them publicity.

**The Government of the Country vs. Individual Enterprise.**

At the very threshold of this cause that we have thus stated it may be well to say to our readers that we do not mean to discuss it in the interest of Party. The FARMER'S ADVOCATE is no political paper; in it we take no side in party politics. Whoever they may be who hold the reins of Government, we have, without fear or favor, called them to account for any of their public acts when such related to agriculture, or had a tendency to serve or injure the interests we profess to advocate, and whose confidence our large subscription list and the file of letters from our agricultural correspondents, prove that we enjoy. From party politics we stand aloof.

Is the Government of Ontario or of Canada justified in entering into competition with private individuals who have been and are successfully carrying out an enterprise tending to the prosperity of the country? This is the question we are dealing with, and the common sense of the people will at once reply in the negative. If the work is doing well, let well alone, otherwise the result must be injurious not only to the party engaged in the enterprise, but, even in a greater measure, to the community. The inevitable consequence of such interference must be to discourage and prevent individuals, no matter how enterprising they may be, and though animated by the best desire for their country's weal, from embarking in any undertaking in which there is a possibility that they may sometimes find a competitor in the administration of their country that ought to protect their undertaking; and that administration using, to support them in their competitive efforts, the funds of the public exchequer, to which these very individuals themselves contributed their part.

This rule of fair play must commend itself to every honest mind. And now for the application. If an individual devotes his energies, time and talents to experiments in agriculture, such as must, if judiciously conducted, be of advantage to the Province, or to the importing and breeding of farm stock superior to the stock of the country, or to the importing, testing and sending abroad throughout the length and breadth of the land, agricultural seeds and roots; for any public Minister to institute or carry on any designs in competition with such individuals, it would betray a want of justice and wisdom not to be expected in one desiring to be ranked among statesmen.

Such competition of an administration would not only be unjust in itself and prejudicial to private enterprise, both as affecting the individual and the public interest, but would also, if we take the experience of the past as our guide, be a pecuniary failure. Events of past years serve to teach us what we may expect in the future.

The administration of our country has embarked in undertakings that, in all human probability, would have been successful if carried on with that prudence and business tact characteristic of men who have their own money at stake. We will merely enumerate some of the Government undertakings immediately present to our mind:—

The Agricultural College and Model Farm cannot boast of great success.

The Government undertaking at Mimico—What is to come of this matter? No one seems to know, not even the Solomons of the Administration.

The Ontario Farmer.—It enjoyed the Government patronage, and was founded and conducted under Government auspices. What of it now? It was and is not.

We look forward for the next administration agricultural speculation. What will it be? Perhaps a more active competition with importers of agricultural seeds and implements, or it may be a competition with the importers and breeders of stock. Well, why should our high and honorable Administrators care? It is only the public money that will be spent!

P. S.—After we had written thus far we noticed in an exchange, *Moore's Rural New Yorker*, the following paragraph bearing incidentally on the subject:

"A gentleman pitched into us the other day because we opposed the distribution of seeds by the Department of Agriculture. He wanted to know what the Department is for if not to help persons to reliable seeds. We replied that if that is what it is for it is a stupendous failure, for its seeds are no more, if indeed they are not less, reliable than those sent out by our first-class seedsmen."

The *New Yorker* is right in this matter. These Administrations cannot and will not supply the farmers with more reliable seeds or anything else for the farm, or on better terms than those whose immediate and sole business it is, and whose success depends upon good quality and reasonable prices.

The Government have a duty to perform in this matter. It is to protect and encourage any private enterprise that is judiciously carried on and tends to the good of the country. It is their duty to remunerate, in some instances, those who have expended largely in such undertakings. We called attention in a late instance to a case deserving every support from the Government, that of Mr. Cull, who has succeeded in making beet root sugar, and has made great sacrifices in so doing. He deserves support and remuneration. A. T. Ed.

**Review.**

THE CLIMATES, PRODUCTIONS, AND RESOURCES OF CANADA.

It was with great pleasure and no little profit that we read this work.

The valuable information it contains was not new to us, but the author has, in this little work of less than 50 pages, brought together from many sources so many little-considered truths, presented them in so interesting a manner, and clothed them in such plain, forcible language, that the work cannot fail to leave a very favorable impression on the mind of the reader. We would gladly review the whole work and make copious extracts from it for the benefit of our readers, but the demands upon our time are at present so pressing that we are obliged to defer to a future number of our paper what would be to us a very agreeable duty. For the present we can do little more than make a few brief extracts:—

"The superficial area of Canada is about 3,500,000 square miles. We cannot

form a correct estimate of the vastness of the bays, and numerous character these great bodies of water. Logically, they are

In special reference to the up-briefly country, favored by

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form a correct estimate of the agricultural capabilities and the varied resources of this vast territory, without reference to the bays, arms of the sea, and to the great and innumerable small lakes, such marked characteristic features of the country; for these great bodies of water add immensely to the value of our possessions climatologically and agriculturally."

In speaking of the "position on the globe of Canada," the author thus sums up briefly some of the excellences of the country, as compared with other less favored lands:—

"Canada is in the latitudes of the most valuable cereals and grasses, and, consequently, where appropriate food in the greatest abundance can be found for man and beast. It is, in climates and productions, similar to the region in the old world most favorable for the sheep and the ox. It is the latitude in which man attains the greatest energy of body and mind. It is the latitude from which have sprung conquering races and the races that rule the rest of the world. It is the latitude from which the migrating races in modern as in more ancient times have come, for as man is here most robust, so here he multiplies most rapidly. While the more feeble races of the south of Europe scarcely keep good their numbers, the northern races are constantly sending their surplus population by thousands and even by hundreds of thousands, out to this continent."

The section on "The Climates of Canada,—Temperature and Rainfall," is very instructive to those who, knowing little of the country, have suffered their minds to be prejudiced against it. From this section we make a brief extract; it is confirmatory of the opinions we have long maintained:—

"The summer temperatures are those of chief importance for agricultural purposes. The cold of winter has no effect upon those annuals for which the summers are long enough and warm enough to secure their maturity. But the frosts of winter have a powerful effect in pulverizing the soil, and the snowy covering protects the ground from the winds and sun of the late months of winter and early spring; then the gradual melting of the snow fills the soil with moisture so necessary for seeds and plants, presenting such a contrast to many countries in the south of Europe and many western States, where the ground, exposed for months without such a covering, is too dry for vegetation. Our forest trees—some of them almost semi-tropical, as the tulip, popperidge, grape vine, &c.—have stood the frosts of centuries and still flourish; some of these monarchs of the woods have been found 500 years old."

"Wood-land, Prairie and Desert," and the succeeding section, "The Climates of Canada as Indicated by the Natural Productions," will repay the attention and reading of the most indifferent.

Taking the book as a whole it must convince the most sceptical that the Dominion, despite all the "drawbacks," is from her great natural capabilities destined to be a prosperous and powerful state.

With one or two short extracts we must lay down this work for the present:—

"Where certain forest trees, vines and plants have fastened themselves without the care of man, they give us the best proofs of those uniform conditions of heat and moisture favorable for their growth. Many of the trees in the forests of Canada, the most remarkable forests of deciduous or leaf-falling trees on the globe, require a summer temperature of 67 degrees of Fahrenheit and a copious fall of rain. The western coasts of both continents, in the Old and New Worlds, in high latitudes, have the necessary moisture but not the summer heat; hence the absence there of leaf-falling trees, except certain species in favored localities. The prairies both east and west of us have the required summer heat, but not the moisture, and those regions are destitute of all trees.

"Climates fatal to forest trees could not be favorable for fruit trees, nor indeed for

any agricultural products." Hence the absence of forests and the frequent failure of crops throughout the Western States from the deficiency of summer rains.

"The high summer temperatures and abundant summer rains in Canada are unquestionably those conditions of climate necessary to produce these peculiar trees.

"The productions of Canada are mostly similar to those of western, north-western and central Europe, the great staples being those of the middle and higher parts of the temperate zones. The cereals, grasses, root-crops and hardier fruits of Europe find here more than in any other part of the American continent, their appropriate climates. The three decennial census of Canada show that we produce more abundant crops of the cereals, grains, grasses and root crops, and those of better quality, than any of the States of the Republic. This is true of wheat, oats, barley, peas, rye, most of the ordinary root crops (as potatoes, turnips, beets, carrots, &c.) and the hardier fruits. The Canadian census of 1851 shows that Canada even then produced one-sixth as much wheat as all the thirty-one states and four territories, one-half as much peas, more than one seventh as much oats, more than one-fourth as much barley, and nearly one-eighth as much hay as the entire Republic. The census of 1860 and 1861 was still more favorable to Canada; for in wheat she had one-sixth, in oats one-fourth to one-fifth, in barley one-third, and in peas nearly equalled the 34 states and 7 territories." A.T. ED.

Crop Prospects, Prices, &c.

Fall wheat must be a very low average crop this year. Some pieces are good; but for one good piece we have seen one hundred bad. The grain may be good, but the average yield per acre for the land sown must be small, much smaller than any statistics have shown, as the fields that have to be turned under and re-sown with spring crops are not generally shown in our statistics.

A very large average of last year's grass seeds have been destroyed by the frost, or rather by drouth and unseasonable warm weather in February, followed by severe frost. This has been the cause of the destruction of evergreens such as never before was known.

Spring crops are very cheering. They promise more than an average yield. In our last issue we advised our readers to strive and sell as soon as the weather would permit, without danger of storing too soon. Some have kept their word. We think they have lost the price the ADVOCATE would cost them for 20 years by the neglect.

The apple crop must be the largest ever known. Be prepared to dry, store and make cider; raw and uncooked apples do not pay much to feed to stock.

Cherries and peaches will be only a moderate crop. Plums more abundant than usual.

Potatoes are being destroyed in some sections by the potato bug. Those that keep them well killed will have a good crop, and we anticipate fair prices.

The dairy business is progressing most favourably. Plenty of grass and good prices.

The root crops are as promising as we can desire. Everything looks like progress and prosperity.

Carter's Open Ditcher.

We had an opportunity of seeing this new implement at work. A large wheel is placed in a frame attached to a common plough; it takes the earth raised by the plough, carrying it in an elevated, horizontal position, and leaving it from three to nine feet from the plough, depending on the size of machine. It was the small machine, worked by one span of horses, that we saw in operation, and are fully convinced that it will become in demand as soon as it is seen by any farmers that are troubled with wet land and require open ditches.

Agriculture.

Influence of Paris Green on the Potato.

READ BEFORE THE NATURAL HISTORY SOCIETY OF THE MICHIGAN AGRICULTURAL COLLEGE, BY R. C. KEDZIE.

The scientific man has a two-fold duty to perform for the public—to give warning of danger when there is cause for apprehension, and to allay fear where there is no good ground for alarm. I propose to show that the fear of poisons being introduced into the animal system by eating potatoes produced on vines to which Paris green has been applied to destroy the Colorado potato bug is without good foundation, unless the Paris green is used in needless excess. Much unnecessary alarm has arisen in the minds of those who have used such potatoes, and doubtless many farmers have for this reason been deterred from using the most effectual remedy yet found for the devastation of this western border ruffian. In many places produce dealers have refused to buy potatoes protected by Paris green while growing, or have bought them at a reduced price.

Paris green is unquestionably a deadly poison. It consists of the aceto-arsenite of copper, adulterated with about 10 per cent. of sulphate of baryta. This last ingredient is without action on the animal system, but the aceto-arsenite or copper contains both arsenious acid and copper, substances everywhere regarded as poisons. The apprehension therefore that the potato might be injuriously affected when these substances were applied to the soil on which it was grown was very natural.

It has been supposed to be a sufficient reply to any question about its poisonous effects on plants, that Paris green is entirely insoluble in water. Storer, in his Dictionary of Chemical Solubilities, says:—"Insoluble in water, but is partially decomposed by continued boiling with water, soluble in ammonia water." As the water in our cultivated fields is not subjected to a process of "continued boiling," this might seem to settle any question of danger from this cause.

But the water in the soil is almost never pure water, but is more or less saturated with carbonic acid, and contains small quantities of salts of lime, potash, etc. The question is, will water so found in our soils render soluble any element of Paris green? To test this matter in an extreme form I suspended a quantity of Paris green in water, and through this passed a washed current of carbonic acid for twenty-four hours. The water filtered off from all solid residues gave a somewhat abundant precipitate of sulphide of arsenic when a stream of sulphuric acid was passed through it but no sulphide of copper. It seems therefore that the prolonged action of a solution of carbonic acid will render a portion of arsenious acid soluble from a commercial article of Paris green. The insolubility of the aceto-arsenite of copper in pure water is not therefore an adequate protection against its poisonous influence when placed in contact with water charged with carbonic acid, as all water in the soil is found to be.

Again, rain water often contains a minute quantity of ammonia, and as Paris green is soluble in ammonia water, another source of danger might arise from this cause; but it requires a somewhat concentrated solution of ammonia to dissolve the substance in appreciable quantity. Thus, if we take a solution in strong ammonia water, and add it to a large volume of pure water, almost the whole of the aceto-arsenite separates in the insoluble form. The danger of solution of the Paris green from the minute quantity of ammonia in rain water is a nullity.

In all this discussion of possible danger I confine myself to the question of its solubility, because it is now conceded that a substance can enter plant life only in the state of solution.

If water charged with carbonic acid will separate arsenious acid from Paris green in a soluble form, the question arises how are we protected from its poisonous influence, since rain water and the water in the soil is always more or less charged with carbonic acid? I reply that the conservative element in the problem is found in the soil itself. In cases of poisoning by arsenic, the remedy is the hydrated sesquioxide of iron, by means of which the arsenious acid is converted into the insoluble basic arsenite of iron. Ten parts of this hydrated ferric oxide will completely precipitate one part of arsenious acid, from which

no amount of washing will separate a particle of arsenic. The same hydrated oxide (brown pennate) is found in greater or less quantity in all cultivated soils, and in proportion to the amount present is the power of such soils to withdraw from solution the arsenious acid. To test this matter I mixed a small quantity of Paris green with a large quantity of soil moistened thoroughly with rain water, let the whole stand for 24 hours, and then allowed the rain water to flow off, and tested this water for arsenious acid, but not a particle was found. I repeatedly washed the same soil with rain water, but no arsenic was present in these washings or filtrates. By treating the same kind of soil in the same way, except by addition of a much larger quantity of Paris green, I readily found arsenious acid in the filtrate. In this case the quantity of arsenious acid which became soluble was in excess of the amount which the limited supply of hydrated ferric oxide could convert into the insoluble form. This shows that it is very possible to use Paris green in quantities which would prove injurious to the soil. But even in such cases I apprehend that there is but very little danger of the potato tuber being poisoned so as to endanger the health of the consumer. Arsenic is equally deleterious to the vegetable as well as the animal system. If added in dangerous quantity to the plant, the plant dies, no potatoes are formed.

The quantity of Paris green necessary to prevent the ravages of the Colorado potato bug is very small, and in such minute quantity is without injury to the plant, or danger to the consumer. One-twelfth part by weight of Paris green to one of flour, the mixture dredged on the potato leaves, so as to color the leaf, is sufficient, unless washed off by rain or blown off by winds, in which case it should be renewed. The insect in eating the leaf consumes also the flour and Paris green, and a very minute quantity is sufficient to end his days of usefulness.

If cattle should eat potato tops thus seasoned with Paris green, they would be in danger of poisoning. Persons should avoid breathing the dust of Paris green, as danger might arise from this cause.

