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FARMER'S ADVOCATE

AND HOME MAGAZINE.

FOUNDED 1866.

VOL. XXII.

LONDON, ONT., JULY, 1887.

Whole No. 259.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WELD, EDITOR AND PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the 1st of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

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CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
- 2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.
- 3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

Our prize of \$5.00 for the best original essay on *Poultry Farming as an Occupation for Farmers' Wives and Daughters*, has been awarded to David Garvey, Ingersoll, Ont. The essay appears in this issue.

A prize of \$5.00 will be given for the best original essay on *Country Life*. Essays to be handed in not later than July 15.

A prize of \$5.00 will be given for the best original essay on *Fall Work on the Farm*. Essays to be handed in not later than Aug. 15.

Subscription.

Subscribers, please notice the label on your paper, and if you have not paid your subscription for 1887, do not fail to do so at once. If the date on your label is Jan., '87, your subscription is only paid to the end of '86.

Editorial.

Commercial Union.

Although, in our writings, we rarely deviate from agriculture proper, yet the question now before us is of such vast importance to our farmers that we cannot forbear alluding to it. It has not yet fallen within the domain of politics—it is to be hoped it never will—and should seriously engage the attention of every good citizen of Canada or of the British Empire. Our destiny is involved in it, and a false step taken now can never be retraced.

We advise our readers to peruse thoughtfully the paper by Mr. John Waters, M. P. P. for North Middlesex, published in another column—also the discussion by the Dominion Farmers' Council. Mr. Waters is a successful and progressive farmer, and we are pleased to learn that a man of his intelligence and independence has been chosen by the Council to prepare a paper. Mr. W. does not belong to the blind, subservient class of politicians which infest our country, and we believe he has the best interests of our farmers at heart.

The manner in which the question has been forced upon the attention of our farmers is to be deeply deplored. If the agitation had originated by a representative body of American citizens, we should have been highly pleased; but its being enkindled amongst our farmers by a tax levied upon them is a source of alarm. It may be answered in defence that the Ontario Government had no intention of fanning the flame of agitation when it granted subsidies to the Farmers' Institutes; but the sequence is the same, no matter how pure the motives may have been. This blunder, which should cause our farmers to pause and think, illustrates the folly of attempting to organize our farmers under government patronage. The system exposes the organizations to the pernicious breezes of the professional agitator; and, as in the present instance, he can gain the ear of many unguarded farmers by false or misleading representations. So far as we are aware, the agitators have not had the rashness to approach independent organizations, such as the Grange or the Dominion Farmers' Council, the Presidents or Secretaries of which would certainly not give away the names and addresses of associated clubs when mischief is brooding in the air. We yield to no man in our appreciation of the necessity for farmers' organizations to protect their interests against ever-increasing aggression, and nobody has labored harder in this direction than we have done, but artificial organizations under government auspices have proved a failure. Unless the spirit of union is within the farmers

themselves—not in the government bag—little hope for the realization of practical good can be entertained. Besides, our farmers are qualified to choose a leader superior to the one who is self-imposed, and when they fully realize this fact, the day of their prosperity will dawn.

If commercial union is to be brought about, would it not be more advantageous to form it with Great Britain? What has England done that we should not first consult her? Who could give us the best market? This point should be discussed before you should be asked to pledge yourselves to any measure. We may be paying for a thing that may disturb our present harmony, happiness and contentment. We doubt if any step will improve your present condition, except retrenchment in expenditures. It may be better to bear the ills we have, than to fly to those we know not of; distant fields may appear verdant. Stick right where you are and do your duty; the rolling stone gathers no moss. No farmers in the world have a better prospect before them. The late T. Scatcherd, M. P., one of the most respected, useful and hard working legislators, said the farmers should attempt to keep down taxation. We believe that to be our proper policy, but we regret to state that at the first general meeting in favor of commercial union increased taxation was commended for more government literature, and for the increase of officers; this move was made by a recipient of your hard earned cash, to be taken first from the government funds, then the farmers of Ontario. The health of your stock gives you a better market for your cattle and your dairy products than they would have. Your fruits are of more value on the British markets; you will receive greater benefit from the results of the Colonial Exhibition than you have had; time and patience are wanted. More light and more truth are needed before the question is settled.

We protest against entering a man's premises by the back gate. We believe our farmers to be loyal subjects, loyal to our Dominion and to the British Crown, and if they desire to change their present relations, they will not do so by underhand practices, but after due consultation with the proper authorities, and after sober reflection, having also distinctly in view the material interests of Canada.

In buying new stock, beware of the hippodrome or so-called "combination sales." No man sells off his best stock; the poorest goes to the sale. There it is boosted by all the arts of the professional auctioneer, and the bidding of agents who are not buyers, but "teasers," as it were, to lead on the too-hesitating purchasers. Many a man has rued his "bargains" thus procured, but to save appearances he bears his cross in silence, or makes his sad complaints—like the song bird—to the silent moon.—[N. Y. Tribune,

On the Wing.

After delivering an address at the farmers' picnic in Walkerton, the Secretary, Mr. Rivers, invited us to his place. He has a fine, rolling farm; the soil is of a porous nature, yet fertile, but requires the good farming that it gets at the hands of the owner, who cleared it from the forest. In fact, although not the prize farm, it certainly is a model farm—one which, with its management, may be copied with profit. So successful has Mr. Rivers been that the county in which he lives owes him a debt of gratitude, as he has been foremost in introducing to them the most valuable kinds of seed and stock. To our knowledge, when we conducted the Agricultural Emporium, he would procure the very best, regardless of cost. The result is that his reputation has spread so that all his surplus grain is sold for seed, and he purchases cheaper grain for feeding his own stock.

He has a very notable herd of Shorthorns of the best and most profitable kind. There are to be seen both the beefing and milking class of Shorthorns. Mr. Rivers uses considerable artificial manure and finds it pays him; but his great complaint is that he cannot get any drill that will distribute it properly. He has tried three different drills. Some of our manufacturers should wake up, or there must be importations made from England, despite the duty, as Mr. Rivers considers that he does not get half as good results by sowing broadcast as when the superphosphate is placed just where he wants it, and hand labor is too expensive to do that. He has an experimental plot and tests different kinds himself, and his orchard, garden, farm, buildings and surroundings are models of beauty and utility. There are numbers of such homesteads in the county of Bruce.

We took the train from this northern county and travelled to the extreme south of Ontario, to the county of Simcoe. The spring crops were looking as well as anybody could desire. At Simcoe the Massey Manufacturing Co. delivered to the farmers of that locality 45 harvesters, 20 mowers and 20 horse rakes. They made a grand procession through the town of Simcoe, preceded by a brass band. The farmers and citizens had a good dinner together. Speeches and music made it a feast of pleasure and information as well.

Mr. J. B. Carpenter, one of the oldest settlers, on being called on, said that on his farm the first reaping machine imported into Canada did its first work. It was about 42 years ago. The cutting was then done by a straight, smooth-faced knife, and the grain was raked off the table by hand. Mr. Carpenter is one of Canada's model farmers; everything is in first-class order. He has erected a farm house that stands second to no farm house we have yet seen either in England or the States. It is one he built to live in. Many owners of fine farm houses we have seen live in one corner or in the kitchen. Mr. C. has erected a stable and drive house after a pattern taken from the *Advocate*, and we have not seen on any farm one that is like it or equal to it. Mr. Carpenter says his winter wheat will average 30 bushels per acre. We enquired of all the farmers who had purchased the harvesters as to the state of their crops; 26 said they had an average crop, 17 said three-fourths, and one said only half a crop. This certainly does not look as bad as some state. It is to be remembered that there

is a good deal of light, and some poor and wet land in Simcoe. If one manufacturer can sell that number of machines in one part of a county, and when it is considered that there are thirty-two manufacturers of these large harvesters in Canada, many of whom are selling in this county, the farmers of Ontario cannot have much ground of complaint. In the northern counties the winter wheat is not quite as good as in this county, but the spring crops are looking as satisfactory as could be wished. If you can find ten farmers together and there is not one that does not complain about the weather, crops or prices, you may look on it as a miracle.

Breeding for Beef.

It is rather unfortunate that Canadian investigators, if we have any (which is exceedingly doubtful), should spend so much time in attempting to decide the respective merits of the beef breeds, and that so little has been accomplished with reference to our dairy stock. Of the three distinguished beef breeds, viz., the Shorthorn, the Polled Angus, and the Hereford, there is very little choice, and no farmer could make a mistake in choosing good representatives of any of these breeds, the distinguishing merits being mere matters of detail.

Some assertions require proof, or the scrutiny of close investigation, and others do not, being admitted by every sharp observer. No experiments are necessary to prove that our native stock belong to the dairy, and are profitless for beef, although their grades cannot be surpassed for this purpose. It must not be forgotten that if our native has to go, the grade must disappear at the same time, and the thoroughbred must then be degraded to the ranks of the grade or the "scrub," so far as price and popularity are concerned.

The most difficult point connected with this question has reference to the "general purpose" beast, of which there are two phases: (1) The animal which is said to produce milk and beef at the same time; and (2) the one which is said to put on the beef after the milking season, or milking age, is over. Here is ample scope for experiments. The temperaments of the beef and dairy breeds are just as distinct as those of the draft and the race-horse, the desirable points of the one being diametrically opposed to those of the other. It is true that these temperaments can be combined, as in the general purpose horse, but not so profitably in the former as in the latter case. The question can never be satisfactorily decided until the cost of production forms a part of the experiment. It has been found unprofitable to fatten old cows of any breed, and the practice has therefore been to fatten the "general purpose" cow at the age of five or six years. It is certainly an enormous waste of capital to raise a cow for two or three years' use; a good milker can be profitably kept for 10 or 12 years.

Another pointer is, What is the nature of the fattening process? An animal that readily puts on lumps of fat, such as the Shorthorn, cannot fairly be compared with the Holstein, which puts on flesh of the muscular kind. Past experience has given the Shorthorn an advantage in this respect, but the demoralizing practices of our fat-stock shows are beginning to revolutionize public opinion, "lean-stock shows" now being the order of the day, and it is quite probable that the Holsteins may, in the near future, produce a

class of beef more suitable to the taste, and be regarded as the general purpose cow of the period. If the Shorthorns had not been boomed and pampered to death, and that, too, largely at the public expense, they would have been a most excellent breed for many parts of Canada; but there are still many excellent specimens in the breed, which will make a lasting impression upon the herds of the country, even should the system of tests be extensively adopted. The breed is very pliable, the milking or the beefing properties can be easily developed, the tenderness can easily be bred out, and the future specimen may regain the reputation of its ancestry.

The evidence is so strong against the "general purpose" cow, as we showed in previous issues from different standpoints, that we would advise our farmers, chiefly those who make a specialty either of dairying or of beef-growing, to keep the dairy and beef herds distinct.

Care of Preserved Fruit.

Keeping fruit or any provision depends on three things. It must be sound to begin. A speck of decay or acid change will develop ferment in a kettle of fruit. Second, the jars or cans must be air-tight. The object of steaming the fruit is to expel the air and arrest the change in the juice, which would naturally proceed to ferment. Air penetrates in finer ways than we can discern, and needs much less than the crevice of a hair or a pin's point to enter and spoil the contents. Glass that is free from cracks or air bubbles, well-glazed stoneware, free from flaws, yellow ware, or strong, dark earthen jars, will keep the fruit from the air, provided it is sealed with wax, putty, or bladder, soaked and left to shrink on the mouth of the jars. Cans with screw tops and rubber rings are apt to have slight defects, which prevent perfect sealing, and cannot be depended on without wax.

Third, the jars must be kept in a dry, dark, cold place, very little above freezing. A shelf in a furnace-warmed cellar or store-room opening from a kitchen, is not the place to preserve fruit. It may be put up in the best manner, and yet spoil through keeping in the light, or where it is not cool. Glass cans should be wrapped in paper, buried in sand or sawdust, or kept in a dark closet. Packed with plenty of chaff, oats, dry sand or sawdust, or dry, sifted ashes, most preserves will stand freezing weather without injury, but each can needs at least six inches of non-conducting material about it on all sides, for protection. A pit on one side of the cellar, dug below the reach of frost, and lined with boards, with straw or ashes between them and its walls, will keep preserves from heat or freezing. A pit dug in the cellar, four feet below the level of its floor, well drained and lined as above, will prove the best place for keeping small quantities of preserves, enough for a single family.—[Vick's Magazine.]

In a recent report from the Department of Agriculture, Professor Riley states that the screech owl has proved useful in destroying the web worms that defoliate so many trees in autumn, and he adds: "Perhaps the statement may be of interest that this little owl is getting much more common in the vicinity of cities in which the English sparrow has become numerous, and that the imported birds will find in this owl as bold an enemy as the sparrow-hawk is to them in Europe; and even more dangerous, since its attacks are made towards dusk—at a time when the sparrow has retired for the night and is not as wide awake for ways and means to escape." Another point made in this report is that wooden tree boxes are most injurious by furnishing shelter for the formation of cocoons and winter quarters for many noxious insects. Besides this, these boxes, as ordinarily constructed, bruise the bark, and the ravages of the maple borer, for instance, are often confined to trees so injured.

Our Queen—Her Country.

[An address delivered by Wm. Weld at the Farmer's Picnic, Walkerton, June 2, published by special request.]

MR. CHAIRMAN, LADIES AND GENTLEMEN,—As you have honored me by an invitation to be present, and afforded me the opportunity and option of reading any selection, or of speaking before you on any subject I might choose, I select the above caption for my remarks. Up to the present time I have confined myself to agricultural topics when addressing public meetings; but regret to state that agricultural questions of the present time are so injuriously mixed up with partyism, that I find it impossible to speak to you with any force without either one or the other of the contending parties turning it into partizanship.