But, notwithstanding all theoretical considerations of the behavior of Paris green in the soil or out of it, the question comes up, do potatoes produced on vines to which Paris green has been applied during the period of growth contain arsenic in any form? I answer no! I made a careful analysis of potatoes grown in this neighborhood to which Paris green was freely applied, and that repeatedly, and not a particle of arsenic in any form was detected.

The conclusions I draw from this investigation are:—

- 1st. That the arsenious acid contained in Paris green, while soluble in water charged with carbonic water, becomes inert in the soil by combining with the oxide of iron contained in the soil, provided the Paris green is not added in excess.
2nd. That Paris green may be used in quantities so small as to be entirely harmless, and yet destroy the Colorado potato bug.
3rd. That however freely used by being applied to the growing plant, Paris green does not impart arsenic in any form to the potato tuber, and there is consequently no danger in using such potatoes as food.—Michigan Farmer.

AN ENGLISH AUTHORITY ON AGRICULTURE.

To farm successfully we must farm well. Land is honest, and will repay for an outlay. Drain wherever it is required; manure freely; cultivate well; then stocks will thrive and fatten, crops will be luxuriant, milk will be rich, and cheese and butter with proper management will be good. It is waste of time to enter upon large poor farms without cash to improve them. I should prefer occupying 100 acres of good land to 300 acres that were exhausted. The expenses of management would be considerably less, the profits greater, and interest on capital not so much. Poor land is ill adapted for feeding, dairying, or tilling. Cattle will neither milk nor fatten, and crops are not so remunerative. We live in very uncertain times. All descriptions of agricultural produce are alternately high and low, and it is not wise to depend entirely on any single branch of farming husbandry, but make careful and proper divisions, freting assured as seasons revolve and changes take place all in due order will give a proper return.

THE WHEAT MIDGE.

The Rev. C. J. S. Bethune, in a most interesting and valuable article on "Insects Affecting the Wheat Crops," having spoken of the introduction into this country of the midge and its destructive power, speaks of the remedies:—

1. *The Natural Remedies.*—There are three parasites which seem to have been ordained by the Author of the universe to limit the depredations of the wheat midge, and they so effectually execute their mission, that it has often happened, a year or two after the midges were in excess, not a specimen could be found. \* \* \* The only other natural remedy for this pernicious insect, that we are aware of, is the beautiful yellowbird, or goldfinch, that is so common throughout this province. We have long regarded this sprightly creature as a special friend of the farmer from its habit of devouring the seeds of thistles, and other annoying weeds; but we learn from Dr. Fitch that it deserves additional commendation from its being also a destroyer of the wheat midge. \* \* \*

2. *Artificial Remedies.*—Though we are so deficient in natural remedies for the devastation of the wheat midge, there is no doubt that much can be and has been done by the farmers themselves. These methods of reducing the insects' ravages are now so familiar to all our intelligent agriculturists, and are so simple in themselves, that we may be excused for dwelling but briefly on them. (1) Be careful to burn all the screenings of the wheat after it has passed through the fanning mill; these, when the midge is prevalent, often contain thousands of the yellow larvae, which will live through the winter, and produce flies for another crop, if not then destroyed. (2) Plough deeply in the fall any field that has been attacked by the midge during the previous summer, and take care to occupy it with some totally different crop during the following year. (3) When the midge is in the neighborhood, sow only the improved "midge proof" varieties of wheat. (4) If spring wheat, sow as late as is consistent with safety, in order that the plant may not come into blossom until after the midge's period of active operation is over. (5) If fall wheat, sow early, in order to anticipate the appearance of the midge. (6) Avoid sowing upon low, damp ground, as it especially favors the midge. (7) Thoroughly prepare and cultivate the ground, in order that you may obtain as strong and healthy a growth as possible. After all this has been done, we add (8) put your trust in Providence. As we may be at any time afflicted with another visitation of this scourge, though probably not for some few years now, remember when it does threaten—that there is much truth in the old adage, "An ounce of prevention is better than a pound of cure."

MIXED HUSBANDRY.

We have heretofore frequently urged the importance of mixed farming, as being more profitable and better adapted to most men than running any specialty upon the farm. Every day convinces us more and more that this is the only prudent course to follow.

Medina county, Ohio, furnishes a good example of the unprofitableness of *special* farming. In 1866, this county had 17,130 head of cattle, and 261,616 head of sheep; now it has 28,373 cattle, and only 51,757 sheep. In 1866, and for some years previously, wool commanded good prices, and too many farmers rushed into the sheep business. After that date wool declined in price, and farmers turned their attention to cattle, as offering better inducements than sheep. Now wool has advanced materially, and cattle have declined; and to the extent that the farmers of Medina exchanged sheep for cattle, to that extent are they losers.

We do not urge that sheep are more profitable than cattle, but believe rather the contrary, if either of them is kept as a specialty. What we do believe is that the farmers of that or any other county should so divide their stock and products as to be ready to receive the benefit of a rise in the market; and it rarely or never happens that all kinds of stock and crops will be below a certain price.

HOW TO MAKE HAY-CAPS.

Hay-caps consist of firm cotton-cloth or sheeting, about six feet square, having the raw edges hemmed and an eyelet hole near each corner, through which wooden pins are thrust into the hay to hold the cap in its place on the hay-cock during stormy weather. The most economical way of making a number of them is to procure sheeting about two yards in width, and hem the edges with a sewing machine, after which turn over each corner about three inches, and sew the edges down tightly with strong thread. Near each corner make a circular seam or two, about three-fourths of an inch in diameter, for the pin poles. If the sewing is done with a machine, it will be well to make two seams close together, after which thrust a boiler through and make half an inch in diameter for the pins. To render the cloth impervious to water let it soak in warm coal tar for a few minutes, after which wring it as nearly dry as may be practicable. The caps will then be fit for use. Coal tar is preferable to paint or oil, as a coat of paint will render the cloth heavy and stiff, and will damage the strength, and will not render the caps so durable as coal tar. More than this, oil or paint will be found much more expensive than tar. If the tar be applied as directed, it will dry readily, and will not leave the cloth so stiff as paint. Four wooden pins will be required for each cap. Each pin should have a head about one inch long. If the pins be soaked in oil it will render them durable.

Haycaps will be found useful and valuable for protecting all kinds of cereal grain and stocks of Indian corn in autumn, as well as for turning the rain from hay after it has been gathered in cocks. In autumn the stalks of Indian corn are bound in bundles, set in round shocks, and a cap drawn over each shock, except when the weather is fair. By employing caps the corn can be kept in shocks until the leaves and stems are thoroughly cured, and the fodder will be green and fragrant, and twice as valuable as if it had been exposed to the influence of the autumnal storms and sunshine. Very few farmers have provided haycaps, as they do not fully appreciate the value of such appliances, especially of protecting wheat from storms. Almost every farmer loses enough during haying and harvest to cancel the entire expense of a supply of caps.—*N. Y. Times.*

TEXAS FARMERS ON STRIKE.

Nearly 200 farmers and farmers' wives lately met at Clinton, Douglas county, Kansas, to discuss "the commercial element in agriculture." Thirteen resolutions were adopted, and numerous speeches made which are reported in the *Republican Journal* of Lawrence. It was contended that "the fundamental interest" now lies prostrate, contending with other labor and professions at odds of from two to ten against it; that farmers are under the humiliating necessity of submitting to the unjust terms of persons whose encloments are found in depressing the value of articles they wish to accumulate; that if this sort of thing continues much longer, impoverishment and ruin will stare the farmers in the face; and, finally, that this "ridiculous usage" is unnecessary, and that united and harmonious effort on the part of farmers might speedily extricate them from this galling and absurd position. The suggestion was made that farmers should store grain in large warehouses of their own, instead of hastily parting with their crops to the obnoxious middleman. This would enable them to follow the wise practice of other producers, and in the event of a plentiful season, or of a decreasing demand, hold their wares until the market is restored. Thus the surplus of one year would provide for the contingencies of the next, and the results of a short crop or of a large over-crop would be neutralized. It was stated that if 2000 farmers united in a co-operative union, they could obtain the best of terms. For example, a grocery man in Lawrence had already offered, if 100,000 dollars trade were given him, to do it at a profit of only six per cent.; if 200,000 dollars, at five per cent. A firm had offered to furnish clothing at a reduction of from 40 to 50 per cent. on the present prices. "Parties had agreed to handle grain for two cents a bushel." Governor

Robinson remarked that the control of a warehouse would be of great advantage. Farmers could store grain and take receipts for it, and upon those receipts get all the money they needed for paying taxes and other bills, and thus take the advantage of any rise in the market. Another speaker pointed out the double character the farmer sustains. He is merchant as well as producer. It is as dealer for the disposal of his wares that he frequently fails. Almost any man of ordinary common sense can raise fair crops, but when he goes into market as a trader among men who make that department a special study, he operates against heavy odds. The margin of ordinary profits sometimes lies in a cent or a half-cent in the pound, or a few cents on the bushel. The farmers by proper organization could secure great advantages to themselves. In the end the convention elected a board of trustees from among the practical farmers, to procure a charter incorporating the Douglas County Farmers' Co-operative Union, with power to do a general mercantile, for carrying and commission business, and to contract for the doing of the same with other parties in the interest of farmers.

WHY ANIMALS NEED SALT.

Prof. James H. Johnson, of Scotland, says that half the saline matter of the blood (75 per cent.) consists of common salt, and as this is partly dissolved every day through the skin and kidneys, the necessity for continued supplies of it to the healthy body is sufficiently obvious. The bile also contains soda (one of the ingredients of salt) as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, and neither will the bile be able properly to assist digestion, nor the cartilages to be built up again as fast as they naturally waste. It is better to place salt where stock can have free access to it than to give it occasionally in small quantities. They will help themselves to what they need, if allowed to do so at pleasure, otherwise when they become salt hungry, they may take more than is wholesome.

[In insular countries, as the British Isles, the salt necessary for stock is, in a great measure, supplied by natural means. The great evaporation from the seas takes up with the water a saline element, and this descends upon the earth. In such places it serves as part of the food of vegetation, thus becoming imperceptibly a component part of the food of cattle, and besides, much of it is taken by them off the earth before it has time to be absorbed by the plants. Lying off the western coast of Ireland there is a group of little islands, the Blaskets; they are the most westerly land of Europe, nothing lying between them and the western world but the great Atlantic. They are often washed by the salt spray of the great ocean, hence the grass is continually salty. The consequence is that the mutton of the Blasket sheep, flocks of these animals being continually pastured on them, has a peculiar richness and delicacy of flavor not to be equalled by that fed in the richest pastures of any other place.]

HOW GYPSUM ACTS UPON SOILS.

The exact way in which gypsum produces its fertilizing effects is not well understood, although it is understood that the chemical changes or transformations which occur when it is brought in contact with soils, are not of a uniform or fixed character. Upon the conditions which exist, as regards the presence of vegetable matter and moisture, depend the changes that take place.

We have proved by actual experiment that gypsum is capable of absorbing ammonia from the air and also from decomposing vegetable matter, being thereby changed into hydrosulphide of ammonium; and this again may be changed into carbonate of ammonium by absorption of carbonic acid and the air. These changes take place when gypsum is brought in contact with moisture and vegetable matter. Whatever other decompositions may take place under different circumstances this may be regarded as the most important, as from it plants are supplied with food of the highest value.

From these ascertained facts we should infer that plaster must prove highly serviceable to moist, mossy hills, and also to meadows not too wet, and this has proved correct so far as our observations extend. Often we have found that the north side of a hill will be

greatly benefited by plaster, while upon the southern exposure it has no perceptible effect. This is due to the fact that the northern slope is cooler, or often in the shade, and has moisture, and a larger amount of partially decayed vegetation, to aid in the promotion of these chemical changes to which we have alluded.

It is certain that it does not matter so much what may be the nature of the soil to which we apply plaster, as external agencies are principally concerned in fitting it for plant food.

While the question as to how plaster acts in all cases as a fertilizer cannot be regarded as fixed and settled, yet we have certain facts to guide us in its application which are of the highest importance. With what we know, it would be absurd for a farmer to apply the agent to a dry, stony plain, or to a lot, improved hill; and also it would be unwise to sow upon a meadow which is covered by water six months in the year.

It must also be observed that the season has much to do with the effects of plaster.—During the past three or four seasons of extreme drought, its application has notably failed upon almost all fields, but as soon as we have continued moisture through the summer months, it will manifest its influence upon vegetation.

Plaster may be applied with confidence to pastures and fields which are strong enough and moist enough to sustain a growth of deciduous trees. Pine lands are not usually benefited by it. A hillside where mess will grow so as to crowd out grasses is usually completely benefited by plaster, and the white clover comes in at once.

These suggestions we think may serve as an imperfect guide in applying a cheap and important fertilizing agent to our fields, also serve to show that we are not entirely in the dark respecting one of the most obscure problems connected with husbandry.—*Boston Journal of Chemistry.*

THE BEST WHEAT REGION.

We sometimes compare our farming with the English, and because we do not raise near the average per acre of wheat that the English do, often lament the condition of our agriculture; and it is the burthen of many a farmer whose knowledge seldom extends beyond the writing a treatise as to "what he knows" that the time is to come when Americans will so understand scientific principles as to produce wheat, acre per acre with the best English and. But every country has a peculiar climate of its own which favors certain productions, and these climatic conditions are beyond human control; no scientific principles will ever supply them and no knowledge we may ever possess will ever enable us to raise wheat to the same weight per acre as the English can. The wheat plant, to come to its greatest perfection, requires not only a certain quantity of heat, but that heat should be extended over a certain time. Our wheat is ripe in July. The English harvest in June. Our summer heats come suddenly in May, and the plant matures before it has time to arrive at its greatest weight. The cool, gradual spring of England just suits, and these conditions we shall never possess. As to these frequent comparisons of English farming with ours on account of the wheat crop, it would be as rational to expect English farmers to deny their agriculture because they cannot grow Indian corn as well as we can. Let us look to our own advantages, and we shall see enough to be proud of without envying other countries.—*Weekly Press.*

THE HAY CROP IN THE UNITED STATES.

The American *Rural Home*, Rochester, fears for the hay crop of the United States. We make the following extract from its last issue:—"The farmers of this State, looking at their meadows either new or old, may conclude that the hay crop will be short—much below an average. The earth is dry; only a few passing showers have as yet moistened the surface during the whole Spring, and the springs, wells, and streams remain low. This state of affairs is prevalent throughout the chief hay producing regions of the country—New York, New England and large portions of the West. There is no chance for a tolerable hay crop, and coming after such a season of scarcity as that past, this prospect is somewhat alarming. It will not do for the farmer to be caught short winter

with a large stock of animals, and short supplies of feed on hand. His only resource is to accumulate stock food to take the place of hay from every source that may be available.

LIME AND SALT MIXTURE.

Prof. Johnson recommends for fertilizing purposes to mix one bushel of salt and two bushels of dry lime under cover, and allow the mixture to decompose gradually, thus forming an intimate chemical union of the two materials.

MANURE WELL.

A correspondent of the Country Gentleman gives the following advice: "It does not pay to run over so much surface for so little a crop. Learn this truth, and take measures accordingly. Manure well, and stop planting when the manure heap falls; grow up your land to forest trees, turn them to pasture, let them lie fallow, or, make commons of them rather than skim over them year after year for such meagre returns."

A HINT FOR AGRICULTURAL DEPARTMENTS AND SOCIETIES.

A correspondent of the Maine Farmer asserts that "of the whole Board of Management of the State Agricultural College, one possibly may be a farmer, while there are two lawyers, a merchant, a lumberman, and a U.S. official; men not identified with, or even practically interested in, agriculture, who have the supervision and management of that school wherein farmers' sons are taught 'what they know about farming.'"

THE CABBAGE FLEA.

In the first place, I have learned one thing while fighting potato bugs, and that is that we can protect our cabbage plants from the little black flea with Paris Green. It may be mixed with water, or, what is, I think, still better, mix it with plaster, or flour, say one part of Paris Green to 20 or 25 of plaster, and sprinkle it on the plants when the dew is on. There is one step ahead; let us be thankful for that.

TURKEYS AS INSECT DESTROYERS.

For a general destruction of insects, I know of nothing equal to young turkeys. Shut the old one up in a coop, feed her and the young ones well, three times a day, with corn meal and plenty of onion tops; cut up and mixed with it, and as soon as the early cabbage comes on, give each of them plenty of the leaves and they will scarcely touch anything that is growing; but their industry in hunting insects from morning till night, is almost marvellous. Potato bugs they will not touch. The cut worm does its damage in the night, and then hides in the earth, consequently

they can not find them; but against the currant worm, the Spanish bug, grasshoppers and many other things, their protection is sure and perfect.

THE CURCULIO.

Now for the curculio. I have not failed to have a good crop of plums a single year since my trees became large enough to bear. In fact some of them have ruined themselves by overbearing. I keep the ground well cultivated beneath and about them, and always have a brood or two of chickens running about under the trees. My theory is, that they pick up the insects as fast as they appear above the ground, and of course there are none left to get upon the trees. At all events, my trees are always full, and I can account for it in no other way.

SALT AS A MANURE.

The application of salt has been found in many cases to be followed with most beneficial results. In our western country the ordinary farm manures receive but little attention. On account of the fertile character of the soil, most farmers are unwilling to bestow the labor necessary for its accumulation and hauling upon the land. But in this we think they greatly err. The application of three or four bushels of salt to the acre is a matter of small cost and little labor which would, in many instances, be repaid severa! times in a single crop, besides the increased quantity in the crop when applied to wheat land, the crop is often hastened to maturity eight or ten days earlier than wheat on similar land not salted, and thus in time may often save the crop by rust or the mildew. The proper time to apply salt on wheat land is at the time of sowing seed.

SOWING GRASS ALONE.

A writer in the Rural New Yorker says: "Now, I do not advise in any of the old-time courses of sowing grass seed or clover with out, rye or wheat, just because somebody has said it was the best way. If a man wants a field seeded with timothy, sow that and nothing else; and the same with any other kind of grass, or even clover, for any of them will grow far better alone than when crowded swarded, or the soil about the roots robbed of its moisture by some coarse, rank growing grain. Of course on rich, moist soils, a man may seed down with grass and thereby save on a season; but it is poor policy to follow this system on old, nearly worn-out soils, even if our fathers and grandfathers always did so. Then again, it is folly to mix clover and timothy together in the same field, for they are never both in proper condition for cutting at the same time, and a little muddy over-ripe clover, mixed in with the hay, adds not a fig to its value. By keeping both separate each can be cut when in the best condition for hay; and this rule will hold good with all kinds of forage plants."

PLASTER FOR POTATOES.

According to Mr. Compton, author of the prize essay on the cultivation of the potato, very remarkable results are obtained from plaster by dusting the vines with it as soon as they are through the soil; again immediately after the last plowing and hoeing; and at intervals through the whole growing season. The first application may be light, the second heavier, and after that more bountiful say 200 pounds to the acre. It renders the plants less palatable to insects, and appears to be fatal to many of the fungi family. The vines retain a bright, lively green color, and the tubers continue swelling until growth is stopped by the frost; beside, potatoes that grow are so sound and free from disease as to be easily kept for the spring market, without loss by rot. Mr. Compton says he has seen a field, all planted with the same variety at the same time, on one-half of which, that had received no plaster, the yield was but 60 bushels per acre, and many rotten; while the other half, to which plaster had been applied, yielded 360 bushels per acre, and not an unsound one among them.

MUCK OR PEAT.

A writer in the Boston Journal of Chemistry thinks farmers give themselves much trouble in carting muck for very little end. He has analyzed several specimens which contained from 1200 to 1700 lbs. of water to the ton, and the greater part of the balance was sand and clay. These specimens only contained from seven to ten per cent. of organic matter. In other words, a farmer carts 2000 lbs. in order to get from 140 to 200 lbs. of decayed vegetable matter, the only thing of value to him.

Stock and Dairy

"ONE THING AT A TIME."

The National Live Stock Journal notes that the history of stock husbandry in Europe and in this country satisfactorily proves that few men succeed in any marked degree as breeders of more than one race of domestic animals, or of more than one variety of a single race. A farmer well situated to do so may attain a certain measure of success in raising and selling horses, cattle, hogs, sheep, and poultry—his operations with each may be profitable—but we believe that there are not two instances on record where remarkable eminence as a breeder has been attained by one individual with more than one class of stock. The maxims and arguments in favor of a mixed system of husbandry in this country have little force when applied to live stock husbandry alone. The practice of mixed husbandry so often advised consists simply in growing some grain, some vegetables, some fruits, some grasses and some stock—the proportions and varieties of each to be determined from year to year by the surrounding circumstances and the prospective markets. For the general farmer this is unquestionably the safest and best, but it is not the system which gave celebrity or fortune to the Bakewells, the Collings, the Bateses, the Booths, the Hammonds, and others now living. "One thing at a time as a leading specialty, and that always," seems to be a good law for the breeder who seeks distinction.

SUGAR BEETS FOR FATTENING SWINE.

Jonathan Talcott gives a statement in the Boston Cultivator of an experiment performed in a Suffolk pig, where sugar beets were largely employed in fattening. The animal was about a year old, and the feeding on boiled sugar beets, tops and roots, began on the 16th of August, and was continued three times a day until the 1st of October, after which ground feed was given, consisting of two parts of corn and one of oats, three times a day, till the animal was slaughtered, the meal being mixed with cold water. The result was, on the 16th of August, when the sugar beet feeding was begun, that the weight was 360 pounds; Sept. 1st, 390 pounds; Oct. 1st, 450 pounds; Nov. 1st, 520 pounds. This is the substance of the statement given, by which we perceive that the increase the last of August, when fed on boiled sugar beets, was at the rate of two pounds per day; the same rate of increase on the same food continued through September. When fed on ground corn and oats, made into cold slop, the gain for the next thirty days was less than a pound and a half per day.

NUTRITIVE VALUE OF MILK.

A chemist of Providence, R.I., states that milk is more nutritious than meat. The nutritive value of milk, as compared with other kinds of animal food, is not generally appreciated. There is less difference between the economical value of milk and beefsteak (or eggs and fish) than is commonly supposed. The quantity of water in a good quality of milk is eighty-six per cent; in round steak seventy-five per cent; in fatter beef sixty per cent; in eggs about sixty-eight per cent. From several analyses made last winter, I estimated sirloin steak (reckoning loss from bone), at thirty-five cents a pound, as dear as milk at twenty-four cents a quart; round steak, at twenty cents a pound, as dear as milk at twenty-four cents a quart; eggs, at thirty cents a dozen, as dear as milk at twenty cents a quart. Many laborers, who pay seventeen cents for corned beef, would consider themselves hardly able to pay ten cents for milk, when, in fact, they could as well afford to pay fifteen cents.

Milk is a most wholesome and economical food for either rich or poor. It ought to be largely used. If the money expended for veal and pork were expended for milk, I doubt not it would be an advantage both to the stomach and pocket, especially during the warm season. Relatively speaking, then, milk at ten cents, or even twelve cents a quart, is the cheapest animal food that can be used. Whether farmers can afford to produce it cheaper is a matter for them to decide. It is very probable that were they to ask twelve cents, a very large number of poor people would refrain from its use from mistaken notions of economy, notwithstanding they are excessive meat eaters.

A NEW METHOD FOR PACKING BUTTER.

A Michigan dairyman has lately published his method of packing butter. He has oaken tubs, with heads at each end. They are 14 inches in diameter at the top, 9 inches at the

bottom, and 16 inches high. In packing, a cambric bag is made to fit the tub. The butter is packed in the tub as it stands on the small end—the sack being long enough to extend above the edges of the tub—and is pressed down firmly until within an inch of a half of the top, when a circular cloth is laid over it, the edges of the sack turned down over that, and a layer of fine salt placed over it. The head is now put in its place, the tub turned up, and the butter in the sack, of course, falling down to the bottom, leaves a space all around it, which is filled with brine poured through a hole in the small end. When full, the hole is corked up tight. The butter floats in the brine, and is effectually preserved from the air, and will keep for an almost indefinite period.

We fancy we can see a few million dollars thrown into Canada farmer's hands by this or some other means of sending our butter to market. If we were to inform a farmer's wife that she was not making butter, but merely grease, should we not have her about our ears! But such is the fact. Canadian butter, as now sent out, passes off as grease. Real first-class butter commands nearly four times the price in the world's market. We can realize double the price we are now obtaining if we make and pack our butter properly. The above plan appears to us a much better one than those now adopted, and such as will pay to use to some extent.

BREEDING STOCK FOR THE DAIRY.

Mr. Nimms, of Napanee, says he has thorough-bred, Ayshires and Short-horns, but he believes the best breed for the dairy is obtained by crossing common Canadian cows with thorough-bred Durham. He deprecates pure breeds for the dairy, and recommends crosses of thorough-bred of good milking families on the best milkers of common Canadian cows. He has had much experience in raising stock. A cross between a good native cow and a pure-bred Durham, and then crossed with an Ayshire, produce excellent milkers. He has seven cows which yielded 7,800 pounds of milk during 1870. Cows must have plenty of good food, and an abundance of good water, for a cow well fed and cared for is better than three poorly treated.

DESCRIPTION OF A SHORTHORN.

Professor Wrightson gives the following as the points of shorthorns, as generally recognized by breeders, and we think it gives a general description that will be readily understood by farmers, and as it comes from a Professor of agriculture in one of the most important agricultural institutions of Great Britain, it may be taken as good authority:—

"The color may be red, white, red and white, or roan, but black is not allowed on any part of the body. The hair is plentiful, long, lying in various directions, and of mossy, rich appearance. The animal is docile, the female carrying a sweet-looking head, with a quiet eye. Horns of moderate length in the cow; short, thick, and spreading in the bull. The muzzle is cream-colored, and the horns are waxy, with streaks of red at the base. The bull had a noble carriage and fine head, with hair curling over his forehead and between his horns. It is the head which gives what is termed 'character' among breeders. The rump-bone, when the animal is lean, should be about two inches off, and the upper portion of it level with the under side of the tail (Wright.) When the animal is narrow at this point, there is often a want of flesh and substance between the rump and hips. The quarter, or length from rump-bone to hip, should be long, and full of lean flesh; the hips should be wide across, especially in the female, and the hip bones rounded and well covered; the loin must be flat and wide; the space between hips and ribs moderate; the ribs well arched and deep, giving a round 'barrel'; the back straight, the breadth of the loin well maintained by the spring of the ribs, and shoulders wide across; the belly line parallel with the back, giving a uniform cylindrical body; the flank well let down, thighs heavy-fleshed and deep, buttocks full on both sides; shoulders snugly laid back into the crops; the bosom deep, wide and prominent; the neck thick at the base, but tapering to the head; the head broad between the eyes, and tapering to the muzzle. Whether viewed from front, back, sideways, or from above, the animal should approximate as nearly as possible in general outline to a parallelogram form. This is difficult to realize, but a glance at truly

well-made cattle will convince the observer that a certain squareness of form is the best type of bovine symmetry. In addition to a correct form, Shortthorns must also possess the essential trait of 'quality' or 'touch.' In other words, the skin must be soft, pliant, neither too thin (papery) nor too thick (heavy), and moving with a certain characteristic ease upon the cellular matter beneath. This peculiar handling of cattle accompanies aptitude to fatten, and it is spoken of as 'quality.' Quality is also indicated by an abundant coat of fine silky, well-laid hair. —*Ext.*

#### ONTARIO AS A DAIRY SECTION.

In discussing this question at the Dairy Convention recently held at Belleville, Mr. Morton, of Gananoque, said that nearly every section of Ontario, rough or smooth, was adapted to profitable cheese making; every variety of fodder required could be grown. He knew something of the capacity of land in Canada for dairying, being the owner of nine farms, and the proprietor of eight cheese factories. Most of his factories were situated in the Laurentian ridges, and he found them superior for dairy purposes. He believed that the land in Ontario could produce as good milk, and that as good cheese and butter could be made on this Northern belt as anywhere on the continent. He thought cheese should be made the principal article of export of the Dominion. Dairying was a far more profitable industry than any other, and is no longer a speculation. Cheese should be shipped from any Canadian port to England cheaper than from a factory in Western New York to New York City. This he knew from experience, as he was the owner of a factory in Western New York. He thought there were enough good dairy lands in Canada to supply England with all the cheese she needed.

#### PUTTING UP DAIRY GOODS.

Let producers be governed by a principle of strict honor in this matter, using fancy packages only for a strictly fancy product, and ordinary packages for all goods of second grade, assorting carefully, and marketing each quality separately, making for it no false claim, but allowing it to go upon its intrinsic merits, and they will realize more for their products than they do under the present unsystematic and impolitic practice of straining up the price of inferior goods by offering them in connection with a better article, thus losing more upon the good than is gained upon the bad, while the principle of just discrimination is not recognized, and the reputation of the brand suffers a still greater prospective loss.

**CARE OF HORSES.**—All horses must not be fed in the same proportions, without regard to their ages, their constitutions, and their work, the impropriety of such a practice is self-evident. Yet it is constantly done, and is the basis of disease of every kind.

Never use bad hay on account of its cheapness, because there is no proper nourishment in it.

Damaged corn is exceedingly injurious, because it brings on inflammation of the bowels and skin diseases.

Chaff is better for old horses than hay, because they can chew and digest it better.

Mix chaff with corn or beans, and do not give the latter alone, because it makes the horse chew his food more and digest it better.

Hay or grass alone will not support a horse under hard work, because there is not sufficient nutritive body in either.

When a horse is worked hard its food should be chiefly oats—if not worked hard its food should be chiefly hay—because oats supply more nourishment and flesh-making material than any other kind of food; hay not so much.

For a saddle or coach horse, half a peck of sound oats and eighteen pounds of good hay are sufficient. If the hay is not good, add a quarter of a peck more oats. A horse which works harder may have rather more of each; one that works little should have less.

Back feeding is wasteful. The better plan is to feed with chopped hay, from a manger, because the food is not then thrown about, and is more easily chewed and digested.

Sprinkle the hay with water that has salt dissolved in it, because it is pleasing to the animal's taste, and more easily digested. A teaspoonful of salt in a bucket of water is sufficient.

Oats should be bruised for an old horse, but not for a young one, because the former, through age and defective teeth, cannot chew them properly; the young horse can do so, and they are thus properly mixed with saliva, and turned into wholesome nutriment. —*London Horse Book.*

## Orchard and Forest.

### GRAFTING-WAX.

This is an article that every farmer should keep on hand, ready for use whenever needed, for it is valuable for various other purposes besides that of grafting. Wounds made in pruning large trees will heal over much sooner if coated with this wax, and if a piece of bark is accidentally stripped from a tree, the place should be covered over with it, and the wood will remain sound and healthy underneath.

There are several receipts for preparing this wax, and I have found the following better than any other one tried:—Melt in a basin one pound of tallow, two pounds of beeswax and four pounds of rosin; stir well together, and keep in a cool place in the dish in which it was melted. If beeswax is very costly an item, one-third less quantity may be used.