I will for the present leave agriculture alone, on this, your jubilee, our jubilee, and the Queen's jubilee, this being the month in which our beloved Queen attains the anniversary of the 50th year of her reign. Could our wishes be realized we would be glad to have her reign 50 years more. This wish would not be made from any personal favor we have ever received from her, or from her subordinates, more than any one of you has received. But her reign has been remarkable for the health, peace, power and prosperity of the nation; the extent of her territory has wonderfully increased, and the number of her subjects has more than quadrupled since she ascended the throne. At no time has England appeared to be in greater harmony with foreign nations than at the present time. No nation gives her subjects greater liberty of speech and action than Great Britain; but as soon as any parties assume too much, a small relaxation of the dogs of war, and all is soon tranquil. We too seldom look back to the past. Were we to do so more, it would tend to make us more satisfied with our lot. We know nothing about wars, famines or pestilences; we are living in a land flowing with milk and honey, and have been fed, so to speak, with quail and manna. In Ontario, the most favored Province of this Dominion, real want and poverty are unknown. Even the charitable work that is done in our cities by those who are termed paupers, is paid for at the rate of \$1.25 per day, and many of these people so employed own real estate, are well clad, well housed, well fed, as far as I have been able to ascertain in the city in which I reside, and I have made close enquiry and search to find the really deserving poor. Any weak, sickly woman, who will only make a pretence to work, will receive \$7 per month, and a good common cook will command a position in which she is better fed, has more handsome apartments, more jewelry and finer dresses, and enjoys more refinements of life than was the lot of some of the ancient queens of England; and they are infinitely happier than the wives of chiefs, emperors, governors, czars, etc., we have read of. See the handsome spring carriages and the fine horses with which you, the lords of creation, have brought your wives and families to this meeting. In no other land in the world, that we are aware of, could such a display of wealth, comfort and prosperity of the country be more vividly portrayed than here. You are all the owners of these equipages and the owners of the farms from which

you bring them; you have no dread of the sheriff or his staff. You do not think sufficiently of these blessings, nor are you half as grateful or thankful to the Great Giver for these bounties as you should be.

Despite all that her disparagers may say, our Queen is a noble, grand and exemplary woman, whom every true woman admires who has heard of her acts. She is revered and admired more than any other woman that exists or ever existed. An elderly lady, with gray ringlets, and plainly, but neatly, not grandly attired, whom we met at the Colonial, said "she had desired to see the Queen ever since her coronation, but could never gain a glimpse of her." She said, "She had loved her so much for her grand and noble acts, she would willingly die for her; she was the best queen that had ever sat on the throne." We coincided in these remarks, but to lead her on we asked in what respect had she shown her superiority. She replied: "You must be aware of what she has done to uphold the honor of woman, and what a powerful effect it must have." We weighed her remarks for some time, and came to the conclusion that she was not astray. We trust every legislator and every minister of the Gospel may take notice of the hints this lady threw out. If they have no proper honor or respect for the ladies, their places may not be worthily filled, for we must never forget that "the hand that rocks the cradle is the hand that moves the world." It is no easy matter for a person to have a good look at the Queen. We had a good opportunity of seeing her at the exhibition, as she entered the Canadian Court. We had been more used to shouting at logging bees or raisings than in the city, but feeling quite enthusiastic on this occasion, we raised a Canadian backwoods cheer. It may have been thought low or vulgar, but there is no halfway of doing things here. The effect was a graceful bend of acknowledgment from the Queen.

The Colonial on the whole was a grand success, and Canadian exhibitors elicited great praise for their exhibits. The most conspicuous were our fruits, cereals, the products of our forests, mines and workshops. In our agricultural implements, our display of fruits and cheese products, Canada took the lead. The Queen, the Prince of Wales, and many of the nobility made purchases from the Canadian exhibitions.

In wool and woolen goods, and wines, Australia far exceeded Canada. In silks, ivories, teas and beautiful artificer's work, India carried off the palm. New Zealand surpassed every exhibit in her supply of choice, fresh meat. Natal, Cape of Good Hope, and all her other dependencies were represented with varied products of all kinds.

The Colonial exhibited this feature, that Britain has the power within herself of supplying all the wants necessary for the maintenance and comfort of man without the aid or assistance of any other nationality. This may be termed monopoly, it may be termed aggrandisement; there may be cases of aggression, but where is there a nation that does not try to strengthen her position—and is it not necessary to do so? See the immense armies of the European and Asiatic nations, many of which are only waiting for an opportunity to draw their swords to gain more power. Our Queen now holds her power from the stability and security she gives to capital. Capital controls armies and

navies, and is thus enabled to feel secure from any menacing foe. Our Queen is a lover of peace, and a strong advocate for justice, and has acted with loving mercy towards the weak. It is during her reign that the shackles have been removed from the slave, and that all religious bodies have had an almost unlimited liberty. Could each of you take a trip to these beautiful isles composing Great Britain, and see the dense crowds assembled on any holiday, in any village, on the sea coast, or at all the gatherings, you would look with amazement and wonder where they all came from. Even in that one city, London, which contains more inhabitants than the whole of this Dominion, the buildings are being erected so rapidly in its suburbs that the scaffold poles are so numerous that they almost look like a forest. Go to her sea ports and see the streams of iron steamers constantly going and returning like floating bridges to all parts of the world; then leave these busy throngs and visit some of her numerous watering places, large, handsome towns, with their beautiful parks, and lawns, and walks, where thousands are daily sporting themselves with cricket, lawn tennis, shooting, or reading, boating, or listening to the choicest music on the beautiful and grand parades along or near the sea cities, where the manufacturer's hammer or the hum of machinery is not heard, where telephone or telegraph is not permitted to enter the houses, where the fragrance and sight of flowers and shrubs meet your view at every turn of the graceful, winding and tree-shaded roads, with neat hedges and smooth roads in the suburbs for drives, and roads where mouldering castles of our ancient brethren are within easy distance, and their ivy matted ruins are preserved from the despoiler's hand.

Yes, onward we pass till we stand on Iden's Height. Here, by the aid of a glass, we are enabled to see before us the rich grazing lands of Romany Marsh, lands that will fatten ten sheep to the acre, weighing between 300 and 400 pounds each, where 60,000 sheep are seen at one view, and which are claimed to be superior for the sweetness of their flesh to any of the large breeds so noted among us.

The beautiful herds of Susséx, Hereford, Jersey, Ayrshire, Alderney, Welsh and Polled-Angus are all to be met with as we pass through the country. Pictures of comfort, thrift and contentment in those beautifully watered, shaded and verdant pastures are exhibited, such as few other countries we have ever seen can show; innumerable sights of hop gardens, fruit orchards, and grain fields that raise 70 bushels of wheat per acre, are met with. Then pass to the ever-to-be-remembered Scotland, with its grand old historic accounts of its able men of war, art, science, industry and honor; to view the remains of these grand castles, monuments of fierce, hard and bitter times, call to our memories scenes of heroism and bravery. The beauties and fertility of the Emerald Isle; and the grandeur and fertility of Wales, with her frugal, industrious population, and neat and industrious cotters' homes, are beauties to be long remembered, beauties beyond my power of description, and almost beyond our conception. To honor the Queen of those Isles for 50 years is what every one of us should feel a pride in. When we read the old remarks of "uneasy lies the head that wears a crown," and peruse history, which calls to remembrance the numerous kings, queens, rulers, emperors and even presidents that have been de-

throned or murdered in our day. We should feel grateful for the power that has prevailed, and long for its continuance. Time will not permit us to wander all over our Queen's domains, therefore I will briefly touch on this continent.

Thirty years ago I was attracted to Kansas by the glaring accounts given of that country. We went with a view of securing a better home. Health in that country was in no way to be compared to that of Canada. I returned, having seen something of our neighbors and their country, having visited Maine, New Hampshire, Vermont, New York, Pennsylvania, Tennessee, Missouri, Illinois, Nebraska, Delaware, New Jersey and Michigan, and the cities of Washington and New Orleans, always with an eye for the bettering of my condition, and that of my family, should any inducements offer; and believing that I know a little about the fertility of land, its products and profits, I have seen no place either on this continent or on Europe, any place where the farmers on an average are near as well off, or have such an opportunity of prospering, or are as peaceful and contented, as in Ontario. If any of you have any idea of thinking that you are going to better yourselves by selling your farms and going to any other part, just consider your position well before you do it. My advice is, stay where you are, do your duty where you are, do not be led away by any boom, and before changing consult with your most truthful and honorable neighboring men that cannot be bought to mislead you.

Under the British flag the oppressed of every nation find a shelter and a home; under this flag our Queen's subjects find a greater amount of security and liberty than under any other. Long may it wave—that flag that has "braved a thousand years, the battle and the breeze."

A correspondent of the *Horticultural Times* writes:—Any man who values health will make a point to eat fruit daily, and even on occasion to make a meal entirely of it. One cause why ripe and wholesome fruits are given a bad name is because they are eaten at the wrong end of a meal. After many courses of heavy foods and strong drinks, a few harmless strawberries are indulged in; and then, when these rich foods and stimulating drinks upset the stomach, the blame is put on the innocent strawberry. The real place for fruit is at the beginning of a feast, and not at the end. A better plan still is to make a meal of bread and ripe fruit. The best meals to make thus are breakfast, lunch, or early tea. The bread should be brown and dry, and the fruit ripe and raw. Dry brown bread cleans the tongue, and brings out the flavor of the fruit. Butter on the bread would give its own flavor, or even the salt in the butter would destroy the pure taste of the fruit.

Mr. Carman, in sowing grass seed on a lawn, neglected to roll a portion. When the ground was compacted a velvety covering of young grass soon appeared, but on the unrolled portion no grass was seen. If grass seed fails in this way, he asks, on a finely raked seed bed, how much seed must be lost in the coarser and looser soil of our fields, when the roller or some other implement is not used to press the soil closely against the seed?

The luxuriant foliage of our Cumberland strawberries were attacked by thrips, but we shot the insects flying, having a boy to stir them up with a long handled brush in advance of the bucket of diluted soap and kerosene emulsion and the corn-broom whisk with which we sprinkle it on and through the startled marauders.—[Tribune.

Farmers' Clubs.

Dominion Farmers' Council.

The regular monthly meeting of the Dominion Farmers' Council was held on the 16th ult., President Leitch in the chair.

COMMUNICATIONS.

A letter was read from Mr. W. H. Phillips, Secretary of the Stockdale Farmers' Club, inclosing 33 names of members, and asking to be amalgamated with the Council.

Moved by W. Weld, and seconded by John Kennedy, that the Stockdale Farmers' Club be amalgamated with this Council. Carried.

A letter was read from Mr. John Waters, M.P. P., stating that in compliance with the expressed desire of the Council, he would take great pleasure in preparing a paper on "Commercial Union." He referred to the subject as being a very comprehensive and intricate one, but also as being very important to the farmers of Canada. After the reading of several other communications, the question of

COMMERCIAL UNION,

which was the programme of the day, was taken up. The Secretary stated that he had not received Mr. Waters' paper or any intimation from him as to why he did not prepare the same, as promised. Several members expressed their great disappointment, as they expected the paper to contain a great deal of useful information and an impartial treatment of the subject.

The question, however, was discussed, some members having presented both sides of the case without discussing the merits or demerits of the issue, and several extracts were read from reports and discussions in the press. The proceedings were then brought to a focus by the following resolution, moved by J. W. Bartlett, and seconded by J. K. Little:

"Resolved, that a commercial union with the United States would be beneficial to the farmers of Canada."

PRESIDENT LEITCH—I desire to introduce to you Mr. W. de H. Washington, American Consul in this city, whom we should all welcome to take part in the discussion, and whose views I am sure will be entitled to our consideration and respect.

MR. WASHINGTON—I thank you for your courtesy, but as my position in Canada is diplomatic, I am debarred from taking part in the discussion. I should not like to be falsely reported, or that the citizens of my country should entertain the impression that I speak in my official capacity. I have prepared official statistics as to the exports from this section of Canada, which may be of some service to you, but I am not yet at liberty to divulge them. Commercial union is not yet a party question in the United States, but the Butterworth Bill, which is yet in embryo, is favorable to the project, and it may be a party question in the near future.

HENRY ANDERSON read facts and figures from various sources, chiefly from Mr. Mathews, a noted commercial authority, to show that our trade with Great Britain was greater than that with the United States, so that from a commercial standpoint our first object was to ally ourselves as closely as possible with the mother country, and he believed that sentimental considerations would be in sympathy with our trade relations. He pointed out that our population was only about one-twelfth of that of the United

States, and that under a commercial union our share of the joint customs revenue would therefore be about 8 percent. He then pointed out that in the years '83, '84 and '85, our customs yielded \$62,162,000 from imports of \$357,000,000, thus showing an average import of 17 percent. During the same year the U. S. customs yielded \$591,245,000 on imports of \$1,968,000,000, or a rate of 30 percent. He regarded it as self-evident that, in case of a commercial union, our tariff would have to correspond with that of the United States—that is, it must be raised from 17 to 30 percent on an average. Now, by adding together the imports of Canada and the United States, the sum would be \$2,325,000,000; but \$273,000,000 should be subtracted, being the trade between us and the U. S., the revenue of which would be lost under a commercial union, leaving a balance of \$2,052,000,000 from which a revenue could be derived. Of this sum, \$205,000,000 represented the importations into Canada, or almost exactly 10 percent of the whole, so that we would have to pay 10 percent on the joint imports, and all we would receive back according to our population would be 8 percent—a two percent loss, clearly showing that we would have to pay \$12,300,000 into the joint commercial union fund more than would be returned to us. To put the matter in another shape, our taxes would be increased 75 percent, and we would also be compelled to raise enormous sums by direct taxation. Another proof that Canada would lose by the speculation was the fact that the trade of Canada in proportion to our population was over 75 percent greater than that of the United States, one-twelfth of the trade of that country being \$118,000,000, while our trade amounted to \$208,000,000. He did not believe in this sort of speculation, and could not understand how the prices of the bulk of our farm products could be enhanced in the United States so long as Britain ruled the markets. He believed in reciprocity, but he could not understand why we should throw our financial affairs into the hands of the Americans. Our farmers had already been almost completely ruined by the National Policy, and this should be a lesson to them not to incur further obligations without well considering the consequences. He did not believe that John Bull's patience was inexhaustible; and if we went on suing for commercial union, that gentleman might feel quite justified in erecting barriers against Canadian and American exports; and as we would be compelled to put our surplus products into the British markets, we would have to accept any price we could get. We were not yet prepared for direct taxation.