This wax is most excellent for sealing the corks of bottles whose contents are desired to be air-tight, and for covering cloths to tie over preserve jars. It can be melted over when required for use, and it will spread with a knife upon bandages, etc.; is the best sealing wax that can be used for many purposes. —*Country Gentleman.*

### TRANSPLANTING SEEDLING TREES.

All seedling fruit or forest trees should be transplanted while young as a hastening process, as well as to insure safe removal in later years. Transplanted seedlings grow more rapidly than untransplanted, and when the operation is properly performed, a tree will be as large in ten years as it would have been at twenty, if allowed to remain where the seed was sown or naturally grew as it fell from the parent tree.

I do not know of any exception to this rule, for the hickory, butternut, and black walnut, which are generally considered difficult trees to remove, if transplanted when one or two years old, and deprived of the greater portion of their tap root, will throw out numerous side or lateral roots, which not only causes vigorous growth, but insures success in transplanting. One of the most erroneous theories ever promulgated is that a tree will grow more rapidly and remain healthy longer if it is never meddled with from the time the seed is placed in the earth. Such a theory belongs to the barbarian and non-progressive ages, and not to the nineteenth century. —*A. S. Fuller.*

### LIME FOR SOILS OF FRUIT ORCHARDS.

On most soils, or in most localities, a proper dressing of lime is useful to both peach and pear trees. There are some soils where it will not prove of much benefit, but we are unable to give a certain or infallible indication by which the propriety of its application may be known before making the trial. It would not be so likely to be useful where the ground had been previously repeatedly or heavily limed, or where the soil was poor for a want of the application of yard manure or by plowing under green crops. We have known it to double the growth of trees on soils that appear to be quite similar to others where no benefit was produced. Over-doses, or uneven application, might be hurtful or of no use. Common lime may be applied safely at the rate of 100 or 200 bushels per acre, but magnesia lime should be used very cautiously. There is no material difference between common stone lime and burnt oyster shell. —*Horticulturist.*

### TIME FOR TREE PLANTING.

A correspondent of the *Iowa Homestead* thinks the time for tree planting is much less important than the manner. He mentions one case where 100 trees were planted May 18, when most were in full leaf and some in blossom, yet not one died. Healthy trees with good roots, set in a place so large that roots need not be twisted or crowded, with the roots well puddled and the dirt packed close around them—are the points to which he pays attention in tree planting.

### CAUSE OF DEATH OF EVERGREENS.

Referring to the great loss of evergreens and other trees, W. C. Flagg, the horticultural editor of the *Prairie Farmer*, expresses the belief "that drought is at the bottom of the whole difficulty in the West." He thinks the long continued evaporation during the dry summer and the dry winter destroyed or injured plants weak in constitution or from disease. The *Western Rural* gives a similar cause—drought, severe frosts, and drying winds; the first two decreasing the amount of moisture available, and the last increasing the evaporation.

### GROWTH OF TREES.

The *Farmers' Journal*, Cedar Rapids, Iowa, speaks of very rapid growing trees in the residence of G. Nealey, of Burlington, Iowa. A Norway spruce set 20 years since is 41 feet high, and 5½ feet around the trunk at largest part; a European Larch, transplanted 15 years ago, is 35 feet high, and 4 feet around the trunk; another set 17 years since is 42 feet high. Of deciduous trees, a soft maple set 18 years since is 50 feet high and 3 feet in diameter, three feet from the ground; a sugar maple set 21 years is 35 feet high; a black walnut set 16 years is 4½ feet in diameter; a golden willow stuck into the ground as a little switch 20 years ago, is 11 feet 5 inches in circumference.

### LIMING FRUIT TREES.

This periodical liming of fruit trees is generally considered as serviceable, especially in keeping down the ravages of the insects which find their home in the fissures of the bark. It is also important that the operation should be likewise extended to the main branches. For the purpose in question, whitewash has generally been used, causing a decided whiteness of tree, which is objected to by many on the score of the unsightly appearance and the readiness with which the lime becomes detached. It has been shown, however, by experience, that the same beneficial effect results from the use of colorless lime-water, which every one knows how to prepare with unslackened lime, and which, when settled, becomes clear, and can be poured off and used as above indicated. In this way repeated applications can be made without affecting the appearance of the tree.

### PRUNING IN JUNE.

Correspondence of the N.Y. Sun.

In your issue of Feb. 14, I noticed two correspondents asking for information as to the best time for pruning fruit trees, and D. W. N., of Cedar Hill, N.J., asserting that spring was the best time, as he had always practised it at that time, and his trees had done well. I have been engaged in cultivating fruit trees for the past twenty years, and have pruned apple and pear trees in every month of the year. If I could always have time to spare, I would prefer to prune in the month of June, for the following reasons:—First, the wound made by the removal of a branch at this season will heal sooner than one made at any other time of the year. Second, very few water sprouts will grow after pruning, and the fruit which remains will be much larger in consequence. Any person who is at all acquainted with the management of fruit trees, knows that if a tree is barked in June the wound will heal in a very short time. To prune in June, persons should wear rubbers or other soft shoes, to prevent barking the branches. My reasons for not pruning in the spring are, we generally have high winds and copious showers, the winds dry and crack the new wound, and the rain enters and blackens it, which it does not do in June. Water sprouts will also grow, which will have to be trimmed off every season. You suggest covering the wound with paint or wax; but every farmer does not have these materials at hand, and in June he does not need them. S. DEVENE.

### NAILS IN FRUIT TREES.

A singular fact, and one worthy to be recorded, was mentioned to us a few days since by Mr. Alexander Drake, of Albemarle. He stated that whilst on a visit to a neighbour, his attention was called to a large peach orchard, every tree of which was totally destroyed by the ravages of the worm, with the exception of three, and these were the most thrifty and flourishing peach trees he ever saw. The only cause of their superiority known to his host was an experiment made in consequence of observing that those parts of worm-eaten timber into which nails had been driven were generally sound. When the trees were about a year old, he had selected three of them, and driven a tennypenny nail through the body, as near the ground as possible. Whilst the balance of his orchard had gradually failed, and finally yielded to the ravages of the worms, these three trees, selected at random, treated precisely in the same manner with the exception of the nailing, had always been vigorous and healthy, furnishing him at that very period with the greatest profusion of the most luscious fruit. It is supposed that salt of iron furnished by the nail is offensive to the worm, whilst it is harmless, or perhaps beneficial, to the tree.

A chemical writer on this subject says:— "The oxidation or rusting of iron by the

sap, evolves ammonia, which, as the sap rises, will of course impregnate every part of the foliage and prove too severe a dose for the delicate palate of intruding insects."

The writer recommends driving half a dozen nails into the trunk. Several experiments of the kind have resulted successfully. —*Southern Planter.*

[Walking a few days since through the grounds of a friend, an American gentleman, we were quite delighted with the rich profusion of blossoms on his fruit trees, but we wondered to see stuck up among the branches of a great many of them lengths of old stove pipe. This, he told us, was to preserve the health of his trees and to cause greater fruitfulness. We have not had an opportunity of knowing the result of what was to us quite a novel thing in arboriculture, but the above extract from the *Southern Planter* shows that others also believe iron brought by certain means into contact with fruit trees, to have on them a beneficial influence. All are familiar with that law of nature by which the mineral world has a great and undefined influence over the vegetable. Salt is a great fertilizer, but would, if used in undue quantities, destroy all vegetation. The soil, beneath which the most valuable deposits of ore are concealed, is comparatively barren, but may we not reasonably infer that metals, if not in undue proportion, would cause fertility and not barrenness. In the two instances mentioned iron seems to be used not to make fruit trees more fruitful, so much as to ward off diseases from them. But this state of natural good health brings with it that productiveness designed by nature. To all things having life there has been given the means of propagating their own species. The state of unproductiveness is a state of bad health.]

### APPLES.

With us the value of the apple as an article of food is far underrated. Besides containing a large amount of sugar, mucilage and other nutritive matter, apples contain vegetable acids, aromatic quantities, etc., which act powerfully in capacity of refrigerants, tonics and antiseptics; and freely used at the season of mellow ripeness, they prevent debility, indigestion, and avert, without doubt, many of the "ills which flesh is heir to." The operatives of Cornwall, England, consider ripe apples nearly as nourishing as bread, and far more so than potatoes. In the year 1801—which was a year of much scarcity—apples, instead of being converted into cider, were sold to the poor; and the laborers asserted that they could "stand their work" on baked apples without meat; whereas potatoe diet requires meat or other substantial nutriment. The French and Germans use apples extensively, as do the inhabitants of all European nations. The laborers depend upon them as an article of food, and frequently make a dinner of sliced apples and bread. There is no fruit cooked in so many different ways in our country as apples; nor is there any fruit whose value, as an article of nutriment, is as great, and so little appreciated. —*Water Cure Journal.*

**CURCULIO ON PLUMS.**—I have seen various methods for keeping these insects off plum trees, but none so simple, nor yet so effectual as the following:—Soak corn-cobs in sweetened water until thoroughly saturated, then suspend them to the limbs of the trees a little while after blossoming, being sure to burn the cobs after the fruit ripens, as they will be found full of young insects. A good plan is to change the cobs every few weeks. My theory is this:—that the insects deposit their eggs in the cobs in preference to doing so in the young plums. The first season I tried it upon one or two only, and in the summer was rewarded by a good crop of as fine plums as ever ripened, while those on the other trees fell off when about half grown. Next spring found sweetened corn-cobs dangling from the limbs of all my plum trees, and the summer found them full of delicious fruit. I have never known it to fail, and I hope every one who has a plum tree will try it. —*A. M. S., in Germantown Telegraph.*

GROWTH to Lincoln tracts of sping very tall. Thered part acres in exsiderable qcut. Year growth is growth of wfor staves. Wiscasset, brought ba the large o this purpos a growth of Alma, info father, whidrove his o pines that high, and t one thousa trees are n ground, th The profits money at t farm-rs fai thinking t paid for the let some of for your ov

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The ro unshaded good drai is dry, an The so thorough heat of straw ma and enco All the season sh strong, fr free shoot of their l This m terrible w rose thro produce f spare not is practi will. Hybrid of late ye as the Bo is also a again in fusely as handson in July t stem. The ol roses of perpetua coming i Roses the shoof softness, best to trimm ing two them; i a part, f strike r Sand tings;

GROWTH OF PINES.—During a recent visit to Lincoln county, we saw quite extensive tracts of splendid pine woods, the trees standing very thick, and running up straight and tall.

Horticultural.

A PRETTY PARLOR ORNAMENT.

An interesting ornament for the sitting room or parlor may be easily obtained by growing one of the club moss trees under a glass shade.

ROSES.

The rose requires a deep, rich, loamy soil, unshaded or smothered by trees or shrubs; good drainage, careful waterings, if the season is dry, and close, judicious pruning.

The soil should be well intermixed with thoroughly decayed manure; and during the heat of summer it should be mulched with straw manure, to keep the roots moist and cool, and encourage a strong growth.

All the wood which produced flowers last season should be cut clean out, or back to the strong, fresh growth of the past year; and these free shoots can also be pruned one-third or more of their length.

This may seem to the amateur gardener a terrible waste of material, but it will make the rose throw out stronger flowering shoots, and produce flowers of extra size and beauty.

The old-fashioned moss, damask and Provence roses of our childhood far excel these so-called perpetuals in fragrance, and they are rapidly coming into favor again.

Roses are easily propagated by cuttings, but the shoots should be old enough to be free from softness, yet not too woody or hard.

Sand is far better than loam for rooting cuttings; so fill up your tiny pots with it, and

insert the cuttings close to the edge of the pot, keeping it thoroughly wet—for if the sand dries the tiny roots will die.

Bottom heat is a necessity—without its aid there is little use in attempting to strike tender roses; and a glass shade, to retain the heat and moisture, is also needful.

Rose-bugs are routed by shaking the stems containing them over a dish of hot water, or by hand-picking and burning.

A pint of common soft soap, with a pint of fine salt added to ten gallons of warm water, syringed over the bushes, is also a good insect destroyer.

The cabbage moth has already made its appearance, and visits the young cabbage and cauliflower plants as soon as the plants are large enough to hold the eggs which produce the larvae called cabbage worms.

A capital remedy for these voracious fellows is that used by Quinn, of New Jersey. The mixture is:—One part carbolic powder; two parts fine superphosphate. Dust the plants once or twice a week when the dew is on the leaf.

WINDOW PLANTS.

Among all the winter-blooming plants the Fuchsias, "Speciosa" and "Serratifolia," are my chief pets. Often they will bloom continuously for months, and if their tastes are consulted and congenial food provided for them, they will be in flower from eight to ten months in the year.

A Calla Lily is always desirable, and if kept from freezing, will bloom two or three times during the winter; and its snowy white spathe is very ornamental to a stand of plants.

The prudent, "canny Scotchman" always thinks of laying up in store for a rainy day, though as yet the need of it may be unseen and distant.

It is surprising that so many families in the country are willing to live year after year without cultivating a single grape-vine about their dwellings.

GRAPES AND THEIR EASY CULTURE.

It is surprising that so many families in the country are willing to live year after year without cultivating a single grape-vine about their dwellings.

Any person of common intelligence can learn

in an hour how to trim and nourish vines; and if instruction cannot be obtained from some experienced cultivator, there are books filled with cuts and illustrations which make everything plain.

SUCCESS WITH FLOWER SEEDS.

If the following simple rules are attended to, success is almost certain in growing flowers from seeds.

1. The seeds should not be sowed until about the time of planting cucumbers and putting out tomatoes.

2. Cover the seeds with fine dirt, and only one quarter of an inch deep, as a general rule.

3. Shade the bed with a board, or in some other way. Sprinkle on water every day unless it rains, and keep the surface of the bed constantly moist until the plants come up.

It is not yet altogether too late for this item. It is true, almost all flower seeds have been sown, but it is not yet too late for some, and we like to have them come forward in succession.

Miscellaneous.

AID TO EMIGRANTS.

This being the season when emigrants of all races flow into the country, it behooves Municipal Councils to aid the Government officials as best they can in procuring homes and employment for the new comers.

If Canada extended to the Gulf of Mexico, she might command emigrants without an effort; but having a pushing neighbour at her elbow, she must compete energetically, or be habitually shunned by those who come to the New World for a home.

[In New Brunswick, the great complaint

is the scarcity of laborers. The Colonial Farmer, Fredericton, N.B., says that the directors of the Riviere du Loup Railway were informed by telegraph that 130 men had left the Shetland Islands for Glasgow, where they will embark for this province to work on the railway.

WE LEARN from a correspondent of the Toronto Globe that some of the manufacturers of Canada are likely to meet with a good market for the products of our country in the United States, notwithstanding the prohibitory duties they have to contend with.

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CARE OF ASHES.

No mortal living knows the amount of property which has been destroyed by carelessness in the care of ashes.

No mortal living knows the amount of property which has been destroyed by carelessness in the care of ashes. How often do we see newspaper accounts of fires, origin unknown, "supposed to be the work of an incendiary?"





**Agricultural and Arts Association.**

A meeting of the Council of the Agricultural and Arts Association of Ontario was held yesterday afternoon, in the Board Room, Agricultural Hall. The President, Mr. Stephen White, in the chair.

**THE APPROACHING EXHIBITION.**

Mr. Murton moved, seconded by Mr. Gibson, "That the President, Messrs. Rykert, Burns and Wilson, be a committee to proceed to Hamilton to confer with the local committee of that city as to the necessary accommodation for the successful carrying out of the Exhibition this year, with power to make the necessary arrangements." Carried.

Communications were read from the Secretary of the New York State Agricultural Society, with copies of the report of that Association for 1893.

From Mr. John Watson, of Ayr, declining to send a memorial asking for the abolition of prizes in the implement class.

Mr. Thompson explained the reason that Mr. Watson declined to send a memorial was that the letter he had previously sent, asking for the abolition of the prizes, was signed by himself as Secretary, and by the President of the meeting of manufacturers, who decided that the prizes should be done away with. After receiving the last communication from Mr. Watson, he (Mr. Thompson), sent circulars to the different implement manufacturers of the country, with a view to ascertaining whether they desired the prizes abolished or not. He received answers from about 40 manufacturers, of whom more than one-half were in favor of doing away with the prizes. The smaller manufacturers were in favor of continuing them.

From John Denis, of Newmarket, asking that a prize be given for the best barn to be erected on the fair ground.

From different parties making tenders for supplying furniture for the Board Room. From Thomas McLean, suggesting certain changes in the Poultry department. From Hugh Miller, presenting the Association with a beautiful solid silver cup, to be given as a prize for the best pair of fat cattle exhibited at the next Exhibition.

On motion of the Hon. David Christie, seconded by Mr. Graham, it was agreed that the thanks of the Association be conveyed to Mr. Miller for his gift.

**PRINTING.**

Mr. Thompson said that two tenders for the printing of the Association for the year had been received. One of them, which was from the *Globe* Printing Company, was much lower than the other.

On motion of Mr. Shipley, seconded by Mr. Murton, it was agreed to accept the tender of the *Globe* Printing Co.

**PRINCE OF WALES' PRIZE MONEY.**

Mr. Graham said that at the last meeting the President and he were appointed a committee to invest the Prince of Wales' prize money, amounting to about \$800. They had invested it in mortgages bearing interest at the rate of 8 per cent.

**THE PROVINCIAL EXHIBITION.**

The report of the executive committee was then taken up. It recommended that from the rules for the approaching Exhibition be omitted the following, which was among those of last year:—"In the classes of Horses and Cattle, all male animals above one year old, must have served in the Province one year previous to the Exhibition, or serve one year thereafter; that an extra man be employed in the fruit class on the Friday of the Exhibition week to prevent the removal of specimens; that the Prince of Wales' prize be given to the best flock of Cotswold sheep, which shall consist of one ram, one ram lamb, five ewes and five ewe lambs; that improved Berkshire pigs be placed first in the classes of pigs, and Yorkshire and other large breeds last; that dairy products, &c., be placed in the agricultural department, before the classes of fruit, &c.; that Mr. Hugh Miller's cup be given for the best pair of fat cattle of any age; that a class of three sections be made for Lincoln sheep, two prizes in each section; that no third prize be given for Shropshire, Hampshire and Oxfordshire Downs sheep; that no third prize be given for fine woolled sheep; that the pens of Cotswolds and the pens of Leicesters each consist of one ram, three ewes, and two ewe lambs; that the poultry be fed and cared for at the expense of the Association; that steam power and shafting be provided by the Association for the working of machinery on the grounds; that a separate class be made for wines, apart from the fruit class; that the words "not less than" and "not more than" be omitted from several sections in the collections of fruit; that two sections be made for collecting minerals, one for Ontario south of, and the other for Ontario north of Lake Nipissing; that the sum of \$1,000 be appropriated for the holding of two Provincial ploughing matches in the autumn after the

exhibition—one east and the other west of Hamilton—that rule 43 be amended, so as to read as follows:—"Any person who shall attempt to interfere with the judges while in the discharge of their duties, or who shall afterwards on the premises of the Association use any contemptuous or abusive language to any judge, in consequence of any award made by him, shall forfeit his right to any premium to which he may otherwise be entitled, and shall be excluded from exhibiting for one year thereafter." The committee would not recommend that the prizes for agricultural machinery and implements be done away with.

The above recommendations were all adopted by the Council, and some further alterations were made in the prize list.

**THE EXHIBITION BUILDINGS.**

Mr. Keys, the Superintendent, attended and gave information with respect to the exhibition buildings at Hamilton.

On motion of Rev. Dr. Burnett, it was resolved that if practicable the fruit, flowers, &c., shall be exhibited in a different building from the one the roots, &c., are to be shown in.

**PLOUGHING MATCHES.**

It was ordered that a notice be printed with the price list, setting forth that two ploughing matches will be held, one within twenty miles of Belleville, and the other within twenty miles of London, and that \$150 will be distributed in prizes at each.

In the course of the discussion that took place, it was suggested that the prizes be not fixed yet, as implement manufacturers might desire to offer some special prizes.

The President, Hon. David Christie, and Messrs. Wilson, Shipley, and Diamond, were appointed a committee to make arrangements for the matches.

The Council then adjourned until the evening, when they met again and appointed the judges.

to vote for those that are really interested in agriculture. Do not be afraid to ask them about the Technical College, Mimico Farm, or what farmer ever approved of the expenditures, and if such are intended for farmers or for fattening-pens for friends. Ask if they ever read or write about agriculture. A member of parliament to represent your interests should know what farmers are about—what they require. If they are only posted in political or legal proceedings, you need not expect they will look first after your interests. Ask your candidate if he takes any agricultural paper published in Canada.

Send more farmers and a less number of lawyers to the House. Farmers are wanted in Ottawa as well as in Toronto to guard the interests of farmers. Do not vote against a farmer if he is not quite as smart; do not be led so much by the hue-and-cry of Conservative or Reformer; vote for and return more farmers.

**Seeds.**

We hope our readers that have any of the new varieties of fall wheat will let us hear how it is succeeding—how it compares in their section with other wheats. Let us know from each of you that have the Forfar, Arnold or Scott wheats, or any other new varieties, if they are better, worse, or equal to the Deihl, Soules, or Treadwell. We hope to be able to examine some of your fields.

was committed to prison to await his trial for kidnaping Mr. Bratton.

The latest intelligence on the subject is that the gentleman kidnaped will be returned to London and the expenses paid. A. T. Ed.

**New Agr'l Paper in Michigan.**

A correspondent informs us that a stock company, with a capital of \$50,000, has been organized at Grand Haven for the purpose of publishing an agricultural paper. From accompanying remarks we suspect it is to run, at first, largely in the interest of the Northern Michigan Agricultural and Horticultural Society, with a strong "leaning against" the State Society. We have not the exact "run" of the antagonism that is reported to exist between these two organizations, but trust that it is not of that serious nature that will result in injury to both. We did hope that whatever might be the case in political newspapers, no such unworthy rivalry would be manifested in agricultural enterprises—a rivalry detrimental to the interest they profess to support. We learn that here, too, in this our Canada, similar projects are on foot. It is said a new agricultural paper in the interest of parties in high authority is about to be issued. This employment of government funds to compete with individual enterprise is surely to be deprecated. The work is being well done. Let well enough alone. Farmers! support the independent paper. Unbought, unbiased, and independent of party, we shall still be the FARMERS' ADVOCATE!

**WHAT SLEEP WILL CURE.**

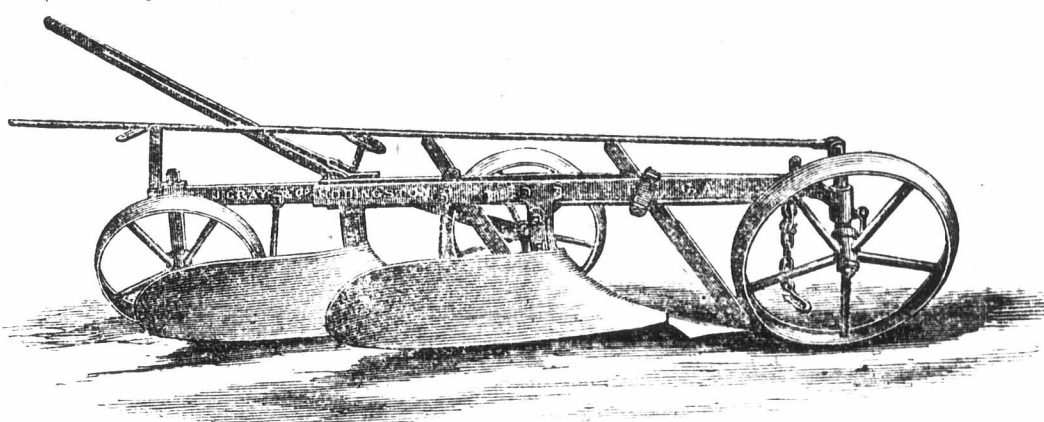
The cry for rest has always been louder than the cry for food. Not that it is more important, but it is often hardest to get. The rest comes from sound sleep. Of two men or women, otherwise equal, the one who sleeps the best will be the most moral, healthy and efficient.

Sleep will do much to cure irritability of the temper, peevishness and uneasiness. It will cure insanity. It will build up and make strong a weak body. It will do much to cure dyspepsia. It will relieve the languor and prostration felt by consumptives. It will cure the headache. It will cure neuralgia. It will cure a broken spirit. It will cure sorrow. Indeed, we might make a long list of nervous maladies that sleep will cure.

The cure of sleeplessness, however, is not so easy, particularly in those who carry grave responsibilities. The habit of sleeping well is one which, if broken up for any length of time, is not easily regained. Often a severe illness, treated by powerful drugs, so deranges the nervous system that sleep is sweet never after. Or perhaps long-continued watchfulness produces the same effect; or hard study, or too light exercises of the muscular system, or tea and whiskey drinking, and tobacco using. To break up the habit, are required:—1. A good, clear bed—2. Sufficient exercise to produce weariness and pleasant occupation—3. Plenty of good air and not too warm room—4. Freedom from too much care—5. A clear stomach—6. A clear conscience—7. Avoidance of stimulants and narcotics.

POSTAGE.—It is said that Prince Bismarck has in his head a scheme for reducing the postal arrangement of the leading countries of the world to one great, consistent system by means of international agreements. He proposes to have a grand meeting of representatives of different countries at Berlin, and to lay before them these propositions:—1. That all the states of Europe, Russia in Asia, Turkey in Asia, Canada, the United States and Algeria shall form a Postal Union. 2. That throughout this Union there shall be a uniform postal rate for letters of four cents per half ounce; and 3, that newspapers printed matter, patterns, etc., shall be conveyed for two cents per two ounces. 4. That to all countries not included in the Postal Union double the above rates shall be charged. 5. The uniform registration fee for all parts of the world shall be to 10 cents.

[We want a Bismarck in Canada. Only fancy 10c. from Windsor to Detroit—half a mile! Agricultural papers 1c. in advance! Often letters between Canada and the U.S. cost between one and two dollars. We have known \$2.90 to be paid!]



THE DOUBLE FURROW PLOUGH.

**The Double Furrow Plough.**

This implement is gradually becoming in demand. There have been but few of them as yet introduced into Canada, but they appear to be giving such satisfaction that a much larger importation has been made this season. Mr. W. Rennie, of Toronto, has just imported twenty-four. They are principally ordered for farmers in that vicinity. The object in the use of them is to do the work by one man that usually requires two. We do not yet know if the American Sulkey Plough has been tried in Canada. If any of our readers have one, we should like to hear from them about it.

**The Elections.**

Perhaps before another ADVOCATE arrives you may be in the midst of another turmoil about the elections for the House of Commons. Farmers! what is your duty? Is it to vote for the most plausible trained speaker, whose interests are in lumbering, railway jobbing, or a lawyer, or even a resident of a city? You may depend upon it that the city interests and all other interests will be closely guarded. There will, despite your vote, be enough of the former classes in Parliament to carry their point. Your duty should be to send more real farmers to the House if you wish agricultural interests to be guarded. In each section you have some young, energetic men that have common sense, and that is all that is wanted to make a good statesman. The polish, fluency, repartee and show all come by practice and by contact with others.

We do not tell you to vote for a Reformer or a Conservative; but we tell you

**Violation of International Law.**

A few days ago a gentleman arrived in London from North Carolina. He had, as has since transpired, come here in consequence of some troubles arising out of the late civil war in the United States. After being a few days in the city, he was enjoying an afternoon walk on Waterloo street, when suddenly two cabs appeared from opposite directions and stopped near him. Two men alighted from each, and one of them laid hold of the pedestrian. On his defending himself he was threatened with a bowie-knife. He was then thrown on the ground, and was apparently drugged with chloroform, hand-cuffed, thrust into the cab and driven rapidly to the Great Western Station, when he was put on the Pacific Express, and carried off to Detroit under the influence of chloroform.

When there he was duly arrested under a warrant, and imprisoned on the charge of having been implicated in the robbing of a post office in North Carolina. The charge was made by a U. S. detective who had traced him to London, and who was some days at the Tecumseh, betimes disguised in the garb of a clergyman. Mr. Bratton, the gentleman thus arrested, is a man of high character, and respectably connected. For six months it is said the detectives have been steadily on his trail. Such a high outrage could not be allowed to rest here. The Dominion authorities were apprised of the matter, and by their directions, Sir E. Thornton at once called upon the authorities at Washington. Meantime the circumstances attending the arrest were made the subject of enquiry before the city magistrates, and a legal official

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## Correspondence.

## SUGGESTED ITEMS.—NO. 4.

You copy an article from the Green Co., Wisconsin, *Republican*, drawing the attention of farmers to the last clause, it being not very flattering to them. Every tree is known by its fruit, and I suppose townspeople look at a farmer, when he comes to town to do business, as a dry fellow because he is intent on getting through his business to get home again to the place of love and happiness, and away from the tight-fisted, narrow-souled counter hoppers; they see his large hand spread out with honest work, and think he can't have any amusement; they see honesty imprinted on his face, on every feature, and because he cannot talk as fast as them, he is not social. But let our city friends come home with the farmer. As they draw near the farm they see young colts capering through the fields, lambs playing, green glades and grassy dells, where herds are grazing, where the breath of heaven is pure and free, sending life and health through every vein. Compare this to the theatre with its pestilential breath both for soul and body. I do not speak of the farmer's home at all; there is no use in comparing it. Everything about a farm and rural life gives health, wealth and happiness.

Rockton, April 16, 1872.

[We must apologize to "Horace." Our printer should have inserted his communication earlier. We regret to have to leave out part of his letter, as it is now too late for the valuable suggestions given. We hope it will not discourage Mr. H. from writing again, as we will do our utmost to satisfy our valued correspondent.]

## M'CARLING WHEAT.

SIR.—The McCarling Wheat I received from you has done very well. I only tried 14 lbs., and the yield was 7 bushels, all shown this year.

HENRY NOTT.  
Princeton, May 28th, 1872.

DEAR SIR,—Some time since a company of seed merchants, in one of the neighboring cities in Ontario, favored me with their seed catalogue and price list for the year 1872. It was a very extensive and neatly executed volume, with many illustrations, and I felt pleased to be the recipient of their kind favor. But of course they expected something in return; they expected that by publishing their seeds they would get them sold at remunerative prices. Amongst other things, they advertised to sell a certain kind of potatoes at certain prices, viz.:—per peck, \$1; per bushel, \$3. According to their own terms, I sent them one dollar, and ordered one peck of the potatoes, to be sent per express. Of course you will say they sent them on receipt of the price. Oh yes! in about ten or twelve days after, I received a package containing three potatoes, also a laconic note, which read thus:—"DEAR SIR,—We send 2 lbs. Bovina potatoes; our stock to sell by measure was exhausted fully six weeks ago. We hope they will meet your approval. Yours, &c., & Co."