JAS. K. LITTLE—That's so; but I believe our farmers would be greatly benefited by commercial union.

Several members and non-members spoke in favor of commercial union, but none were prepared with arguments to support their statements. Some referred to the prevailing feeling amongst members of Farmers' Institutes in support of the project, the general impression being that the prices of horses, lambs, barley and eggs would be increased.

In reply to a question from a farmer as to Canada being used as a slaughter-house by the Americans,

MR. WASHINGTON replied that the U. S. manufacturers agree amongst themselves not to undersell one another in their own markets; they

put a reasonable profit on their products, and did no slaughtering at home. People never dumped stuff in their own yards so long as their neighbors permitted their yards to be used as dumping grounds. Under commercial union Canada would be in the same position as the United States with reference to the surplus of manufactured products; there would be no dumping ground in either country. He was not aware that American farmers wanted commercial union, for they might think that there would be greater competition of agricultural products in their own markets. Canadian manufacturers seemed to be afraid of ours, but there was no occasion for this alarm, for there was a large number of small factories flourishing in the United States. Canada had a superior soil for all kinds of agricultural productions, but the United States had the prestige and the progressive spirit, which caused many ambitious Canadians to move across the border. Speaking from the standpoint of a Canadian farmer, he could not see what Canadian farmers could lose by commercial union. They would pocket the duty, if the American markets were open to them. National wealth consisted in the purchasing power of the dollar—the difference between the income and the outlay. He could see no reason why objection should be taken against direct taxation.

W. WELD—I should like to know if Mr. Wiman, the New York railway speculator, has any authority to speak for the farmers of the United States, or any other body of American citizens. Has he ever been known to befriend the American farmers?

MR. WASHINGTON—Not that I am aware of. He is a Canadian by birth, and so far as I know his motives are patriotic.

PRESIDENT LEITCH—I should like to hear what Mr. Weld has to say on the subject. He has travelled all over the countries in question, and is editor and proprietor of the FARMER'S ADVOCATE; his remarks should carry great weight amongst the farmers of Canada.

MR. WELD—I would much rather not express myself on this occasion, and I do not desire to influence the action of this intelligent body of farmers. It is true that I entertain strong feelings on the subject, but I have other ways for expressing them. For twenty-one years, I have striven to conduct an agricultural publication independent of partyism, but the steps now being brought forward make it almost impossible to be silent and do my duty on this important subject. I have encouraged every legitimate and proper plan to try to unite the farmers. As a member of a Farmer's Institute, from which this commercial union has received so much attention, I am highly pleased to support and encourage any institution that will enlighten the farmer and tend to unite him with his fellows, and I am gratified to think that this question receives their attention. I am also pleased that this, which may be the first efficient step toward the restoration of harmony between the United States and Great Britain, has emanated from the United States, as Mr. Erastus Wiman, a wealthy American, has gained the influence and assistance of the President of the Permanent Central Farmers' Institute, and if their object is to aid in re-uniting Britain and the United States (mother and child), it would be the grandest achievement of the Jubilee, or of this century. Could such be accomplished by Mr. Wiman, Mr.

Fuller and the Farmers' Institutes, it might be of great advantage to us and to all the world, if proper arrangements could be made, and we have hopes that they may, as we have always found the Americans most friendly and hospitable to us every time we have crossed the border. In fact, from such high eulogiums that I have heard of our Queen, I am led to believe that there are as really loyal subjects to the Queen in the United States as there are in Canada. Although approving of any measures tending to the interest of farmers, I cannot quite agree with Mr. Fuller when he states that Canadian farmers are not as prosperous as the farmers in the United States. My observations cause me to think Mr. Fuller is in error, for we know of no part of the world where the farmers are succeeding better at the present time than in Ontario. When I first came to Canada we purchased a cow for \$10, and a good yoke of oxen for \$40, or \$20 an ox; we have also sold flour at \$1.25 per cwt. These prices may be ruling again in Canada and in the United States. I have also seen wheat so cheap in England as to be fed to hogs and horses. We might for a time procure some of our implements at a cheaper rate, but I do not consider that we should receive such great advantages as have been depicted from the sale of farm products. When in Ashford market in Sussex, England, last year, I saw two good grade 3-year-old Canadian heifers sold at £20 sterling each; that is equal to about \$100. No such cattle landed from the U. S. have brought within 20 per cent. of that price. This is because Canadian stock are free from diseases, and are allowed to be taken into any market, whereas the U. S. cattle must be killed on landing. This fact enhances the value of our stock to an enormous extent. Our dairy, pork and orchard products already command a better position in the British market. The advantages of dealing direct with a nation that must purchase farm products is an undoubted advantage; but we could not expect much from a nation that is a competitor in the same market. Whether the market of those that must purchase, or those that must sell, will be most beneficial, is a matter worthy of consideration. From my observations when travelling in the United States and from the information I have received and from personal observations in Ontario, I believe that both American and Canadian means have been used to suppress truth and disseminate falsehood, and to hoodwink Canadian farmers.

A member called upon the President to express his views.

PRESIDENT LEITCH—As President of your Council, it is not proper for me to express myself except through your courtesy or at your request. I have travelled a great deal through the United States, and I am pretty well acquainted with the condition of the farmers in that country. In order to prove to my satisfaction that commercial union would be advantageous to the farmers of Canada, you must show to me that the farmers across the line, say in Michigan, are more prosperous than we are. Barring exceptional cases, I have failed to find that they are more prosperous. There are a few fancy farmers, or rather speculators, there, who engage in fancy stock raising, or other fancy specialties, and they will pay fancy prices for our stock. Our farmers, especially those who live near the border, get good prices for their lambs

which are shipped to Buffalo and thence distributed amongst the large cities; but for all this, sheep-raising has not been profitable, and this is the practical side of the question. The Americans also take our barley to satisfy the demands of their German beer-drinkers, but who can assure us that intemperance is to be a lasting institution amongst our neighbors? Breeding stock is exported free of duty, but there would be an advantage in free access with other animals. The Americans have injured their farmers by attempting to shut out foreign manufactures, and our debt is already so burdensome that we must adopt the same policy, or resort to direct taxation, which, although correct in principle, we are not yet prepared for. I should like to see all possible restrictions removed, but I don't think that we are at present prepared to adopt such a radical policy. I am a warm friend of the American people—I admire their hospitality and intelligence—and for this reason I would welcome commercial union if the state of our finances admitted the adoption of the scheme. I see also that our weightiest concerns are bound up with the mother country. When the Americans consume more of our produce than the British, and establish the price of our agricultural productions, then commercial union becomes a practical question. We should not attempt to press our products into a congested market. I know Canadian farmers in Genesee County, Mich.—one of the most fertile districts in the United States—and they possess no special advantages there over what they possessed in Canada, or what we now possess. I recently paid a visit to this county, and I could see these facts with my own eyes, and they were forced to acknowledge them. This is the practical view of the question, and so long as this state of affairs continues, I can see no advantages in commercial union, by means of which our farmers and those of the United States are supposed to be placed on the same commercial level. I see no objection to a fair measure of reciprocity of the natural productions of both countries.

The usual hour for the adjournment of the Council having arrived, it was moved by Henry Anderson, and seconded by Jas. K. Little, that the discussion be postponed until the next meeting of the Council.—Carried. It was expected that Mr. Waters' paper would be duly received and that it should be discussed at the next meeting. The Council adjourned (as is customary during the busy summer months) until the third Thursday in October.

Mr. Waters' Paper on Commercial Union.

Mr. Waters' paper arrived the day after the meeting of the Council, the delay not having arisen through any fault or negligence on his part. We are asked by the committee of the Dominion Farmers' Council to publish the paper in order that the members of the Council may have an opportunity of studying it and preparing for the postponed discussion. We are also asked to invite the farmers' clubs which are amalgamated with the Council to discuss the paper at their earliest opportunity, and send in the resolutions which they pass to the Secretary of the Council.

Mr. Waters incloses the following letter with his paper:

W. A. Macdonald, Esq., Secretary Dominion Farmers' Council:

Sir.—Enclosed you will find a few thoughts upon the proposed trade relations. They may not meet the views of the Council, but I may say

that I have presented them free from political bias, holding fast by the sheet anchor of loyalty to our own Dominion and the mother land. I am sorry that I am unable to be present at your meeting.

Yours truly,
JOHN WATERS, Springbank, Ont.

To the President and Members of the Dominion Farmers' Council:

The question of commercial union with the United States is one of considerable interest to the people of this Dominion, and especially to the farmers who constitute such a large percentage of our population.

The problem for the farmers of this Dominion to solve in connection with the consideration of this question is, which of the three following systems of trade policy will be most beneficial for us to adopt?

1. The existing trade policy, as adopted by our Parliament, with certain variations in the direction of a high protective tariff.
2. A reciprocity treaty with the United States, embracing a free interchange of certain products and manufactured goods, as might be mutually agreed upon, each country retaining and framing its own tariff on all products and goods not covered by the treaty.
3. A commercial union covering the free interchange of the entire products and manufactured goods of both countries, with a tariff that would of necessity have to be similar, and would have to be adopted by both countries against all other countries, Britain included, and in all probability the present high tariff of the United States would be adopted.

Before entering into the merits of the foregoing schemes, it will be well to take a look at the extent of our trade relations with Great Britain and the United States; it is only by doing this that we can approximate to anything like a correct understanding of this many-sided question, and for this purpose we will take the imports and exports for the year ending June 30th, 1886.

Imports of 1886, ending June 30th.

Total value of goods entered for consumption	\$99,602,694
Of this amount we imported from Great Britain	40,601,199
And from the United States	44,888,039
And from other countries	14,113,456

Total Exports, the produce of Canada, \$74,975,506
Composed as follows, and the countries to which exported:-

	Great Britain.	United States.	Other Countries.
The produce of the Mine..	\$ 3,951,147	\$ 3,115,086	\$ 245,619
Fisheries.....	6,843,388	2,567,548	2,699,096
Forest.....	21,064,611	8,505,406	1,629,475
Animals and their products.....	22,065,453	6,742,780	507,972
Agricultural products.....	17,632,779	8,752,894	1,170,821
Manufactures.....	2,824,137	1,297,566	589,920
Miscellaneous.....	604,011	551,553	5,822
	\$74,975,506	\$36,094,933	\$6,817,801

The above figures will show at a glance the importance of the trade with Great Britain and the United States, our imports, for instance; of a total importation entered for consumption of \$99,602,694, we imported from Great Britain \$40,601,199, and from the United States \$44,888,039, other countries \$14,113,456. The few horses, cattle and sheep that were imported last year were mostly all absorbed by British Colum-

bia, Manitoba and the North West Territories. Our exports last year, the produce of Canada, amounted to \$74,975,506; Britain took of that \$36,694,263, the United States took \$31,463,342, other countries \$6,817,901.

It will be noticed that Britain took of animals and their products, and of agricultural products, twenty-two and one-half millions; and the United States took nearly fifteen and one-half millions.

In looking carefully into the items that compose the headings, animals and their products, and agricultural products, it is clearly shown what composes our trade with Britain and the States. It is evident without any manner of doubt that the English market is our best market for heavy, well fed cattle and sheep, as well for our wheat, oats and peas; then almost our whole cheese and butter export goes to the English market. A few comparisons indicating the growth of this trade will show conclusively the certainty of this market.

In 1877, which was eleven years after the termination of the Reciprocity Treaty, our cattle and sheep trade with Britain was in its infancy; in that year we sent 4,007 head, which realized \$78.69 per head; for the year ending June 30th, 1886, we sent 60,549 head, bringing \$82 per head. In 1877 we sent to the United States 13,851 head of cattle, value \$19.37 per head, and in 1886 we sent 25,338 head, value \$24 per head.

In 1877 we sent of sheep to England 3,170, value \$6.92 per head; in 1886, we sent 36,411, value \$8.73 per head.

In 1877 we sent of sheep to the United States 198,820, value \$2.69 per head. In 1886 we sent them 313,201, value \$2.64 per head.

	Pounds.	Value.
Cheese export in 1886 to Great Britain.....	77,823,157	\$6,729,134
Cheese export in 1886 to United States.....	174,674	15,478
Butter export in 1886 to Great Britain.....	3,546,182	652,863
Butter export in 1886 to United States.....	111,388	17,545

It will be seen by the few comparisons made that the fat cattle and sheep trade is with Britain and will continue to go there, as well as our cheese and butter trade; it is beyond dispute that the English market takes our surplus wheat, oats and peas.

Then on the other hand, the American market takes the bulk of our barley, a small proportion of peas and oats, and all our surplus lambs, and small, inferior cattle, as well as our surplus poultry and eggs. Of the total export of horses last year, which was 16,525, the Americans got 16,113, value \$130 per head.