Now, sir, do you think that any seed merchants would be justified in pursuing such a course as this? It is well-known that there are 60 pounds in a bushel of potatoes, and of course there should be fifteen pounds in a peck. These seed merchants offered, or advertised to sell, a bushel for \$3.00, and at the rate they charged me they would cost \$30.00 per bushel. Now, if they can gloss this transaction over so as to make it appear just and honest dealing, after receiving my money in advance, to cut me short thirteen pounds in a peck of potatoes, they must have an odd method of dealing with customers at a distance, and, contrary to their hope expressed, it does not meet with my approval. If, as they stated, their stock was exhausted, they might have condescended to communicate the same to me before sending me two-fifths of what I paid them for, and that poor, miserable, lame ex-

cuse for so doing. There would have been some show of honest dealing if they had written to me and stated the case as it was, and asked me what I would have instead of the potatoes for my \$1, or if I would take 2 lbs. of potatoes instead of 15 pounds for the same money. You have often cautioned the public, through the FARMERS' ADVOCATE, to beware of humbugs, and to send all orders for seeds through the Agricultural Emporium. Failing in this, I overstepped the bounds of prudence, and paid too dear for my whistle. By inserting the above you will greatly oblige the victim.

A SUBSCRIBER.

Maidstone, May 6, 1872.

[The writer of the above communication is, as he says, a subscriber; and as our rule is to give insertion to communications from subscribers to the ADVOCATE who give us their real names, we publish it. We hope he is under some misapprehension as to the true state of the matter he complains of. If the potatoes were sent by mail, the expense of sending them would be no little item in such an account. We cannot think that a respectable firm would act unfairly.]

## KIND WORDS.

SIR.—I have taken your paper the last four years, and like it very much; it is welcomed by all the family as a friend. I have been trying to get my neighbors to take it, but, sir, I happen to live in a neighborhood where they know so much about everything in general, and agriculture in particular, they don't want to know any more. Sir I asked one man if he would not like to take the ADVOCATE; he told me that he knew more about farming than all the fine writers put together; that he was brought up in England, where they did farming in style. Now, Sir, I consider this same man one of the worst farmers I ever saw. I wish, sir, you could see his farm, and if you did not think as I do about it, I would admit that I was mistaken.

JOHN MANNING.  
West McGillivray, June, 1872.

P. S.—I send you a subscription list of six new subscribers, with the cash enclosed.

J. M.

## MACHINE OIL.

SIR.—I herewith send a receipt that may, perhaps, be of value to some of your readers: An excellent machine oil can be made by taking one-third hog's lard and two-thirds coal oil, and mixing them together. It does not gum like many oils I have purchased, and is good for sawing machines, or, indeed any other machinery. By changing the proportions, it can be made thicker or thinner to suit the requirements. I have used this oil for some time, and found it superior to any other. I do not think this is known or used by others. I desire no patent on it. Anyone can make it.

THOS. FORFAR.

Waterdown, June 20, 1872.

We are always thankful to any of our subscribers who may furnish us with information that will be of service to the country. We think this receipt will be worth 10 times the price of the paper to many of our subscribers.

## IMPORTATION OF HOGS.

To Wm. Weld, Esq.

DEAR SIR,—At your request I have made some enquiries as to the quantity of hogs imported into Canada from the Western States during a few years past, and the effect that such import has had on the Canadian farmer. First, I have to observe that the quantity is not large, I may say, almost insignificant, and the effect may be generally described by the same language. I have no statistics for Toronto and Hamilton, but the quantity introduced to these cities will not very materially from London. The following represents what has been done here since July 1st, 1869, which has been supplied to me by the courtesy of Mr. Cameron, of the customs:—

Season of 1869	3854 hogs.
" " 1870	none
" " 1871	1938 hogs.
" " 1872	1497 hogs.

Total in four seasons ..... 7,289.

Now when you take into account that during the same period probably over 100,000 hogs have come into this market from Canadian

sources, you will see how very insignificant the above figures appear.

Well it may be replied, what about the future? May not the number be largely augmented? Notice the following considerations, and then form your own judgement. 1st. Why were these imported at all? Not, I reply, that they were better, or cheaper, but avowedly to bring down the Canadian market. Did it do so? Not at all, at all events not to any perceptible degree, and the parties who tried the experiment are not likely to repeat it. 2nd. My certain knowledge it resulted in nothing but disappointment and great loss. The importers, as a matter of fact, could have done better here, both in quality and price. 3rd. Except in extraordinary seasons it will never pay, and even then. 4th. Supposing that there is a large margin in favour of the importer, it would be far better for him either to buy the product in the western markets, or pack there himself.

This arises from the fact that while he has a heavy freight to pay to bring his live hogs to London, he can save this by packing out west, as the through freight to English markets is much about the same from Chicago as from London, though the distance be much greater. Thanks to railway competition for this.

I don't know that I need add anything further than that it might be desirable to require any Canadian packers to put on the American product, an American brand, as it is a fact beyond dispute that our Canadian meat is superior to what western is, or can be, and this applies especially to our London meat, which takes by far the highest position in the market. There is, however, much to be said and done on the general question of breeding, raising, fattening, killing and curing of hogs and hogs' product, that demands the attention, the prompt and earnest attention and action of Canadian farmers. Let Canadian farmers not trouble themselves about outside protection. Through you, to the farmers, I would say, with all the emphasis at my command, *farmers protect yourselves*. If you desire it, I will take up this general subject, into which I cannot now enter, and in meantime, I am yours respectfully,

JOHN JEPSON.

London, May 30th, 1872.

We thank Mr. Jepson for his kindness in furnishing us with the information and his opinion, as no one in this city is better posted in regard to the business. We may differ with him in some respects.

The facts are these—Canadian pork is worth from 50c. to \$2 per 100 more than the American pork in the European markets.

It appears to us that the Americans being desirous of obtaining an advanced price on their pork, commenced the dodge of importing it here in a live state, slaughtering it, and sending it out as Canadian pork. This, if allowed to continue, would increase, and act injuriously towards Canadian productions. One dollar per hundred would amount to a large sum if the quantity of pork we raise is taken into consideration, and too much for the Canadian farmers to lose to suit the Americans.

The principal importation into this city was made during the summer of 1869, and we then wrote against it. The parties who first commenced the operation ceased the following year, but from what we have privately heard, we fear that it is contemplated to extend this American importation to a greater extent. We believe, if it is allowed to continue, that it will injure the price of Canadian pork both in Canada and in Europe.

We would repeat that it is necessary to guard against what is undeniably an inferior article from being passed into the markets of Britain as a Canadian production. It would lower the standard our Canadian pork has so justly attained.

## CATERPILLARS AND FRUIT.

To the Editor of the Farmer's Advocate.

SIR,—In taking a drive last week I saw an unusual number of caterpillars' nests forming in the fruit trees. I thought I would just say how they can be easily exterminated. Take a light pole sufficiently long to enable you to reach the highest branches; drive two single nails through near the end at right angles; let the head and point be out half an inch; close to them wind rags to make a swab; dip

the swab in strong lye; put the point of the pole in the nest, turning it two or three times; the nails will catch the web, fetching it all away; the lye will kill the worm instantly without injury to the tree.

Yours, &c., JOSEPH PIERSON.  
Hillin Co., Prince Edward, May 28, 1872.

The last two valuable communications were received after our June number went to press, and as they are of importance, we issued a Supplement, as a Committee on Agriculture was sitting at Ottawa.

## TEN YEARS IN BEE-KEEPING.

SIR,—To instruct new beginners in managing bees, my experience, perhaps, might be of some service, having been accustomed to bees all my life. In the old way of managing in box hives and hollow trees, taken from the woods, mysterious things would take place sometimes among the bees, which could not be accounted for. I recollect, many years ago, nearly all the bees in the country died in the winter, and no cause could be found, while those in the forests sent off swarms which stocked those having no bees. About twenty years ago, a swarm came under my management, which doubled itself yearly without any difficulty, and a late swarm or two to take up, Beekeeping was very pleasant in those days especially in swarming time, when the horn would blow, and all hands would drop work, to rattle tin pans and cow bells, but those days have passed. Ten years ago it was my lot to be presented with a late swarm of bees, the hive being made during the time bees would hang on a tree; this stock contained about ten beehives square of comb and bees; they were removed about sixty miles, by inverting the hive and enclosing the bees, leaving openings for air. It being March, the travelling was rough; on being opened they were fed with sticks of candy, and brought through safely; the hive being small, it swarmed in due time; a good hive was ready for them, placed inside and out. I doubled my stock every year, and got surplus honey enough to supply the wants of an ordinary family. The only difficulty I found was the fleet closing up the openings, and occasionally a queenless stock; to remedy this, better hives were required; frame hives were thought to be needless, and improved beehives were studied up; a slanting bottom board, with openings to admit air, was adopted; but an opening in the bottom of the hive was found to be against comb-building in cool weather. The introduction of Italian bees made frame hives a necessity; but patent hives are to be avoided. This caused ingenious minds to study the requirements of bees and their operations. Many devices were tried, and many points gained; but, to build a hive adapted to the bees and convenient to operate, is not the work of a day. But the time having arrived, and the plans being matured, the work commenced, and a hive was completed, with the point not yet dry, and the bees introduced, which proved a success. But it was without a name; why not have a name and a patent for the hive? Surely no man would attempt to send out an improvement without protection; it is true, some obtain patents, and add their own improvements afterwards. This the public must judge; thorough understanding of the article in question is the only criterion to go by. Patenting has been the great test in bee-hives; many hives work very well in the shop where they are built, but take them at actual work, year after year, in all conditions, it is then you will find a bee-hive is not always a live fit for use. To go back to the first Italian queen-cell introduced in the draw-frame makes me shudder with fear for my young queen. If she should be killed, what a loss! But good fortune crowns our first efforts; the scale turns, and, alas! the deed is done, and our queen is gone after many weeks' anxiety. But try again; practice makes perfect. The queen-cell was introduced, and hatched under all conditions, and the hives removed to apiaries, where the Italian drones were kept for the purpose of meeting on their bridal tour. To satisfy curiosity, a queen was imported from New York, bred from queens direct from Italy; she arrived by express on the 17th of June, 1871, in good order and good charges, several companies having the honor of handling her, and fifteen per cent duty added to the first cost, making my queen one to be respected. I placed her over a stock intended to be divided when she might get scented, and on Monday, the 19th, preparations for the work being made, putting on veil and mitts, after smoking lightly, four frames were taken with young bees adhering, allowing

old ones to go off were added, making my hive, which purpose, the queen among the young of honey a day, I had three eggs deposited in three weeks of the transparent, several cards of comb in ing stock, and larvae to pass the queen-cells. I past winter has remembered. fit to go into with the only ones must die months, and nearly every year.

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We are indebted, for the second), giving factory account the Pleasant

SIR.—The Pleasant Ridge Saturday evening House, which President, oc

After the were read and discuss the quing Fay? A by saying the following was cleaning the s. Where labor good crops w horse, and every year. from summer idle for a year the increased lay. The mo knew always and generally Mr. R. A land would tillage, but n ing. Some keeping clear but he had al had been pl wheat usual the land is cl

Mr. S. F. soils require blue grass ever becomes sand it grows plowing. N couch grass erished nothing for the gro following cla the land is w winter-kills. winter beat ered with am became too f 5 bushels pe alongside, 8 bushels per Mr. C. I summer fall effectual me weeds and often missed it was choic summer by a ful the lan crops. If t blue grass, well on clov

Mr. T. M. unless the ing under very good killed weeds. By exposin sun, air an plant life, w soil, are m following al ture much wheat is to ed up too fi

Mr. L. urri lowing on l that the so crop. The hood crop v difference, good crop

old ones to go on the wing; two more cards were added, making a small stock; contracting my hive, which is specially designed for the purpose, the queen being placed on the combs among the young bees, and touched with a drop of honey and closed up. On the third day, I had the satisfaction of finding her eggs deposited in the centre of the hive; in three weeks the young bees made their appearance, of the real shammy color, almost transparent, several queens were raised from cards of comb in the larvæ state; after dividing stock, and giving them four days for the larvæ to pass the stage of being formed into queen-cells. Divide bees with caution; the past winter has taught us a lesson long to be remembered. None but strange stocks are fit to go into winter quarters; young bees are the only ones that can survive the winter; old ones must die, seldom living over eight months, and unless young bees are bred nearly every month in the year, the stock must go down.

PLEASANT RIDGE FARMERS' CLUB MEETING.

We are indebted to Mr. Brunton, Secretary, for the following letter (which is the second), giving a very pleasing and satisfactory account of the second meeting of the Pleasant Ridge Farmers' Club:

Pleasant Ridge, June 3.  
 Sir,—The second monthly meeting of the Pleasant Ridge Farmers' Club took place last Saturday evening, in the Pleasant Ridge School House, which was well filled. Mr. G. Terhune, President, occupied the chair.

After the minutes of the previous meeting were read and passed, the Club proceeded to discuss the question, "Does Summer Following Pay?" Mr. Terhune opened the discussion by saying that when land was foul, summer following was the only practicable method of cleaning the soil open to the Canadian farmer. Where labor was less expensive than it is here, hoed crops would doubtless answer the same purpose, and enable the farmer to raise a crop every year. The only disadvantage resulting from summer following, was that the land lay idle for a year; but he had always found that the increased yield compensated for the outlay. The most successful wheat-grower he ever knew always summer followed for fall wheat, and generally plowed four times.

Mr. R. A. Chatterton thought that some land would produce wheat with very little tillage, but most soil required thorough working. Some recommended once plowing and keeping clean afterwards with the cultivator; but he had always succeeded best when the land had been plowed at least three times. Fall wheat usually grows very well on clover sod if the land is clean—also after beans and peas.

Mr. S. Fairchild had found that different soils required different treatment. On clay soils blue grass when plowed under scarcely ever becomes troublesome the first year, but on sand it grows up almost immediately after plowing. Nothing but summer following will couch grass on any soil. If the land is impoverished nothing but manuring will render it fit for the growth of fall wheat. In summer following clay soil, it sometimes happens that the land is worked up too fine, and the wheat winter-kills. Fall wheat always withstands the winter best when the surface of the soil is covered with small lumps. He had summer followed a piece of clay land a few years ago, which became too fine and winter-killed, yielding only 3 bushels per acre; while a piece of wheat alongside, sown on pea stubble, yielded 30 bushels per acre.

Mr. C. Ballachy was of the opinion that summer following was the cheapest and most effectual method of ridding the soil of noxious weeds and grasses. One reason why we so often missed a "catch" of clover was because it was choked down in the early part of the summer by grass. If laborers were more plentiful the land could be kept clean with hoed crops. If the land was free from couch and blue grass, fall wheat usually succeeded very well on clover sod.

Mr. T. Muirhead had always observed that unless the land was perfectly clean, plowing under clover sod was not attended with very good results. Summer following not only killed weeds and grass, but it enriched the soil. By exposing the land to the action of the sun, air and frost, many of the elements of plant life, which before were locked up in the soil, are made available as plant food. Summer following also enables the land to retain moisture much longer in a dry season. If the wheat is to be drilled, the soil cannot be worked up too fine.

Mr. Turner did not believe in summer following on light land. He had always found that the soil would be cleaned with a hoed crop. The expense might be greater, but the hoed crop would more than counterbalance the difference. He had always found that a good crop of clover plowed down was better

than either barnyard manure or summer following.

Mr. McIntyre thought the reason why we raised smaller crops of fall wheat now than formerly was because we paid less attention to the preparation of the soil. Gravelly land must be summer followed in order to make the growth of fall wheat a paying business.