The few statistics as given above will assist to form an opinion upon the first proposition "as to our existing trade policy." We can start under this head with a certain degree of confidence as to the reliability of the English market for our wheat, peas, oats, butter and cheese, and, as long as the United States and Canada have any surplus of the above for sale, the English market will determine the price; then we have our cattle and sheep trade; we can look with equal certainty to the continuation of that trade, as long as we send the right stamp of cattle and sheep to that market, and although we had free trade with the Americans to-day, it would not benefit us with respect to this branch of the trade, as they are exporters to the same market.

There can be very little difference of opinion that if the American duties were removed from the items of export, the trade in barley, horses, lambs and the lighter kinds of cattle, and also poultry, eggs and potatoes, it would be beneficial to the farmers of the Dominion, as there can be no doubt these various items of export will continue to find a market in the United States, tariff or no tariff.

It must also be borne in mind under this head that our own Parliament can at any time give us the full benefit of American competition in our own markets, if we so desire it.

As to the second proposition, namely, a reciprocity treaty, the unrestricted trade in as many of our products and manufactured goods as could be agreed upon for a like privilege for the American products and goods; for instance, the Americans want our barley, horses, lambs, poultry,

eggs, potatoes, fish, wool, coal, and lumber; we want their corn, coal, cotton in the raw, sugars and syrups; the free interchange of these products could not but be beneficial to both countries, and would not to any extent interfere with or injure our manufacturing industries, with the exception of the sugar industry.

The free importation of corn would tend to increase our production of fat cattle for the English market. This item we have full control of, for our own Parliament can take off the duty at any time, and I have no doubt if the farmers demand it, the duty will be taken off.

One great redeeming feature in adopting a policy of this kind, we can protect our manufacturing industries from undue or any competition from the American manufacturer, and we retain full control of our own tariff on all articles of import or export, except those articles covered by the treaty.

A treaty of this kind would not compel us in any way to adopt a high tariff against the manufactured goods of Great Britain, but would leave us at perfect liberty to pursue our present policy, or a more liberal one, if we saw fit, as to the manufactures of Great Britain.

As to the third proposition, namely, a commercial union, a union of this kind implies the entire abolition of a customs tariff between the two countries, and of necessity a uniform tariff to be adopted as regards the importations from foreign countries, Britain included.

This means, as far as Canada is concerned, an entire change of our existing trade relation, and particularly with regard to England. We would have to adopt some other mode of raising our necessary revenue, or else enter into an agreement with the Americans to receive a certain sum, a percentage of the entire customs revenue of the two countries, and for making this change we are told we will have the advantage of trading with 60 millions of people. We must also bear in mind in connection with this, that no change can take place respecting our present exports to the English market, provided that England will still pursue the same liberal policy in the future as she has done in the past, which will be expecting too much if commercial union takes place. We can apply the common sense rule as to what this prospective extensive trade with this 60 millions of people means; our exportations of cattle, horses, lambs, sheep, potatoes, poultry and eggs will not be any more extensive than what can be obtained under a reciprocity treaty. Then comes the trade in manufactured goods. Are we as a people able to hold our own, and compete in the American markets, with American manufacture? It was contended by our manufacturers in 1877, when we had a moderate protective tariff, that we were unable to hold our own against the Americans in our own markets; hence the present protective tariff. It may well be asked, how then can our manufacturers hold their own market, and compete with the Americans in their market?

If the ground taken in 1878 was correct and honest, then the question is easily answered: Commercial union will not give the American market to our manufacturers, but it will give the Canadian market to the American manufacturers. Our manufacturing industries are yet in their infancy, with a very limited capital in the most of cases; on the other hand the manufacturing industries of the Americans have a stability and capital gained by one hundred years protection. That the competition between the industries of the two countries will be short and sharp, and we will find, after bitter experience, that the industries that we have made such sacrifices to build and foster will almost be swept out of existence. It may well be asked, will the farmers of Canada benefit by such a state of things? The answer is, "No."

Commercial union will do more to foster the spirit of annexation amongst our people than any other policy that can be adopted.

If we as a people are desirous of maintaining our present relations with the mother country, if we are desirous of remaining loyal to the British Crown, if we are desirous of building up our own industries, we will avoid commercial union; for the working and outcome of commercial union will produce the opposite of these.

Sheaves from our Cleaner.

If foreign pollen exerts an influence upon the character of the fruit in the grape, it would be expected that the blossoms of black varieties fertilized with pollen from white ones would produce berries of lighter color than would self-fertilized blooms. The flowers of several bunches of the Burnet, Monroe and Senasque, all black grapes, were castrated before the caps had fallen and enclosed in paper bags. In due time they were fertilized with pollen from the Lady Washington, a white grape, and again enclosed in bags in company with several other bunches on the same vines that had not yet opened their flowers. Thus some of the bunches on each vine must have been self-fertilized and others cross-fertilized with the Lady Washington. When the grapes had matured, it was quite impossible to detect any difference either in color or flavor between the self-fertilized and the cross-fertilized berries of the same variety. From these experiments and the one made in 1885, it would appear that the cases, if any, in which the pollen of one variety of strawberry or grape has an influence upon the fruit of another, must be regarded as exceptional.—[E. S. Goff, N. Y. Experiment Station.

Two acres of timothy grass, especially uniform in character and growth, were divided into two plots of one acre each. One lot was cut in full bloom, and the other was cut about sixteen days later, when the grass was approaching ripeness. The grass was carefully cured and the hay weighed when stored in the barn. After being in the barn five or six months, each lot of hay was re-weighed to determine the amount of "dry" hay from each cutting. The average increase yield of "dry" hay was 546 lbs. per acre, where the grass was nearly ripe, over the yield of grass cut in bloom. The average shrinkage in weight of early cut hay was 26 percent, and of the late cut 19 percent. The average yield per acre in four experiments of two years each was 2,955 lbs. of early cut hay and 3,501 lbs. per acre of late cut hay. But chemical analysis showed that the increased weight of late cut hay was due to the growth of starch and woody fibre, as the nitrogenous compounds or protein, the most valuable food element, had increased none or but very little. This is a strong argument in favor of early cut hay—that is, cut when in bloom. So true is it that the 2,955 lbs. of early cut hay were found to contain a little more actual food elements than the 3,500 lbs. of late cut hay. This was at the Pennsylvania agricultural college.

When M. Pasteur advanced his theory that all fermentation was caused by organisms so minute that they floated about in the air, he very soon announced that, according to his experiments, these small bodies would not pass through cotton. Now, if they cannot go through cotton, and if they are the cause of fermentation, cotton will prevent the canned fruit from spoiling. Many people have experimented with it and find it a success. The cotton is simply tied over the boiled fruit while it is still hot, serving to keep the germs out just as efficiently as the rubber ring or any amount of wax. In several experiments tried with five kinds of fruit, and tomatoes, the results were perfectly satisfactory in every case, not even a particle of mould forming in the can. In most cases the cotton was simply tied over the canful of hot fruit; in some cases there was a piece of white paper put on first to prevent the cotton from dropping down and becoming juice-soaked. This seems to be the preferable way. The cotton is taken just as it comes off the roll, the thickness being about as it unwinds, and it is tied down with strong twine. If this should be as successful with all fruit canners as here, there is no longer need for patent fruit cans; for any bottle with a wide neck suitable to receive the fruit, or any jar with glazing which is perfect, to allow no entrance of air through its walls, will be all-sufficient for keeping the fruit for winter use.—[Mrs. Kedzie in The Industrialist.

The Dairy.

Length of Time Required to Churn Butter.

The time required for churning butter should neither be too long nor too short, injurious effects being produced in both cases. When the butter doesn't come for a long time, the cause, as a rule, can be traced to the temperature, being mostly too low; and the amount of force expended in a given time, as well as other causes, has something to do with the duration of the churning process. When the butter comes too quickly, the cause can frequently be traced to too high a temperature, which acts prejudicially both to the quantity and quality of the butter. Of course, the character of the material from which the butter is being made has also an influence upon the length of time required for churning, for when the whole milk is churned, a longer time is required than for churning the cream. It is generally admitted that churns which bring butter in twenty to sixty minutes are the best.

The fact that it takes longer to churn whole milk than cream has caused an investigation of the question, what is the effect of adding water to the cream? Mueler, the investigator who put the matter to a test, found that it required fifteen minutes longer to churn the cream when an equal volume of water was added to the cream, all the other conditions being the same. Other experiments have confirmed this test, the water being added in different proportions and the mixture then being allowed to stand for varied periods of time before churning, so that it is considered to be a useless practice to add water or any other liquid to the cream, and thick cream, within certain limits, is more favorable to the churning process than thin cream, and the greater the volume the greater the labor required in making the butter come; that is to say, there is a waste of force as well as of time, and there can certainly be nothing gained in handling a large mass of watered butter-milk. The watering process is specially objectionable when the water is not clean and pure.

Normandy Butter.

Considerable attention is now being paid to the Normandy system of butter-making, as the French butter made in this district has taken the lead in the European markets, and brings a higher price in England than the Danish butter, which has enjoyed so high a reputation. In 1886 there were 402,620 cwt. of French butter imported into Britain, valued at £2,264,001, or £5 12s. 5d. per cwt. From Denmark the importations for the same year amounted to 400,556 cwt., and brought an average of £5 9s. 6d. per cwt. being 2s. 11d. per cwt. in favor of the French article. The total importations from all countries (in 1886) were valued at £8,140,188, the average price being £5 5s. 5d. per cwt. Irish butter bringing £4 10s. per cwt. The Normandy system is very simple and somewhat ancient in many respects, few of the improved methods having been adopted. Great attention is paid to cleanliness and the care of the cows, especially the feeding of wholesome and nutritious foods. The cows drop their calves all seasons of the year, so that a regular and constant supply of butter is found in the markets, making the prices pretty uniform, but winter dairying has been greatly on the increase during the past few

years. The Normandy butter-makers sacrifice everything to quality. In order to keep the cream fresh and sweet, they set deep in cool water, but do not use ice. Although much butter is sold directly from the churn, yet there are large factories which purchase butter from the farmers in large quantities, all of the same grade being mixed together and packed for the foreign markets, and quite a number of different grades are manufactured. The merchants do not pay the farmers the same price for all grades of butter. The worst qualities receive the worst salt, the higher qualities receiving better salt, and the best qualities are not salted at all. The better the quality the less the quantity of salt used.

We take the following extract from Prof. Carol, who went from England to France to make a special study of the Normandy system, his report appearing in the Farmers' Gazette:

"A great deal has been said about the secrets of Norman butter-makers. There are no secrets. Given the same care on the part of our people in respect of cleanliness and attention to details, I am perfectly satisfied that we can produce as good butter as is produced in any part of the world. The milking of the cows is very carefully done morning and evening. The cows are generally milked into brass, vase-shaped vessels with narrow mouths. The milk, when brought to the dairy, is carefully strained, cooled by setting the cans in the trough of cold water which is generally found in the Norman dairies. The milk is then set in the deep earthenware pans, and after standing 24 hours in summer to 48 in winter, it is skimmed. In some dairies an earlier skimming is made with the result that the best butter is obtained. Churning is performed generally twice a week, and the operation of churning is the most carefully done work of the dairy. The cream, which in many dairies is kept each skimming separate, is put into the churn at a temperature as near 58 degrees as possible. Sometimes a proportion, about one-fourth, of new or sweet milk is added to the cream immediately before churning. The barrel churn, of a size to suit the requirements of the dairy, is in general use in Normandy. The revolutions of the churn are slow and steady, about 40 to the minute. Very careful attention is given to the time for stopping the churning, and here is the critical period when all previous care and attention may be jeopardised. Half a dozen revolutions more than is necessary may spoil the butter beyond recovery. As soon as the butter has formed into grains about the size of mustard seed the churning is stopped and the greater part of the buttermilk is drawn off. The churn is then half filled with cold water, a few revolutions of the churn are given, when the water is drawn off, after which the process of adding water and drawing it off continues until the last drawn water comes quite clear. The butter is then taken from the churn and worked by wood implements until the water is expressed, when it is made into a lump covered with a clean linen cloth and made ready for market. The butter is not salted in the dairy, but sold as soon as possible after being churned. The skim milk and buttermilk are used in the feeding of calves and pigs. Many calves are fattened for the markets of Paris and other large towns. The young stock reared as stores are kept in capital condition. Those steers intended for the fattening pastures of the Department of Calvados are generally kept in good store condition; as much as possible of the calf flesh is kept on them. Occasionally the dairies are heated during winter by burning charcoal or embers set in a metal pan in the centre of the dairy."

Should Milk be Tested at the Cheese Factories?

We have received several complaints as to the quality of the milk delivered at the cheese factories, where strong suspicions as to adulterations have been entertained. One patron who delivers large quantities of milk, and is also salesman and milk inspector, upon a recent visit to London, called at our office to ask our advice. He informed us that he had no instruments for testing the milk, and asked if those described in the *ADVOCATE* were readily procurable, and easily operated. We told him that our dairy authorities did not understand the testing of milk, that they had no reliable instruments, that they had devoted their attention exclusively to the manufacture of such milk as the patrons choose to send to the factory, and that in their opinion, farmers could be lectured into the doing of what was right. We informed him, moreover, that we would send out our dairy expert (who has the most complete and reliable set of test instruments in Canada) to examine into the exact state of affairs. Accordingly, the task was undertaken, and none of the patrons, not even the cheese-maker, knew that tests were to be made. The patrons stared while delivering the milk, not knowing what was going on inside as seen through the window, and when they came into the factory, seeing a case of glass instruments and the operator rushing through the tests, they turned pale as they heard him asking the names of those whose milk did not come up to the standard, and as their names and the quality of their milk were being written on a sheet of paper. As the tests were made as fast as the milk was delivered, the morning's and the evening's milk being tested separately, only the most glaring adulterations were noted on paper. Six different tests of the same sample of milk can be made by the box of instruments, but one test is sufficient in bad cases of adulteration, while in milder cases more are required, and when each test confirms the others, there can be no doubt about the milk being tampered with, and the mode of adulteration can also be detected. In taking the specific gravity, we have a method of getting accurate results without going through the time-wasting and cumbersome process of heating or cooling the milk to 60°, as other dairy experts have to do, and which makes even this test alone too tedious to be of practical value.

The results ought to startle our readers. There were between 70 and 80 patrons, and hardly 10 percent of them sent in honest milk, 36 names being put on the black list, and 30 being classed as doubtful owing to the lack of time to complete the tests, our expert having to leave at 10 o'clock in order to catch the train. It is more than probable that there was less than 10 percent of pure milk. The morning's milk was usually all right, the trouble arising mainly from the skimming of the evening's milk, but in some instances water was added to the morning's milk. In some cases there was as low as 2 percent of fat in the evening's milk, and some of the samples contained over four percent.

But the best, or worst, of the story is yet to be told. The milk inspector for the said factory called a meeting of the directors, and read before them the results of the tests. He then offered to give the names of those who had been tampering with their milk, but they refused to listen to the names. This is quite consistent with the fact that all the directors, excepting one or two, had

their names on the black list, and we believe they decided to have no more of the testing business.

We have always been in favor of testing milk, but the government and our dairymen appear to think that we are insane on this question, and they preferred to send round lecturers at the farmers' expense. Our readers will now see who is right. Who has always been right on dairy matters?

Seeing that this is the condition of affairs, that our Government and Dairymen's Associations will not follow our advice, and that there is imminent danger of our cheese losing its reputation in the foreign markets, we make the following offer to all cheese factories: We will send our special dairy expert to any factory which invites us to do so. We do this at our own expense, the factory paying merely the actual outlay for railway or other necessary expenses, we giving the services free of charge.

Testing Milk and Cream.

[A Lecture delivered by W. A. Macdonald before the Dominion Farmers' Council.]

No. VII.

THE OIL TEST.

The oil test is a new American institution. The apparatus consists of a case of long, slender tubes for holding the samples of milk or cream to be tested, with appliances for churning the same and for heating the tubes until the butter therein contained is melted into oil. There is a mark around the centre of each tube up to which the milk or cream is poured, each tube thereby containing the same volume. In some cases the tubes are graduated; in others, a rule is used and graduated specially for the purpose. There is no absolute principle upon which the graduating is carried out, but it has been found convenient to take as a standard a sample of cream a guage (113 cubic inches) of which makes a pound of butter, churn it in one of the test tubes, and, after being melted, make a mark at the lower margin where the oil separates from the other portion of the churned material. This space extended is divided into a convenient number of equal parts in such a manner that the samples, when converted into oil, can be measured with more or less accuracy, and the patrons of the creamery are paid according to these measurements; the thicker the cream the greater the volume of fat over the standard, and the thinner the cream the less the volume of fat.

The oil tests have been boomed up by the practical dairymen of the United States, although some of them have made complaints about the difficulty in getting a clear separation of the oil, which prevents accurate measurement, but I do not believe that the system has received scientific sanction. The practical farmers and dairymen in the States have little or no confidence in their experimenters, while in Europe the practical men do not usually embark in an adventure until it has received the sanction of the professional investigators. The oil tests not seeming to be recognized by European authorities, although they are quick to perceive genuine improvements from all foreign countries, I was led to make special research into this system of testing milk and cream.

The methods I have hitherto described are of two classes, viz., (1) the testing of the total butter fat in the milk or cream, and (2) the actual churning capacity of the same. Now, as the oil test is a method differing from both, the division

of profits being governed neither by the butter-fat nor the butter, it is necessary to inquire into the defects of the old methods, and then show the improvements, if any, in the oil-test system.

Omitting for the present the relative expensiveness of the methods, the main objection to the Cherry churn, by which the profits are distributed according to the actual yield of butter, is that each patron's cream cannot be churned at the same degree of acidity, so that the farmer whose cream is churned in the sourest condition gains an advantage—the sourer the cream the greater the yield of butter. This may be the fault of the farmer or of the butter-maker. The error in using the butter-fat standard lies in the differences of the cream or butter co-efficients of the samples tested; that is to say, the distribution of the profits is based upon the actual percentage of fat in the milk or cream, whereas some samples that have a high percentage of butter-fat may produce less butter than those having a lower percentage. This injustice, however, although it may cause some complaint when the milk is tested, yet where the cream is sent to the factory, the injustice can be but slight; for all samples of cream, handled and churned in the same manner, will have very nearly the same butter co-efficient.

Now, if the oil-test covers these defects without giving rise to other difficulties, it deserves all the praise that has been accorded to it. In the first place, it does not get over the difficulty ascribed to the Cherry churn, viz., the churning of the cream at different degrees of sourness; for the cream is churned under the oil-test just the same as with the Cherry churn, so that in this respect the fat test has the advantage, for the percentage of fat can be determined as well with sour as with sweet cream. On the other hand, the only difference between the oil-test and that of the churn is this, that, instead of the actual yield of butter being weighed, it is first melted and then measured, the result being that, in the latter case, the water and casein settles, leaving the pure butter fat as the basis for distribution, which corresponds to the fat analysis of the cream, with this exception, that the patron gets paid only for the *churnable* butter-fat in his cream, and not for the *total* fat as is determined by the fat analysis. The relative merits of the oil test and the actual fat analysis therefore depend upon this question: Is the injustice caused by churning at different degrees of acidity greater than that caused by adopting the actual fat standard? This question cannot yet be answered for experiments in this direction have not been sufficient to prove anything.

In comparing the oil and butter tests, it should be borne in mind that both would give absolute justice providing the samples are all received in the same condition and churned at equal degrees of acidity, and providing the percentage of water in the butter be governed by the butter-maker and not by breeding or feeding of the cows. It is probable, however, that breed and feed have much less to do with the percentage of water in the butter than the mode of manufacture. The lower the percentage of water the higher the quality of the butter, but unless market prices respond to this condition, the farmer who produces watery butter should receive the same price as is received for other grades.

Considering all these facts and probabilities, it is likely that the fat test is the most just and accurate standard, and when we also consider the

fact that, by the fat test, the farmer is in a position to judge his cows for breeding purposes by ascertaining the cream and butter co-efficients of their milk, there can be no doubt whatever as to the superiority of the fat standard; and the oil test may have this slight advantage over the churn test, viz., that the farmer who willfully sours his cream for the purpose of getting a higher proportion of the profits of the creamery gets his plan partially frustrated by losing the extra amount of casein which he would be credited for under the churn test.

With reference to the relative expense connected with the three systems, the fat standard has also a great advantage, the first cost being about one-tenth of that of the oil method; the contingencies and the cost of operating are also less. Between the butter and the oil methods, there would not be much difference in the labor and expense, providing such tubes were used for the butter as for the oil tests. If tubes of the same weight could be procured, with stoppers in them for letting out the butter-milk, there would be less labor in weighing the butter than measuring the oil, the labor of melting would be saved, and the average accuracy would be greater.

(Concluded.)

Brine for Butter.

I prefer brine for washing butter, says Prof. Arnold, but do not consider it absolutely essential; good clear cold water does about as well, but I very much prefer brine to dry salt for seasoning butter, for the reasons that it seasons more evenly than dry salting can; it avoids anything like streaks; it avoids all necessity whatever for any working, and hence avoids all injury to the grain and flavor and durability of butter, always the consequence of working. The butter is gathered in granular form. This should be done in any event. When it has come enough to have the cream clean off nicely from the glass in the churn, the churning is stopped and a gallon of cold brine for about every fifteen gallons of cream is turned into the churn and mixed with its contents by giving the churn a few gentle turns. This will granulate the butter and harden the granules so they will not stick together, and will thin the buttermilk so that it can be better drawn off without wasting butter. After the buttermilk is off, wash the butter with cold water or brine till the water runs off perfectly clear. A brine made by putting into the water a little more salt than it will dissolve should now be in readiness to turn on to the butter in the churn as soon as the washing is done.

There should be enough of this brine to fairly float the butter in the churn, and it should be at 60 degrees when turned in and then stirred by giving the churn a turn or two. If the butter is to be kept long it is thought better to let it lie a half hour or so in the brine, stirring it occasionally that it may draw as much water as possible out of the butter. When ready to come out of the churn the package which is ready to receive it should be in readiness and the butter put into it at once and packed down solid. By having the brine in which it has been lying in the churn at 60 degrees, it will be in just the right condition for packing with the least injury. As the butter is pressed down solid the superfluous brine will be forced out, and by keeping the butter highest in the middle of the package the brine will find its place around the sides of the package, to be

easily turned off as it accumulates. By this practice the butter will be seasoned perfectly even with about a half ounce of salt to the pound, which is ample for keeping and for flavoring fancy butter. The brine used either for washing or salting can be used several times by scalding after using, but this will hardly pay.

Breeding for the Dairy.

This is one of the most vital agricultural questions to be considered at this season of the year. A year has now elapsed since we last alluded to the subject, and although the battle of the breeds has been raging all the while, yet no reliable facts have been brought to light. Our agricultural exhibitions have grand opportunities for making advances in this direction; but although thousands of dollars of public moneys have been spent, not one cent's worth of practical good has been accomplished. Our dairymen, who control these affairs, have had greater interests in espousing the cause of the manipulators, and they have never come forward to advocate honest and reliable tests. Unless our farmers themselves move in this direction, their cause had better be completely abandoned. What our farmers want is facts, and not theories based upon spurious records of the different breeds. If honest and reliable records were difficult to attain, there would be some excuse, but they would not be more cumbersome or expensive than those of doubtful or spurious origin, and there is no use in conducting experiments by methods or on principles which are behind the times. The farmer wants not only to know that there is a certain number of superior animals in a given breed, but he is also interested in knowing the number of inferior animals, because pedigree cannot be relied on as a basis of individual merit. Indeed, the speculators have acknowledged this by their doings, for they have entered into experimental work, although the principles upon which it is based are unsound and calculated to mislead.

We see no reasons for amending the advice which we have repeatedly given, viz.: Breed up your best, keep your beef and dairy herds distinct, make breed and pedigree a secondary consideration, weed out your inferior animals, and get pedigree, if you can, with individual merit. We know that this advice is hard to follow, but it should be approximated as closely as possible. It is not easy for farmers to make reliable tests of individual merit. Most farmers know which of their cows give the largest quantity of milk, and so long as they send their milk to the cheese-factory, the same price being paid for all qualities of milk, they will be justified in raising bull and heifer calves from the cows which give the highest yield of milk, or if a Holstein or an Ayrshire bull can be procured whose female ancestors are known to be deeper milkers than those of the home-raised family, he may be safely purchased at a reasonably advanced price. The prospects of milk being paid for according to its quality will not affect this course, for an extra quantity will be an equivalent for extra quality.

However, in breeding for home-made productions or for the creamery, the question becomes more complicated, both as far as the present is concerned and with reference to future prospects. Very few creameries now pay for the cream on the basis of its volume, the churn or oil tests being extensively used, so that the quantity of fat or butter is used as the standard. On this

basis, our farmers have many difficulties to contend with before they can breed intelligently and successfully. They have neither the time, nor, as a rule, the patience to churn the milk or cream from each cow separately in order to ascertain its quality, and reliable instruments for testing the quality of the milk have not yet come into extensive use. Strictly speaking, a double test is necessary, viz., that of the whole milk and that of the skim-milk, for some cows give rich milk, but the percentage of butter may not be so high as that from other milk which contains less butter fat. These tests being made, the farmer could decide whether his cow should be classified amongst the cheese or butter breeds, when the milk is paid for according to quality.

Granting that there is a large number of meritorious pedigreed stock in the country, we must not lose sight of the fact that there is a larger number of superior animals which cannot be classified as such, and it is absurd that the few should receive our whole attention, while the many are entirely ignored by those who pretend to have the welfare of our farmers at heart. We fear the farmer is placing too much confidence in agitators and speculators, believing that they are doing all in their power to help him, but he will eventually learn that "God helps only those who help themselves."

Prof. Arnold says that "the best and most exhaustive churning occurs when the weight of cream is about four times that of the butter."

Prof. Law, of Cornell University, caused some cows to drink for several days from a stagnant pool of water that existed in a swale, and then examined the milk and found it full of living organisms. Then the water from the pool was examined, and the same little living germs were found. Then the cows were examined, and they were found to be in a feverish condition, the result of their blood being charged with this living animalcule. Then some pure milk was taken and some of this pond water put with it, and these same germs multiplied within a few hours so as to take full possession of the milk. After this test no one can dispute that living organisms may be introduced into milk by the using of improper food and drinks. It also shows that there is a close relation between good, pure water and fine and good-keeping dairy products. From a sanitary standpoint, the lives and health of the consumers are to a certain extent dependent upon the character of butter and milk. Radical cleanliness can only be tolerated in the dairy of 1885, and will be in the near future imperative.

Prof. Scribner, of the Department of Agriculture, Washington, in a paper on fungi, says that while sulphate of copper and lime, applied separately, had very little, if any, effect in preventing mildew, the combination of the two had entirely prevented it. A good formula was to dissolve one pound sulphate of copper in two gallons of water. Slake two pounds of good lime in the same quantity of water and then mix the solution, when the mixture should be thoroughly applied to vine and foliage. Another method of application is to dissolve 16½ pounds of sulphate in the smallest quantity of water possible; also to slake six pounds of lime in the least water to have it, when slaked, in the liquid form. Mix these thoroughly and dry. When dry crush and powder. The powder can be blown over foliage, fruit and vine.

The Farm.

A Convenient Farm Gate.