Mr. S. Chatterton remarked that he had been highly delighted and agreeably entertained by the speeches of the preceding members. He had always found that the grand secret in raising wheat was to get the material into the soil. A few years ago the midge reduced the yield of wheat so much that summer following scarcely paid. Now that when the pest had left us—he hoped for all time to come—he would advocate green, not bare fallows. He would recommend that the land should be plowed in the fall, cultivated two or three times in the spring, and harrowed well, and sown with Hungarian grass, millet, buckwheat, or anything which would produce good manure when plowed down in the fall. Great care must be taken to have the land thoroughly clean before seeding it down with clover.

At the close of Mr. Chatterton's speech it was decided that the question for discussion on the first Saturday evening in July should be, "Would a protective tariff benefit the farmers of Canada?"

Sir,—Having had the pleasure of being present at the debate of the Pleasant Ridge Farmers' Club, on Saturday evening last, on the subject—"Does Summer Following Pay," it leaves me in a position to give a brief account of the proceedings of the meeting. Pursuant to notice through your columns, there assembled a large number of farmers of that and surrounding vicinity, and at the appointed hour of 8 p.m., the President, Mr. G. Terhune, took the chair, and called the meeting to order, after making a few introductory remarks, calling in rotation on the following able and talented speakers:—Messrs R. and S. Chatterton, Ballachy, Muirhead, Brunton, Fairchild, and others, who expressed themselves in favor of summer following, and each thought it not only proved a benefit to the land but also added to the purse. It was decided by the President that summer following did pay. The farmers in that locality are setting forth a good example in this respect, and I am thoroughly convinced that it would prove a great benefit to the agricultural interests of Canada if such organizations were established in every school section throughout the Dominion. A VISITOR.

[We thank the Secretary of the North Norwich Farmers' Club for his valuable communication with the President's address. We are sorry to defer the publishing of the latter till next month, as we have nearly sufficient copy in the hands of the printers, being more than usually hurried this month, from many of the hands in the printing office being called on to go into camp.]

HOUSEHOLD RECEIPTS.

1. When warming cold baked potatoes in the oven, set a dish of water under them, so that the steam may keep them from getting too dry.

2. In making rhubarb pie, if it is likely to be too juicy, sprinkle a little flour over the rhubarb, in the pie, just before putting on the top crust.

SIR,—If you think the above worth inserting in your paper, put them in, but if they are too simple, say nothing about them, and I won't. A HOUSEKEEPER'S HUSBAND. Storrington, June 4th, 1872.

Hygiene.

IMPURE WATER IN NEW WELLS.

Many cases of impure water in new wells are caused by dissolving impurities from the stones used to wall them. Wells are often abandoned, the water becoming so fetid that no animal, however thirsty, would drink it. When such is the case, remove all water from the well, and clean the bottom from mud or other impurities. The second filling of water will be much better, and if the process be repeated a number of times, unless the impure water flows directly from the earth, it will become as wholesome to drink as from wells not thus previously infected. Should it be necessary to dig through a stratum of soil containing partly decayed vegetable matter or blue clay, the water of said well will taste offensive for some time; but unless the case is an extraordinary one; the thorough cleaning of the well a number of times will ultimately render it pure and wholesome. In walling a well, reject all stone of a porous nature, such as sandstone, for it is from such that the evil alluded to often has its origin; also, entirely exclude surface water from the well. The water is always of better taste when the bottom of the well is of rock foundation, and to

have it thus, the cost of digging a few feet deeper is of minor importance.

HYDROPHOBIA.—A correspondent of the Chicago Tribune states that the poison from the bite of a mad dog can be eliminated from the system by vapor baths. He quotes from an article printed in a Paris medical journal by Dr. Buisson, a celebrated French surgeon, who says: "If the disorder has declared itself, I prescribe a single bath, and leave the patient in until a cure is effected. Hydrophobia may last three days. Experience has proved to me that a cure is certain on the first day of the outbreak; on the second day doubtful; on the third, hopeless, on account of the difficulty of conveying the patient to the bath and keeping him in. And as hydrophobia never breaks out before the seventh day, there is time to perform a long journey to obtain a bath."

MILK AS A REMEDIAL AGENT.

Considerable has lately been said in medical journals concerning the value of milk as a remedial agent in certain diseases. We notice an interesting article upon this subject that lately appeared in the London Milk Journal in which it is stated, on the authority of Dr. Benjamin Clark, that in the East Indies, warm milk is used to a great extent as a specific for diarrhoea. A pint every four hours will check the most violent diarrhoea, stomach ache, incipient cholera and dysentery. The milk should never be boiled, but only heated sufficiently to be agreeably warm, not too hot to drink. Milk which has been boiled is unfit for use.

This writer gives several instances to show the value of this simple substance in arresting this disease, among which is the following.—He says: "It has never failed in curing me in six or twelve hours, and I have tried it, I should think, fifty times. I have also given it to a dying man who had been subject to dysentery eight months, latterly accompanied by one continual diarrhoea, and it acted on him like a charm. In two days his diarrhoea was gone, in three weeks he became a hale, fat man, and now nothing that may hereafter occur will ever shake his faith in hot milk."

A writer also communicates to the Medical Times and Gazette a statement of the value of milk in twenty-six cases of typhoid fever, in every one of which its great value was apparent. It checks diarrhoea, and nourishes and cools the body. People suffering from disease require food quite as much as those in health, and much more so in certain diseases where there is rapid waste of the system. Frequently all ordinary food in certain diseases is rejected by the stomach, and even leached by the patient; but nature, ever beneficent, has furnished a food that in all diseases is beneficial—in some, directly curative. Such food is milk.

The writer in the journal last quoted, Dr. Alexander Yale, after giving particular observations upon the points above mentioned, viz. its action in checking diarrhoea, its nourishing properties, and its action in cooling the body, says: "We believe that milk nourishes in fever, promotes sleep, wards off delirium, and, in fine, is the *sine qua non* in typhoid fever."

We have also lately tested the value of milk in scarlet fever, and learn that it is now recommended by the medical faculty in all cases of this often distressing children's disease.—Give all the milk the patient will take; even during the period of the greatest fever, it keeps up the strength of the patient, acts well upon the stomach, and in every way is a blessed thing in this sickness. Parents, remember it, and do not fear to give it if your dear ones are afflicted with this disease.—The Household.

DO NOT WORK THE BOYS TOO HARD.—Ever since boys were, men were inclined to abuse them. And the better the boy and the worse the man, the more likely is the boy to be "put upon." The poorest tools are given to him and the most disagreeable work. Did you ever know an average man who selected the hardest cows to milk and give the boy the easiest? Did you ever know a man who would go for water and let the boy sit down and rest in the field while he was gone?

TAKE CARE OF YOUR HEALTH.—Few people realize what health is worth until they lose it. It is easier to prevent disease than to cure it. The character of our farming is undergoing great changes. We are using more machinery, keeping better stock, raising choicer varieties of fruit, grains, potatoes, roots, and grasses; are buying more or making better manure.—Now, all this requires brains. We are aware that there is a great deal of nonsense written

on this subject. But it is undoubtedly a fact that a man cannot long use his brain as an intelligent, enterprising American farmer is now compelled to do, and work and worry at the same time, without abundance of nutritious food. If he undertakes to do it on fat pork, potatoes, bread and cake, his health will certainly give way in time. The American farmer of to-day needs and must have more fresh meat. Better patronize the butcher than the doctor; better sell fewer eggs and buy less medicine. We have heard a farmer say: "Food that is good enough for my men is good enough for me." He may have been right; but the farmer who *thinks*, and works too, needs better food and cooking than he who merely works with his hands.

FLOWERS AS DISINFECTANTS.

Lovers of the beautiful, as manifested in the flower kingdom, will be happy at hearing that flowers, instead of being unhealthy in rooms, are, on the contrary, disinfectants in disease. Professor Mantegazzo has discovered that ozone is developed by certain odoriferous flowers. A writer in our clever contemporary, "Nature," states that most of the strong smelling vegetable essences, such as mint, clover, lavender, lemon and cherry laurels, develop a very large quantity of ozone when in contact with atmospheric oxygen in light. Flowers destitute of perfume do not develop it, and generally the amount of ozone seems to be in proportion to the strength of the perfume emanated. Professor Mantegazzo recommends that in marshy districts, and in places infested with noxious exhalations, strong-smelling flowers should be planted around the house, in order that the ozone emitted from them may exert its power. So pleasant a plan for making a malarious district salubrious only requires to be put in practice.

LOOK TO YOUR CELLARS.

It is said that the summer of 1872 will be greatly productive of epidemic diseases, and that the cholera will invade many of us from all sides. Now, it is a practice of many farmers in the Northern States to bank up their cellars tightly in the autumn, leaving no ventilation and no chance for the effluvia arising from decaying vegetables to escape, excepting through the cracks in the rooms above. Is it any wonder that scarlet fever, diphtheria, measles and small-pox prevail where such is the practice? If the children are sick and die, do not call it a dispensation of Providence, or lay the blame upon the cold winter, but look to the cellar, whence the trouble springs. If there are rotten fruit, bins of decayed potatoes, turnips, cabbages, musty barrels, and all manner of disagreeable odors, do not forget that they breed disease, and do not wonder whence the scarlet fever and measles come from; but set to work and route out all the foulness which lies under your feet.

Take the barrels out of doors; wash them and let them dry; bury in the barnyard all decaying vegetable matter. Look to the pork and the beef barrels; keep them sweet and clean. Commence the work in the morning, when the sun shines warm and bright; remove all the banking, take out the windows, throw open the hatchway, and let the fresh air blow through every part. Carry out every box barrel, and movable thing, and sweep the bottom thoroughly; and not only the bottom, but the sides and the rafters. Do you think they are clean? The foul air, the lightest air, is settled there, pressing its way upwards into our rooms, and sowing the seeds of diphtheria and typhoid pneumonia and fevers of all kinds. So take a thick broom and scrub down every part; give the sides a similar treatment, and clean the whole cellar thoroughly; do not leave one sprouting potato or onion; all the vegetables are better in the barn than in the cellar now. To be sure, it is not easy work, but neither is it easy to watch by the sick bed, to see our loved ones suffer, to have no rest night or day, and finally to robe them for the grave. Science teaches us that we sow the



Great Western Railway.

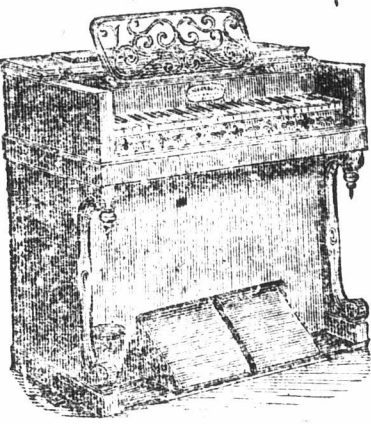
Trains leave London as follows:— GOING WEST.—12.50 p. m.: 5.25 p. m.: 2.45 a. m.: and 5.45 a. m. GOING EAST.—6.00 a. m.: 8.40 a. m.: 12.35 p. m.: 3.55 p. m.: and 11.25 p. m.

Grand Trunk Railway

Mail Train for Toronto, &c., 7.30 a. m.; Day Express for Sarnia, Detroit and Toronto, 11.25 a. m.; Accommodation for St. Mary's, 2.45 p. m.

Emporium Price List for July.

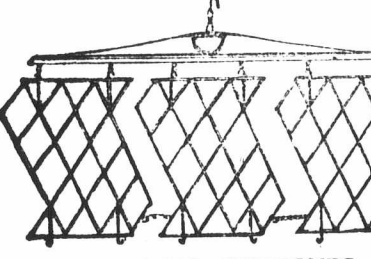
Carter's Patent Improved Ditching Machine. Carter's Patent Improved Tine Machine. Patent Stamp Extra tors. \$50, \$75, \$100. Billington's New Empire Nine Rowed Seed Drill, \$70. Two Rowed Turnip Drill, with rollers, \$16. One Rowed do do do do \$10. Improved Drills, for small seeds, \$5 to \$7. Patent American Horse Cultivator, \$10. do do do do with plow attachment, \$16.50. Patent American Garden Cultivator, \$7.50. White's Improved Cultivator, \$12. do do do do with mould boards, \$14. Little Giant Thresher, \$185. Forfar's new Churn, Pride of the Dairy, \$4.50. Churns, other varieties. Improved Grain Crushers, \$30, \$35, \$40. Maple Leaf and other Ploughs, from \$16. Double Mould Board Plough, \$35.50. Walmsley's Patent Potato Digger, \$18. Iron Harrows, from \$18 to \$24. Chaff Cutters on the most approved principles, from \$16 to \$50. Gardiner's Root Cutters, from \$25. Cider Presses, single rear \$30, double gear \$34. Losse's Patent Bee Hives. Grant's Patent Excelsior Hay Forks, with three pulleys, \$12. Jones' Amalgam Bells, for schools, churches, farms, &c., from \$10. Matheson's Patent Washing Machine, \$10. Improved Clothes Wringer, with indian rubber rollers, \$8. Taylor's Patent Burglar and Fire Proof Safes, from \$35. Taylor's Sulky Horse Rakes, \$35. The best-made common Sulky Rakes, \$30. Fraser's Hay Car, \$9—the best appliance for carrying hay in the mow and in the barn. Lamb's Patent Knitting Machine, \$53. Lockman's Patent Sewing Machine, \$30 and \$35. Gardner's Patent Sewing Machine, \$30 and \$35. Gates' Patent Sewing Machine, \$35. Excelsior Lawn Mower. This machine is the easiest to work of any made; it took first prize at Western Fair. Simpson's Cattle Spice.



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At Western Fair, London. Diploma and First Prize for best Melodeon and Cabinet Organ of any kind. At Great Central Fair, Hamilton. Diploma and all the First Prizes. At Central Exhibition, Guelph. A Diploma for General Excellence, and 3 First Prizes out of 4 for Music.



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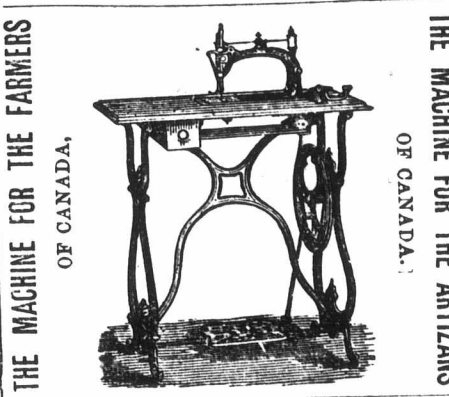
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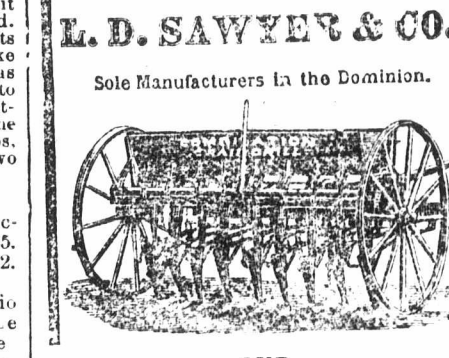
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FOR SALE, THE THOROUGHBRED JERSEY BULL DANIEL, 3 years old, high yielder, awarded Provincial Fair last year. Price \$150—Apply to J. H. WILSON, 205 YONGE ST., TORONTO.