The accompanying illustration represents a cheap and convenient gate adapted for all farm purposes. It requires little or no explanation. It can be opened and closed with ease, especially when there is a smooth wooden surface under the gate for it to move over. Another method of increasing the ease of opening and closing is to make the timber which runs between the rollers as long as convenient, and place a weight at the end furthest removed from the gate post, for the purpose of balancing the gate. In this manner the gate can be operated by a child, and will serve all the purposes necessary for teams or foot travel. The advantage of this over the ordinary hinge gate is that the posts cannot sag, as they have no weight to bear.

Cost of Building and Repairing Fences.

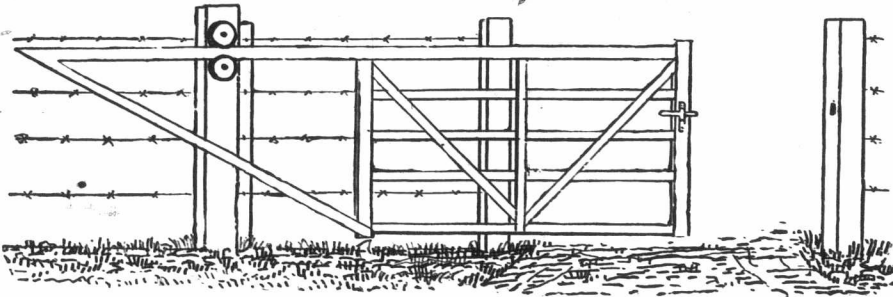
In a recent report of the Fruit Growers' Association, an estimate was made of what it costs to keep an acre fenced. Their calculations are based on two different kinds of fences. The one is a straight post and rail fence, five rails high, the ends of the rails fitted into augur holes in the post. The other is the common snake fence. The cost of the former was calculated to give its average cost all over the Province, while the latter was reckoned at its cost in the "back country," and was only used to confirm the calculation made in the first. For 1,200 rods of the former it was shown to cost \$1,317.00, reckoning rails at \$52 a thousand and posts at 18c. each, or about \$1.10 per rod. Such a fence was supposed to last for 25 years. For the construction of the same length of snake fence, they estimated 26,000 rails, 20 rails to the rod, at \$30 per thousand, costing, with 16 sets bars at \$2, and \$4 per 100 rods for building, \$860. Such a fence they calculated to last for about 10 years. To find out the cost per annum they reckoned six percent interest on the cost of the fence, allowed 15 percent to cover the repairs and depreciation of the fence, and the rent, or interest, on the land taken up by the fence, 12 feet wide, at \$5 per acre, which amounts to \$230, or \$2.30 for every acre in ten acre fields inclosed in by this fence. The annual cost for fencing an acre by the straight fence they calculated to be \$1.87.

In their arguments for the abolishing of fences, they said that a farmer soiling his cattle, and therefore needing no fences, had to pay an annual tax of \$2 per acre to the community that compelled him to fence his farm to keep out other people's stock. In making this calculation the Fruit Growers have evidently overlooked the fact that if a farm is fenced to keep out other people's cattle, it does not require the inside fences, which make up fully three-quarters of the fences on an ordinary 100 acres. Besides, their estimates for the cost of fencing are pretty high, especially in the "back country" snake fence, for farmers experienced with these fences know that in the back country good cedar or pine rails can be bought for \$20 per thousand,

and that a substantial fence built of these rails, especially when they have been so liberally used as to require 20 to the rod, will stand for thirty or forty years without much repair, and that the land occupied by such fence would bring at the highest \$3 per acre for rent. Taking these estimates, we find the cost for fencing an acre very materially reduced, as will be seen by the following estimate:—

COST OF FENCE.	
2,600 rails at @ \$20 per thousand	\$520 00
Building fence, \$4 per 100 rods	48 00
7 gates @ \$3 and 7 set bars @ \$1.50	31 50
Total	\$599 50

To find out the annual outlay, we must reckon six percent interest on the capital invested to build the fence—\$36. Furthermore we will have to pay a yearly instalment to have the fence paid for when it gives way, amounting to 3½ percent yearly—\$20. Now if we pay this yearly instalment, we have the fence half paid for at the end of fifteen years, and the interest should therefore only be half of \$36—\$18; but this \$18 will have to be expended in repairs, and as the fence gets older the more repairs it requires, and the more of the interest goes towards this end. The gates and bars will give out quicker, and about five percent extra must be reckoned on these—\$1.60. The land on which the fence stands, a strip 12 feet wide and 1,200 rods long, amounting to 8.72 acres, will



A CHEAP AND DURABLE GATE.

bring an annual rent of \$3 per acre—\$26.16, making all in all a yearly cost of \$77.60, or 78c. per acre.

Any person, by applying these figures to his own circumstances, can find out the actual yearly cost for fencing his farm without taking other persons' estimates. He will, however, always find that the fences are very expensive, and that the more he can spare of them the better.

However economical he is, he must always have some of them, and he must use his judgment as to which is the cheapest and best for his circumstances. A wire fence, a portable hurdle fence, a rail or a board, all can be constructed for considerably less than \$1.10 a rod. Barb wire costs \$5.90 per hundred pounds, and between 15 and 16 feet of it weigh a pound. If posts cost 13c., and digging of the holes and setting of posts 10c., and the putting up of the wire 5c. a rod, then a four strand barb wire fence, with posts ten feet apart, will cost 67½ cents a rod, and a five strand fence 73½ cents. A portable fence as described in the 1884 ADVOCATE, page 135, will cost about 60 cents a rod, if the lumber costs \$12 a thousand. The portable fence described in the ADVOCATE, 1886, page 332, is estimated to cost about the same. In the October, 1886, issue of the ADVOCATE, page 296, is described a "Cheap and serviceable rail fence," invented by Mr. C. Avery, of Clinton, which costs about 60 cents.

In the older sections of Canada the question of fences vs. no fences is already a practical one, and we must no doubt eventually abolish our fences, excepting a few portable ones, which system works so well in other countries.

The Condition of the Farmer.

BY J. B. LANE.

The great changes which have taken place within the last ten or twelve years in connection with agricultural pursuits, should cause every thinking man to pause and consider what are as a farming community to do under our present altered circumstances to meet the exigencies of the case. Within the past four or five years prices have dropped so low as to cause much anxious thought.

I shall mention some things which, I think, are working against us. The Ontario farmer has a large amount of capital invested in his farm, stock and implements, for which he should receive some return, while the farmers in the Western States, as well as those in our own western country, have little capital invested. Their lands cost them little or nothing, so that his outlay consists in stock, implements and buildings, while they are nearly as well off for markets owing to the discriminating rates charged by the railway companies in favor of long hauls; in other words, we help to pay the railway rates of western farmers owing to the exorbitant charges for short hauls. They can get their wheat and cattle carried from Chicago to New York for less money than we can. I have seen rates on wheat from Chicago to New York quoted as low as 12c. per hundred, and at the same time steamers were carrying wheat from New York to Liverpool as ballast for nothing. We can't get grain hauled anywhere here for that money. What is the remedy? I see the Railway Commission has been taking evidence in different places with the view, I suppose, of trying to find out if we have any grievances; but I have little hope that we shall get any help from that quarter. Our farmers should unite and

make their power felt through their representatives in Parliament.

Another question is, can we partly meet these low prices by exercising greater economy in the working of our farms, and improving the quality of our stock? I believe much can be done in these directions. With improved machinery, we should produce cheaper than we used to do. I can cut, cure, and put in the barn two tons of hay for less money than one ton twelve or fifteen years ago, and there is not only the saving of the hay, but also securing it from the inclement weather.

I think we should also turn our attention more to stock raising and dairying. Many of us have found these branches profitable until the recent drop in the prices. There has been some difference of opinion whether it pays better to raise your own calves, or buy steers at say two years old to finish for shipping. I have found it difficult to get steers of the right quality. If all farmers would use thoroughbred bulls, that would soon overcome this difficulty. The losses which have accrued to the Canadian farmers since the export trade of cattle, have run up into the millions, are accounted for in the use of so much scrub stock, which buyers now don't care to touch at any price. I once bought a car load of very inferior steers—I could get no better then—and amongst them was a pair of 3-year olds past, which cost me \$38 for the two, but I found them dear enough. I had to keep them a year and a half before I could get them fat enough to sell. I should like to know how it paid the farmer who raised them—scarcely six dollars a year for their keep. I don't want to raise a calf that is not worth as much at one year old as these steers

were at three years. A year ago I bought a pair of 2-year old steers, one being sired by my own Shorthorn bull, the other by something else—said to be a thoroughbred, but I was sceptical on that point. On April 6th last, I put them on the scales, and there was just 220 lbs. difference in their weight, or a money difference of \$11, both having fared alike from calthood up. These are by no means exceptional cases.

Of late years, however, I have turned my attention to raising my own calves, having the cows calve as early as possible, as I find nearly a year difference between a late and an early calf. I let them suck for the first month, and during that time I teach them to eat other food, such as hay, oilcake, chop-feed and roots, which they learn readily. At the end of the month, I take them from the cow and give them new milk for a day or two, and as soon as they learn to drink nicely, I commence to mix with skim-milk. At the end of the fifth week, I give them skim entirely, and at four months old they can be safely weaned by reducing the quantity of milk gradually and adding water, always being careful to feed at the temperature of the milk when drawn

Such a steer should weigh 1,400 lbs., or a gain of nearly 1½ lbs. per day, and at the prices which I sold this year, viz., 5c. per lb., the receipts would be \$70 per steer, or a gain of \$3.25, leaving the manure to pay for the labor. In this calculation I have charged market prices of the products grown on the farm—less the cost of taking them to the market.

I now come to the next part of the subject, viz., dairying. This business is profitable for some farmers, but not for others. The greatest obstacle, especially for those who have to depend upon hired help, is the milking of the cows, and let me say on behalf of our wives and daughters, who have to do the milking, don't expect them to go out of doors in the scorching sun or pelting rain, or over the shoe-tops in mud or water, and then blame them for not liking the business. Provide them either with a clean, dry, shaded yard, or, better still, suitable stables. I always milk in the stable, winter and summer. The cows stand here more quietly, and there is less danger in spilling the milk. Treat your cows kindly, and if you have a vicious one, try the experiment of kind treatment, and in

than six months, we should add at least three months more to the cows' record, as they ought to milk nine months, but the factory months are the most profitable in the whole season, and during the months during which the milk is used at home are the most expensive time to keep the cows. I think a fair average for the whole season would be \$30, which also represents the total receipts for the year. I know some farmers make their cows do a great deal better than that, and some very much worse. I have never had such low returns as \$30 any year in which I have kept record. Before I commenced raising calves, I kept a record of the returns from my cows, the lowest being \$33, and the highest something over \$50. One year from 36 cows my sales amounted to \$1,824 (over \$50 per cow), but at that time I manufactured my own cheese at home, and there was no expense taken out for making; but against this I offset the milk, butter and cheese consumed by a family of nine persons, also some calves that I raised, and pigs that I fed on whey.

(Continued on page 209.)



THE CANADIAN FARMER'S DREAM OF COMMERCIAL UNION.

MISS CANADA—Please, kind pa, let Uncle Sam join our union—do, pa? JOHN BULL—Certainly, my darling daughter, if he puts down your fish.

from the cow, and never giving any sour milk under any circumstances.

My estimate for raising and fattening a steer at three years old is as follows:

FIRST YEAR.	
Cows' milk first month	\$2.00
Skim for next three months	2.25
Chop-feed, \$1; oilcake, \$1	2.00
Oilcake for next eight months	3.00
Chop-feed	2.00
Pasture	1.00
Hay for winter	3.00
Total cost for first year	\$15.25
SECOND YEAR.	
Six months' pasture	\$6.00
Hay for winter	6.00
Roots or chop-feed	3.00
Total cost for second year	\$15.00
THIRD YEAR.	
Pasture	\$ 7.50
Hay for winter (1½ tons)	9.00
Chop-feed and roots	20.00
Total cost for third year	\$36.50
" " " second year	15.00
" " " first year	15.25
Total for the three years	\$66.75

nine cases out of ten you will cure her. I never have kickers amongst the cows which I raise myself. In order to be profitable, dairy cows should be well fed and managed. There has been a great deal of booming up of certain dairy breeds for some years back, but I have not taken any stock in these booms. In order to get a great milk record, the owners have resorted to the stuffing process, and in the end have killed their cows in order to make them do more than nature intended, and my opinion is that such persons should be prosecuted for cruelty to animals. Another important question is, what should a cow make during the season to be profitable? I find that farmers must exercise a good deal of skill to keep a large herd up to the standard. They must be constantly weeding out the poor cows and trying to get better ones. Sometimes cows will vary much from year to year, so that you cannot always depend upon your milking well. I see from our public reports that the average returns per cow for 1885 was \$24.02 for the western counties, and \$21.68 for the eastern, the average number of working days being 162 in the former and 160 in the latter. This being somewhat less

Our Illustration.

Dreams may or may not come true, and we therefore ask our readers to judge the prospects and desirability of the realization of the Canadian farmers' dream, embracing a commercial union of all the countries drawn on the map. Perhaps Uncle Sam is rather rash; his policy should have been either to steal a smaller fish, which would have gone into his pocket out of sight, or else wear a coat-tail large enough to hide the big fish. "Yond Cassius has a lean and hungry look: such men are dangerous."

Permit me to say that I like the *ADVOCATE*; I like its outspoken denunciation of frauds and humbugs; I approve very highly of the intelligent manner in which all questions pertaining to our calling are discussed, and I consider that your efforts to improve our people socially and materially are worthy of our warmest support.

BENJ. ROTHWELL, Chatham.

Garden and Orchard.

The Nature and Treatment of Different Woods.

From a paper read before the Chemists' Assistants' Association, London, by John Woodland, F.L.S., the following interesting and useful facts are gathered. Wood, commencing the lecturer, is a hard, permanent, cellular, and vascular structure, formed by plants. The following woods are used when elasticity is required: ash, hazel, hickory, lancewood, and yew. The following are in use when toughness is required, combined with elasticity: beech, elm, hornbeam, oak, and walnut. For durability in dry situations, cedar, chestnut, oak, poplar, and yellow pine are chosen. For coloring purposes, Brazil wood, camwood, logwood, and Nicaragua wood are used to furnish a red, green ebony, a green, and fustic, a yellow color. For ship building, elm, fir, larch, pine, and teak are used. For piles, as supports for piers or landing stages, etc., alder, beech, elm, oak, and plane are in common use. For house building purposes, the ash, chestnut, fir, oak, pine, and sycamore are much used. When hard woods are required, box, lignum vitae, and mahogany are serviceable.

Timber is wood which has been prepared from trees or shrubs, so as to be fit and durable for the purpose for which it is selected. When soft or moderately soft wooded trees are to be felled, mid-winter is the best period of the year, on account of their containing the least amount of sap at that time; the next period being the middle of summer, as, although at this latter period there is a large quantity of fluid in the stem, still there is not the same amount of nitrogenous fermentable principles as are found in spring and autumn.

If the tree be a hard wooded one, the period of the year at which it is felled does not matter to any great extent. In order to render the wood fit for timber, it must be thoroughly seasoned by slow drying. If the wood is to be used in an exposed position, the moisture with which it naturally comes into contact would be liable with the constituents of the sap to cause decomposition, hence water seasoning is frequently resorted to. A running stream being chosen, the logs of wood are sunk in it for about two or three weeks, after which they are taken out and seasoned by slow drying; in this process all the constituents of the sap are washed away, and fermentation or decomposition is thus prevented. Other means employed to preserve wood which is exposed to moisture from the soil, such as gate posts, telegraph poles, hop poles, and railway sleepers, are: (1) charring the outer surface; (2) painting, using with the paint fine sand, pumice, or finely powdered glass, which has been previously incorporated; (3) immersing and standing in bitumen, tar, or creosote; in either of which cases the wood is penetrated to the centre by the preservative material; (4) the process termed "kyanizing," which is now obsolete, and consisted of impregnating the wood with perchloride of mercury by means of a solution of the salt; (5) a process called "Burnettizing," which has proved so successful at Woolwich, and consists of soaking wood in a solution of zinc chloride made in the proportions of one pound of the chloride to five gallons of water.

A splendid example of the preservative action of salt on wood is seen in the salt mines of Poland and Hungary, the wooden supports in which have existed for ages.

Wood, when exposed to a damp surface and not well ventilated, is often attacked by fungi, commonly called dry rot, the mycelia of which rapidly spread, till in time the hard wood is replaced by a small, powdery looking substance. As this fungus only attacks wood when it is moist, the term "damp rot" is obviously more correct.

Mr. Woodland then enumerated some ordinary woods, together with their sources and what peculiarities they may furnish:

Alder (*Alnus glutinosa*, Betulaceæ).—Especially adapted for withstanding the action of water, hence is used in connection with cog wheels of mill stones, pumps, drains, piles in water or mud, heels of wooden boots, etc. The best gunpowder is also made from the charcoal furnished from the alder.

Ash (*Fraxinus excelsior*, Oleaceæ).—This wood is lighter in weight and more elastic than that of the oak, and is less liable to be broken than a cross strain, hence its use for billiard cues, poles, ladders, etc., but being fibrous it is more easily split than the oak. The yule logs of Christmas celebration were formerly furnished by this tree.

Aspen (*Populus tremula*, Salicaceæ).—The wood is not so good as that furnished by the white poplar, being porous, soft, and white; it is chiefly used for field gates, milk pails, packing cases, etc.

Beech (*Fagus sylvatica*, Cupulifereæ).—The wood is brittle and hard, but is apt to decay soon; carpenters' plane frames and other tool handles are made with it, and cabinet makers use it for shelves, etc. Next to the oak this is the largest tree growing in England. Of this wood the Greek ship Argo was built, and in ancient times the wine bowls were made of it.

Birch (*Betula alba*, Betulaceæ).—This is one of the aboriginal trees of our island, as shown by the presence of twigs still retaining their silvery bark which are found in the lower strata of the peat bogs existing in the North of England and around Manchester. The wood known as Norway birch is much used in the Highlands and further south for making wicker hurdles, tying fagots of wood, and thatching straw roofs. It is from the bark of this tree that an oil is yielded from which the peculiar odor of Russia leather is derived.

Brazil wood (*Cesalpinia crista*, Leguminosæ).—This wood is used for dyeing purposes, the colors obtained being red, rose color, and yellow.

Brazilletto wood is furnished by *Cesalpinia brasiliensis*, and produces red and orange colors.

Box (*Buxus sempervirens*, Euphorbiaceæ).—The boxwood of commerce comes from Turkey, Asia Minor, Circassia, Spain and Portugal. This wood, being very close grained and heavy, is largely used by turners, engravers, and carvers, also for the manufacture of mathematical instruments and articles that will take a high polish; the pure bitter it contains preserves it from the attacks of insects.

Cherry (*Prunus cerasus*, Rosaceæ).—This wood is hard and tough, also light and porous; it is used by turners and engravers, and for constructing pipes.

Chestnut (*Castanea vesca*, Cupulifereæ).—The timber is chiefly used for beams and rafters of houses, heads and staves of casks, and as protecting gutters for gas pipes, etc., underground. There is one plant growing at Tortworth in Gloucestershire more than 1,100 years old. The diameter at base is 15 feet.

Dogwood (*Cornus sanguinea*, Cornaceæ).—The wood is used for preparing gunpowder charcoal, and, on account of its hardness, for skewers, cogs for wheels, etc.

Ebony (*Diospyros ebenus* or *Diospyros ebenaster*, Ebenaceæ).—The heartwood only of this tree is black, and being very hard, durable, and wear-resisting, its uses are many and various; besides this wood, which is known as "Bastard Ceylon Ebony," we have a black ebony yielded by *Diospyros melanocylon*, also a fine variegated wood yielded by another species, namely, *Diospyros quasita*, which makes handsome furniture. There are also red and green ebony woods.

Elder (*Sambucus nigra*, Caprifoliaceæ).—This plant while young grows with great rapidity, but when it attains the height of from 20 to 30 feet, its growth is arrested. When young the wood is

soft, but when old it becomes almost as hard as boxwood, and in a variety of cases can be substituted for it; butchers' skewers and tops of fishing rods are commonly made of this wood.

Elm (*Ulmus campestris*, Ulmaceæ).—The wood is hard, finely grained, and hence not apt to crack. It is used for the keels of vessels and wooden fittings of ships, also for cart wheels and coffins; it attains its maturity at an age varying between seventy and eighty years.

The **Whych Elm** (*Ulmus montana*, Ulmaceæ), furnishes a wood that is both strong and elastic, hence it is used for spade handles, garden forks, and rake handles. The gnarled wood is largely used by cabinet makers for veneering. Both this and the preceding elms furnish woods which are tough and not readily acted upon by water.

Fir trees belong to the genus *Abies* of the natural order Conifere; they were formerly called "fire trees" on account of the inflammability of their wood, due to the oleoresin it contains. These trees having a conical shape can thus be told from what are termed "pine trees;" one fir tree (*Abies excelsa*) is the tallest in Europe, its average height being 150 feet. Cf. *Pine*.

Abies excelsa is the Norway spruce, and furnishes the white deal used so much for building purposes. *Abies picea* is the silver fir. The stems of each of these fir trees are largely used for making masts, telegraph poles, signal poles, and building planks, and also for splitting up into matches.

Fustic (*Morus tinctoria*, Moraceæ).—The wood in chips is largely used as a dyeing agent.

Guaiacum (*Guaiacum officinale*, Zygophyllaceæ).—This wood (the heartwood of the plant) is commonly called "lignum vitae" on account of its durability and hardness; it is peculiar, in that the fibres composing it cross each other diagonally, so that cleavage of the wood is difficult. It is much used for making rulers, skittle balls, wheels, cogs for sugar mills, pulleys, etc.; in parquet flooring, by heating the flat pieces of lignum vitae, the natural resin exudes and aids in agglutinating it to its neighboring pieces.

Hazel (*Corylus avellana*, Cupulifereæ).—The wood is very tough and flexible, and is used in making hurdles, crates, fishing rods, hoops for casks, etc. A forked twig of hazel was reputed to have the power when held in the hand of a suitable person and pointing to the ground, of a divining rod, by directing the holder to a place underneath which water exists.

Hickory (*Carya alba*, Juglandaceæ).—The wood is tough and elastic, and will stand prolonged strains; it is used for fishing rods, walking sticks, Canadian paddles, etc.

Hornbeam (*Carpinus betulus*, Cupulifereæ).—The wood is hard, tough, and white; it will burn like a candle, so with frayed ends will act as a temporary torch. It is chiefly used for the manufacture of agricultural implements and the cogs of mill wheels.

Lancewood (*Duguetia gutierrezii*, Anonaceæ, or according to another authority, *Guatelia virgata*).—This wood is tough and elastic to a very high degree, and being at the same time of light weight, it is admirably adapted for making shafts of carriages, bows and arrows, fishing rods, and lances.

Larch (*Larix Europæa*, Conifere).—The wood is fit to use for timber when the tree is forty years old; there is a great objection to its use on account of its warping, even after having been seasoned. It was formerly and superstitiously believed that the wood was impenetrable by fire. The American larch, called "hackmatack," is a heavy and cross grained wood.

Lime (*Tilia Europæa*, Tiliaceæ).—This wood, called commonly "linden wood," is used by carvers and turners, owing to its being close grained and smooth.

Mahogany (*Swietenia mahagoni*, Cedreliaceæ).—This well known wood is sent from Central America and the West Indies. Some trees have been known to produce as much as £1,000 each.

Maple (red) (*Acer rubrum*, Aceraceæ).—A variety of this produces curled maple, so called from the accidental undulation of the fibres; it is one of the most ornamental woods known. It is used for furniture making and also for making stocks of rifles and fowling pieces.

Maple (sugar) (*Acer saccharinum*, Aceraceæ).

—This furnishes the so-called "bird's eye maple," and is highly prized for furniture making.

Mountain Ash, or Rowan tree (*Pyrus aucuparia*, Rosaceae).—The timber is much used for carriage and cart wheels.

Oak (*Quercus robur*, Cupulifera).—This tree in temperate climates is the largest in size, the longest lived, the hardest and most durable as regards its timber, and most common of trees. The oak which has stalked acorns furnishes the best timber, which possesses great strength, tenacity, and durability. The white American oak, *Quercus alba*, has a reddish timber, which, though more elastic than the English kind, is not so durable. Red oak, *Quercus rubra*, furnishes a deep colored timber, which, being coarser in texture, is not so useful. Oak bark is used for tanning.

Pear (*Pyrus communis*, Rosaceae).—The variety furnishing the hard or baking pears has a very hard wood, which is used chiefly for musical instruments, tool handles, etc.

Pine trees belong to a genus called *Pinus*, Coniferae. The trees can be told from fir trees by being more or less flat at the top, where nearly all the branches congregate. **Scotch Fir**, (*Pinus sylvestris*), yields the timber known as Dantzic or Riga fir, and Russian deal. It grows from 60 to 100 feet high, and is fit for timber at the age of 50 or 60 years. The best quality timber is from trees that have grown in cold situations, such timber equaling the oak in duration. **Pinus strobus** furnishes the white pine or deal of the United States; it is called the "Weymouth pine." The wood is used for bowsprits and yards of men of war. **Pinus mitis** and **Pinus palustris** furnish yellow pine or deal. The latter pine will grow in very sterile soils, yet yields a wood which is more compact, stronger, and durable than that obtained from the other species. The least valuable of the pines is the **Pinus taeda**, or "loblolly pine," the timber of which decays on exposure to air. The uses of pine trees are similar to those of fir trees.

Plane (*Platanus occidentalis*, Platanaceae).—The wood is a fine grained one, and becomes of a dull red color in the seasoning; it is occasionally used by cabinet makers, but quickly decays if exposed to the weather.

Poplar (*Populus alba*, Salicaceae).—Wood is white, light in weight, and soft; it is not used for any purpose in particular, though that of the Canadian poplar, *Populus monilifera*, is largely used for flooring. One poplar, namely, the balsam poplar, *Populus balsamifera*, in the form of timber, is quickly rotted by water, like the wood of the horse chestnut, hence, to protect the young beds of these trees from moisture, as rain, etc., we find a thick covering of resin present during winter and spring.

Santalwood (*Santalum album*, Santalaceae).—This wood is sent from Malabar and the East Indian Islands. It is used for making small articles of cabinet furniture, and its odor prevents insects or worms attacking it.

Spindle tree (*Euonymus Europaeus*, Celastraceae).—This wood is hard, white, and finely grained; it is used for musical instruments, netting needles, spindles (hence the name of the tree), and skewers. In France gunpowder charcoal is obtained from it, and the young shoots when charred form a rough drawing pencil.

Teak, or Indian oak (*Tectona grandis*, Verbenaceae).—This wood is very strong and durable. It is largely used in ship building.

Tortoise wood, so called from the resemblance of the wood to tortoise shell, is obtained from *Guetarda speciosa*, Rubiaceae, and the same plant is by some authorities said to yield the striped or zebra wood used by cabinet makers.

Walnut (*Juglans regia*, Juglandaceae).—This is now largely in use for furniture. Before the introduction of mahogany this was almost exclusively used for furniture making. It is also used for gun stocks, as it is lighter in proportion to its strength and elasticity than any other wood. Black walnut, from *Juglans nigra*, furnishes a strong and tenacious wood, and when well seasoned is not liable to warp or split; it is also secure from the attacks of insects.