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THIS CHURN carried off First Prizes at Hamilton, Guelph and Milton, in 1871, competing against the Churn that took the First Prize at Kingston. It has an improved dash, and a cup on the staff to carry air into the cream, and will produce butter much sooner and easier than the common Churn. Township Rights for this and the Second Prize Churn will be sold at Ten Dollars per Township, on application, or shipped to any R.R. Station in Ontario on receipt of 4.50 each, until territory is sold; also the Right of the IMPROVED ROOT CUTTER at Ten Dollars per township. It cuts 1 1/2 bushels per minute. Apply to T. FORFAR, Waterdown, Ont. The above Churn may be seen at the Agricultural Emporium, London. April, 1872.

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COCK GRASS. The worst pests that a farmer has, I think, but where they are used more sparingly. I have contended with them in Canada and the writers say that they will be as it can be destroyed such as corn, potatoes are as thick as it is in Western New York grass is as follows, plowing is over, plow the field, about 10 and then harrow the field four times over with a steel wiretooth harrow. You will be surprised when you are pulled out by a cock grass seed. ere a field has been re is any quack grass seed only about four inches; this is why I plow deeper the first time, gather them to plow the field again, operation as at first, r every plowing, and will not be as abundant. The Plowman 700 cubic feet make a quarter m. re. At y 400 feet make a 500. As a general n a mow will weigh n as one the editor estimating weight.— dth, and height to- ards. If the latter, rids, and divide the he quotient will be e mow, if it is well russy to your ani- It is held that rust us blood poison; it es the blood, reduces al, takes away the door for cold, skin evers. It is fit on y director of the East has sold a quantity er pound, when, so e highest price paid e made daily at this

Table with 2 columns: bush, \$1 25 to 1 30, 1 20 to 1 25, 1 32 to 1 37, 0 40 to 0 45, 0 55 to 0 58, 0 30 to 0 32, 0 55 to 0 58

NORTH-WEST TERRITORIES. AFTER the 25th of June next emigrants will be sent to Fort Garry at the following rates:— TORONTO TO FORT WILLIAM. Adults, \$5; Children under 12 years, \$2.50; 150 lbs. personal baggage free. Extra luggage, 3 cents per 100 lbs. FORT WILLIAM TO FORT GARRY. Emigrants, \$15; Children under 12 years, \$8; 150 lbs. personal baggage free. Extra luggage, 3¢ per 100 lbs. (No horses, oxen, wagons, or heavy farming implements can be taken.) THE MODE OF CONVEYANCE. By Railroad from Toronto to Collingwood or Sarnia. By Steamer from Collingwood or Sarnia to Fort William. 45 miles by wagon from Fort William to Shebandowan Lake. 30 miles broken navigation in open boats, from Shebandowan Lake to the North-West Angle of the Lake of the Woods. 95 miles by Cart or Wagon from North-West Angle Lake of the Woods to Fort Garry. Between Fort William and Fort Garry, huts and tents will be provided for the accommodation of Emigrants on the Portages. Passengers should take their own supplies. Provisions will, however, be furnished at cost prices at Shebandowan Lake. Fort Frances and the North-West Angle, Lake of the Woods.

THROUGH TICKETS TO FORT GARRY VIA FORT WILLIAM. Can be had at Toronto, at the stations of the Northern, Great Western and Grand Trunk Railways. Emigrants are requested to take notice that packages are limited to 150 lbs. weight for convenience of transport on the portages, and that baggage and supplies must not exceed 450 lbs. for any one emigrant. After the 1st day of August next the Riv. River Route will be in a condition to admit of the transport of heavy articles. By direction, F. BRAUN, Secretary.

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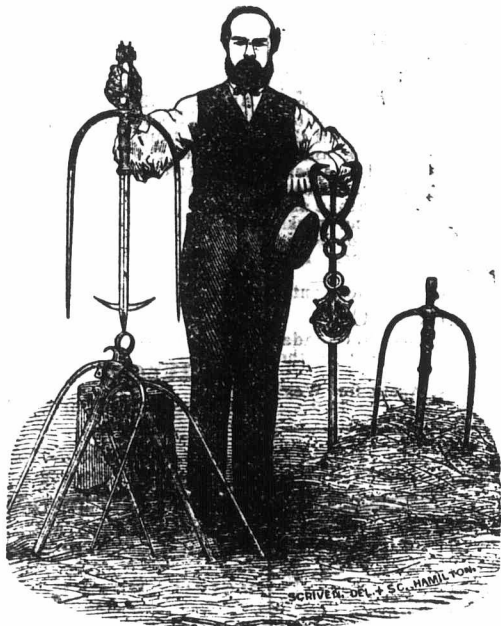
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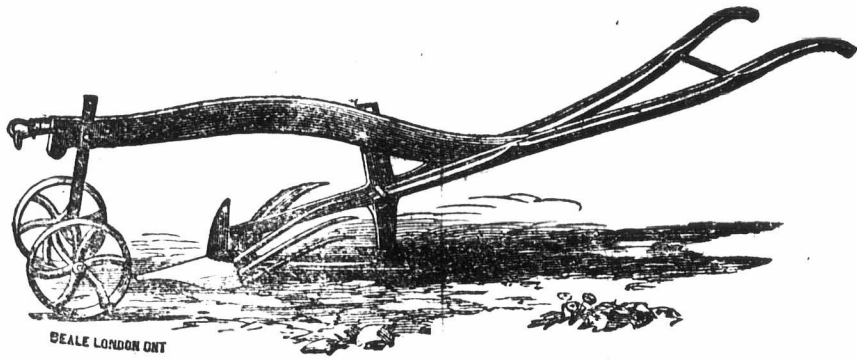
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MY IMPROVEMENTS on this IMPLEMENT make it really EFFICIENT and VALUABLE, and without which it never was of much service.—References kindly permitted to, and particulars in regard to the operation and general efficiency of my Improvement obtained from, W. WELD, at the "Canadian Agricultural Emporium," who has fully tested the Improvement.

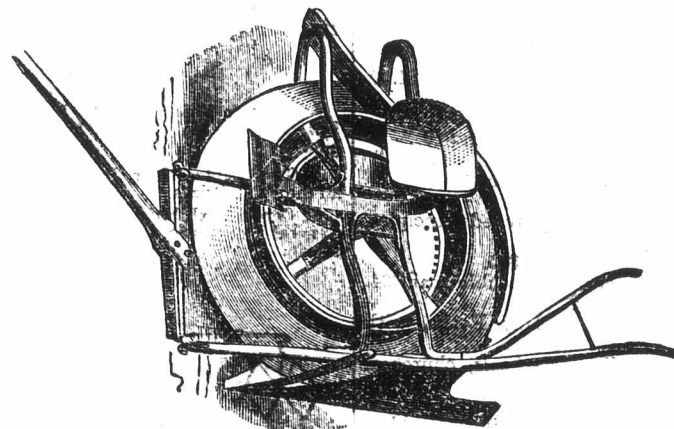
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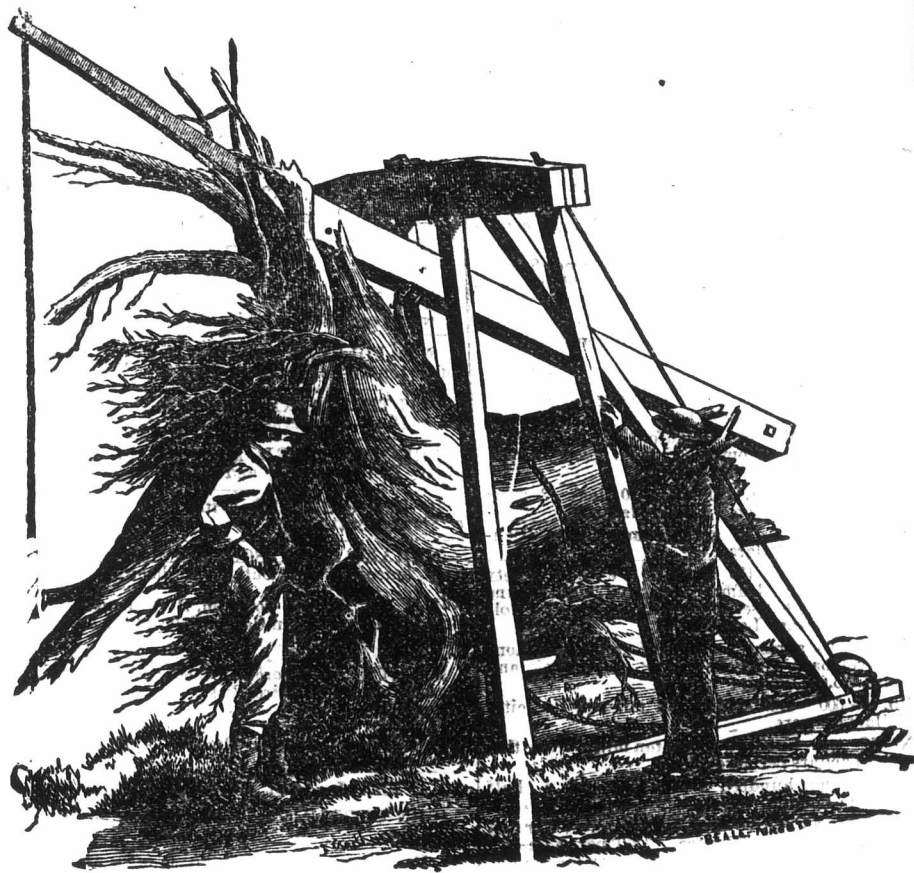
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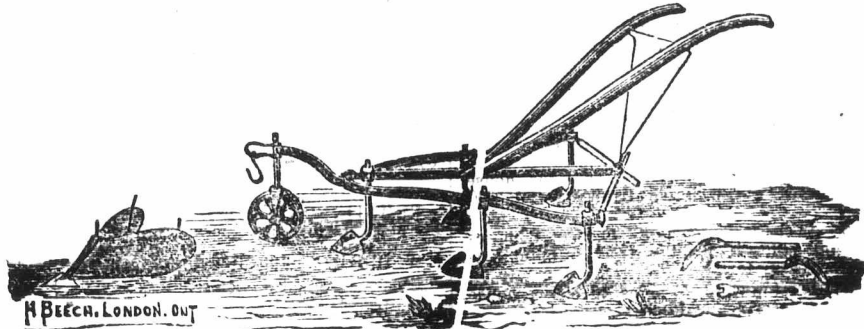
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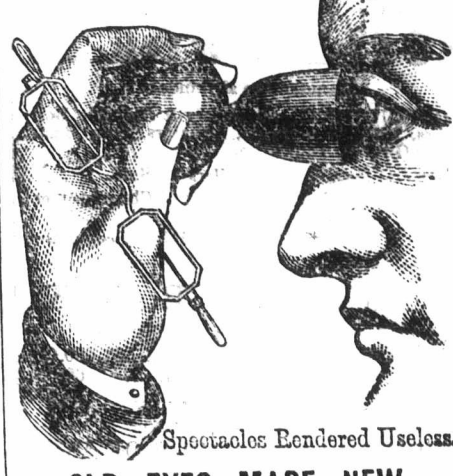
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- No. 2—Township of Sombra, 100 acres, 3 1-2 miles from Wilkesport. 800 dollars.
- No. 3—Township of Sombra, 200 acres, 14 miles from Sarnia, well timbered. 1,600 dollars.
- No. 4—Westminster, 100 acres, 8 miles from the city, 80 acres cleared, good fruit section. 3,800 dol.
- No. 5—West Zorra, 50 acres, very snug place, 6 miles from Woodstock, good land, every convenience. 2,400 dollars.
- No. 6—Bayham, 121 acres, 95 cleared, 8 miles from Tilsonburg Station, excellent buildings, well watered. 3,500 dollars.
- No. 7—Lobo, 50 acres, 45 clear, brick house cost \$1,350. Good land and every convenience. 3,000 dollars.
- No. 8—London Township, 50 acres, 6 miles from city on gravel road, 35 acres cleared, good land and conveniences. 2,200 dollars.
- No. 9—Township of Blandford, Co. of Oxford, 400 acres, 6 miles from Woodstock, good water. 12 dollars per acre.
- No. 10—Euphemia, 100 acres, 70 clear, 3 miles from Newbury Station. 1,000 dollars.
- No. 11—Glencoe, 100 acres, 4 miles from Glencoe; price, 1.00 dollar.
- No. 12—Nissouri, 100 acres, 70 cleared; plenty of cut timber; clay loam; creek and well; young orchard; frame house, etc.; clear deed. 3,700 dollars; 10 miles from London.
- No. 13—00 acres, 7 and a half miles from London gravel road; good clay loam; well, creek, and orchard. 5,000 dollars.
- No. 14—600 acres within ten miles of this city. 25 dollars per acre.
- No. 15—two hundred acres, ten miles from this city. 80 dollars per acre.
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- No. 19—Metcalfe, 220 acres, 180 clear; frame house, barn, sheds, splendid orchard; brick Cheese Factory; light clay land; hard wood. 21 miles from Strathroy. \$10,000. Easy terms.
- No. 20—London, 100 acres, 70 clear; hard wood; frame house and barn; orchard; spring creek; clay loam; 4 miles from city limits, near gravel road; 3000 dollars.
- No. 21—North Dorchester, 100 acres, 60 improved; house, barn, root-house; on gravel road, 10 miles from London; 3550 dollars.
- No. 22—London Gore, 50 acres, 35 clear, clay loam, house and barn; orchard; good spring; 7 acres fall wheat; 4 1/2 miles from city; 2600 dollars.
- No. 23—Caradoc, 96 acres, 60 clear; frame house and barn; orchard; good wheat soil; 3 miles from Komoka; 2300 dollars.
- No. 24—Peel, Wellington Co.; 50 acres cleared; house and barn; well watered; 1050 dollars; terms easy.
- No. 25—Dorchester, 100 acres, 65 clear; house, barn, orchard; well watered; lightish land; 3000 dollars.
- No. 26—Dover East, 100 acres, 40 clear; 2 houses, barn, small orchard; 1 1/2 miles from shipping port; 1900 dollars; easy terms.
- No. 27—London Gore, 57 acres, 40 clear; house, barn, good water; loamy land; easy terms.
- No. 28—Osprey, 100 acres, 12 clear, hard wood, well watered; new frame house; 1000 dollars.
- No. 29—Houghton, 100 acres, well wooded; \$400
- No. 30—London Gore, 30 acres, clear, finely cultivated; 3 miles from London, 1 mile from gravel road. \$1350.
- No. 31—Delaware, 96 acres, 85 clear; brick house, first-class farm buildings, 3 acres of orchard; a frame house, rents for \$8 per month; good spring; on gravel road, 10 miles from city. \$5000.
- No. 32—West Williams, 100 acres, 70 clear; excellent timber; clay and sandy loam; good buildings; orchard; 4 miles from Arkona, 8 miles from Parkhill. \$3500.
- No. 33—Westminster, 57 acres, 38 clear; 5 acres wheat; orchard, vines; 5 miles from city. \$2850.
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- No. 35—Gore of London, 50 acres, mostly clear, good bush near gravel road, close to city, excellent land. \$2500.
- No. 36—Ashfield, Huron Co., 158 acres, good loamy land, beech, maple, hemlock; no clearance; spring creek; on stage road, 18 miles from Goderich; cheap. 1500 dollars.

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ORCHARD A Influenc ness Lime fo Mulch Orchard Coverd Plantin Curcul Worth Buddin The B. Manur Stock and Flock St. c. Clover Cross Milk tive To Ke Ashes Entomol Second M Farmers Good Her CORBESON Jottings Grasshont Pleasant THE APV VETERINA Craubs Lead Eng Guelph H Stump M Sale of Sl A Great MISCELL USEFUL Horticult YOUTH'S ADVERTIS postmar signatur municat