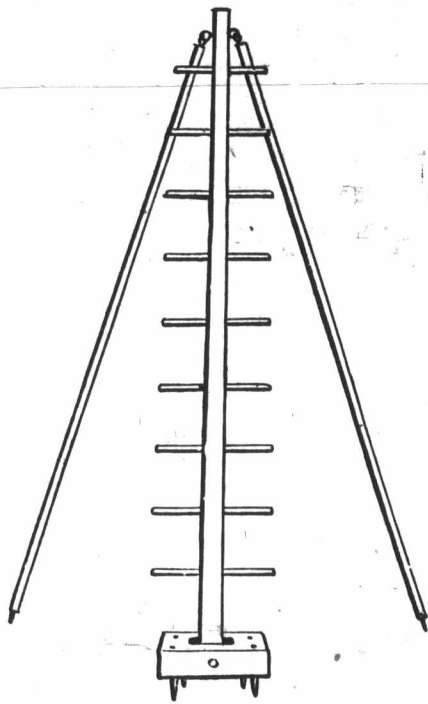
Willows.—The Goat Willow, or Sallow, *Salix Caprea*, furnishes the best willow timber; when growing as a coppice plant, it furnishes hoops, poles and rods for crates. The timber of the

willow is white, soft, and light, the best seasoned kinds being very durable. The dwarf willows, *Salix viminalis* and *Salix rubra*, are propagated by cuttings for furnishing osiers or willow shoots, from which hampers, baskets, etc., are made.

Yew (*Taxus baccata*, Taxaceae).—The wood is peculiarly hard, smooth, and tough, and was formerly used for making bows; it is beautifully veined and will take a high polish, hence is used by cabinet makers for veneering purposes; being very hard and durable, it is used for cogs for mill wheels, axles, and also floodgates of rivers, which scarcely ever decay.

A Simple and Serviceable Ladder for Gathering Fruit.

The accompanying illustration needs hardly any description. Where apples, or other large fruits, are gathered for packing and shipping, great care should be exercised in picking, for the slightest bruise will affect their keeping qualities. The ladder, as shown in the illustration, is one



SIMPLE AND USEFUL FRUIT LADDER.

of the simplest and most efficient that we have seen for gathering large fruits. It can be set level no matter how uneven the ground lies. The block into which the foot of the ladder is placed is attached loosely with the bolt in order that it may accommodate itself to any position of the ladder or slope of the ground. The supports are also loosely attached at the upper ends, so that they can accommodate any height of the ladder or lay of the ground on which it stands. This ladder is also useful for many other purposes.

Mr. J. C. Plumb urges the value of hogs in apple orchards. This is a very wise suggestion. If we supplement this by thinning, removing especially all wormy apples, we shall do much to counteract the codlin moth.—[Professor A. J. Cook.

The Nebraska Horticultural Society has joined various representative organizations of other States in protest against continuance of the Washington Seed Swindle. In view of such accumulated evidence of the wishes of intelligent soil-tillers, it does seem, as the *Farmer's Review* observes, "as if a stop might be put" to the further waste by this folly of more than \$100,000 a year of the money of oppressed taxpayers.

Cabbage Caterpillar.

The eggs from which this caterpillar (*Pieris rapae*) is hatched, are laid by the white cabbage butterfly on the upper side of the cabbage leaf, and are hatched in about 10 to 13 days. The caterpillar reaches full growth in about three weeks after it is hatched, after which it leaves the plant and pupates in some secluded and sheltered place.

REMEDIES.—A remedy recommended for years past has been to place boards between the rows of cabbage, under which the larvæ would find a convenient place to pupate, and the pupæ could be easily collected.

The Director of the New York experimental station writes on the subject: "After very many experiments upon the larva of the cabbage butterfly, we have found but one that is satisfactory, viz., Pyrethrum or Buhach Powder applied with a bellows. This substance, while almost instant death to the caterpillar, is not injurious to the human family or to plants. We found that the samples of the powder used were efficacious when diluted with equal bulk of air-slacked lime, but when the proportion of the lime was doubled the mixture was not fatal to the insects. Flour is sometimes used as a dilutant instead of lime. So much depends upon the freshness and purity of the powder used that it is impossible to give a formula that will be satisfactory in all cases. It is said that a perfectly fresh, pure powder will bear to be diluted much more than half, and still be fatal to the worms. We state on authority of Prof. C. V. Riley, that if the powder is mixed with the flour or lime a few hours before it is applied to the plant, it proves more effective than if the mixture is put on immediately after combination. The best time to apply the mixture is on a still day, and if put on in the evening, when the plants are slightly moistened by the dew, the effect is still better. By inserting the nozzle of the bellows among the leaves, and giving a puff with the handle, the powder rises in a slight cloud, and then settles among the leaves, penetrating the interstices more thoroughly than a liquid can do. Owing to the glaucous nature of the leaves, liquids do not spread evenly over them, but the greater part immediately runs off, thus wasting a large portion of the poison used. We would not be understood that a single application of the powder will prove entirely effective. The caterpillars have so many opportunities to conceal themselves among the leaves that we cannot hope to reach all at once. New ones are constantly hatching. The application should be made as often as once a week, and if the plants become badly infested with the caterpillar, it should be used almost daily until the greater part of them are destroyed."

Pyrethrum, or Persian Insect Powder, should be preserved in tightly corked bottles, as when it is exposed to the air it loses its vitality. When you buy it be sure to get it fresh.

The Fall Web-worm (*Hyphantria textor*.)

The eggs from which the web-worm is hatched are laid in patches on the under surface of the leaves near the extremity of the branches.

The young larvæ have a pale yellowish color, and are slightly hairy, while, when full grown, they are covered with considerable hair, and are of various shades of color, and about an inch long. They, unlike the tent caterpillar, do not leave their nest to feed, but spin it large enough to cover their feeding ground, making additions when too small, until it sometimes covers several square feet. When nearly full grown they leave their web and feed on almost any green thing they meet with. While under their web they only feed upon the softer portions of the leaves, leaving the harder, giving the branch a withered or blighted appearance. The larva feeds not

only upon the apple, but also upon a large number of other trees, and even on shrubs and bushes. In September or October the larvæ burrow below the surface of the ground, or seek sheltered places above it; in these they spin their cocoons, from which the moth escapes the following season.

REMEDIES.—The best known remedy for large trees is to cut off the affected branches and burn them. As it is the extremity of the branch that is attacked, it will generally not injure a large tree to remove these portions from it; but a small tree, especially when it is well pruned, is likely to be injured in form by cutting away these branches, and it would be better to destroy the web without injuring the branch. The best way we know of to accomplish this is to burn the web with a charge of powder. Load a gun with a slight charge of powder, hold the muzzle about a foot or two from the web, with the barrel in a line with the long axis of the web, and fire it off. This, if properly done, completely destroys the web and its inmates without injury to the tree.

Wasps' nests may be completely destroyed in the same way, no matter where they are situated. If done in the evening, when the wasps are all at home, and if the nest is properly hit and not too large, no insect will escape.

The Pear-Tree Slug.

The fly which lays the eggs from which these slugs (*Selandria cerasi*) are hatched, belongs to the transparent, four-winged order of insects, to which also belongs the bee, the ant and the currant-worm. It (the fly of the pear-tree slug) has a glossy black appearance, and is about one-quarter of an inch in length. The eggs are laid in a semi-circular cut, made by the fly in the leaf at the commencement of June, for the first brood, and about the end of July for the second brood of slugs.

The slug is naturally white, but soon becomes covered with a brownish substance secreted by its skin. It tapers from the front posteriorly, and its head is sunk in or rather hidden by the first segment of the body. It has a peculiar odor. It is about one-half of an inch long when full grown. It feeds upon the upper surface of the leaves, leaving the stems and lower surface; it is thus that it often escapes detection on larger trees. The leaves, when eaten by them, wither away and fall to the ground. They pupate below the ground, and the second brood passes the winter there in the chrysalis form.

REMEDIES.—The remedies are either to spray the trees with a Paris green or a hebeore solution, or to apply these poisons in their dry state when the dew is on the trees, diluted with ashes or lime. In whatever form they are applied, they should always lodge on the upper surface of the leaves. When applied in the dry state a convenient method is to tie some old can with perforated bottom to a pole, place in it the diluted poison and shake it over the tree. When applying it, stand to the leeward side of the tree.

Please find my subscription for the FARMER'S ADVOCATE. I like your ADVOCATE AND HOME MAGAZINE well, and so long as you with your manly and unexcelled vigor combat the enemies and monopolies organized against the true interests of the farmers of our fair Dominion, so long will the ADVOCATE wield an influence which will tell for the future weal of our Canadian farmers. I have received much good advice and many useful hints through its columns.—JOHN ROBINSON, Sandfield P. O., Manitoulin Island, Ont.

Stock.

A Chatty Letter from the States.

[From our Chicago Correspondent.]

Receipts of cattle continue to be the largest on record, and so prices, as yet, have made no very substantial improvement. The man who expected to sell cattle at 6 cents by this time has not been heard from lately. High prices and excessive supplies do not go together, and everybody knows we have had a big overproduction of beeves.

Corn, cotton seed and prickly pear-fed Texas cattle have been marketed more freely this spring than ever before. The Texans say they are going to do more winter feeding hereafter, and not be entirely at the mercy of the grass cattle market in the summer.

The best heavy cattle sold in June at \$5.00 @ \$5.25.

When \$4.50 was buying good export cattle, some choice 1,325 to 1,385-lb. 2-year-old Angus half bloods sold at \$4.85 @ \$4.90. Some inferior 400 @ 600-lb. store steers sold as low as \$1.60 @ \$2.25 per cwt., but well-bred 900 @ 1,000-lb. steers in June sold as high as \$3.25 @ \$4.00. The latter price is too high according to the way ripe beeves are selling. It is a very common error, that of paying too much for store stock.

Many 700 @ 850-lb. yearling, corn-fed steers have lately been marketed at \$4 @ \$4.35 per cwt. One day some fine 750-lb. yearlings sold at \$4.25, the same as some thick, fat 1,500-lb. 3-year-olds.

Owing to early drouth, hay is not very plenty, but taking the entire country there never was such a grand prospect for corn as this year. Of course, later developments may change the aspect, but from the present outlook corn will be plenty and cheap, and there will be no excuse for marketing half fat cattle.

Mr. John Gosling, the well known cattle feeder, explains that the so-called cattle "fatteries" in Nebraska are not practicable. They grind and cook the grain, and, according to Mr. Gosling, cannot make any better beef than could be made out of distillery or glucose slops, and, of course, the expense is much greater.

There was great excitement here over the great wheat "corner." Prices were forced up 15 @ 20 cents, until June delivery sold at 94c., or much higher than could be obtained in any other market. This caused a rush of grain from all parts of the country, and the cornerers found they had undertaken too large a contract. At any rate, on the 14th of June there was a drop of 18½c., which resulted in three failures, amounting to \$25,000 to \$1,500,000, and the following day when there was a further break of 4c. to 5c., fourteen more Board of Trade firms were forced to the wall. After prices had gone up 5c. to 10c. above a legitimate point, country holders seemed to think it a good time to unload, and they continued to do so until there was not an inch of space in Chicago elevators.

Hogs are scarcer than last year, and are, consequently, still selling at 25c. to \$1 advance—quite a handsome profit over last year, especially as prices then were fairly remunerative. Sales lately have been at \$4.75 @ \$5.35. The quality of the hogs was never so good as it has been this year. There are few ill-bred hogs now, and the weather has been simply perfect for feeding the past few months.

The receipts of sheep are not quite so large as

awhile ago, but are largely in excess of last or any previous year. The market has been fairly good at \$3 @ \$4.60 for Illinois, Iowa and Wisconsin, and \$2.50 @ \$4.25 for Texas. The Texas sheep are coming to the front as mutton makers. It used to be that growers never considered them fit for anything but wool.

Quite a little excitement was occasioned by the quarantining of Cook county, in which Chicago is situated, for pleuro-pneumonia. The funny part of it was that Prof. Jas. Law had been sent here by the Commissioner of Agriculture to look into the matter. He found everything to be in better shape than he expected, and so reported to his chief. One bright morning, however, Prof. Law was surprised to read in the papers that the Commissioner, without ever consulting him or the other State authorities here on the ground, had quarantined the county. When it was learned that this sensational action might damage the Chicago live stock market, the stock yards were exempted from quarantine, so the "fuss and feathers" really amounted to nothing after all.

Horses in the States are really quite dear. Good horses are in strong demand, and are making plenty of money for producers. Street car horses at Chicago are worth about \$130 per head; drivers and saddlers, \$150 @ \$350; carriage teams, \$400 @ \$600 per team; plugs and ponies, \$50 @ \$125.

Recently a carload of Rocky Mountain burros arrived here, and were held for sale at \$25 @ \$50. Some of your readers may remember the incident of the freight agent who did not know what a burro was. When he saw the bill of lading and looked into the car, he wired back: "Some mis take; one bureau short—one jackass over."

Fat vs. Lean Stock Shows.

As our readers already well know, we have repeatedly raised serious objections against fat-stock shows and their moral tendencies, even during the height of the boom, when nobody seemed daring enough to raise their voice or pen against them. They are an English institution, and gradually but surely worked their way into the American Union, whence they found their way into Canada, having been initiated under the auspices of our Government.

Prof. Brown, veterinary surgeon to the Royal Agricultural Society, created quite a commotion amongst live stock speculators when he recently exposed the ruinous system of feeding in England, and it is quite probable that the present reactionary state of feeling originated in his exposures. It is likely that this reaction will soon be felt in the United States; but our Government, under the Agriculture and Arts Association, will be slow to reverse the course through which they seemed to have won the confidence and respect of a large number of our breeders—and that, too, at so recent a period in the past. Mr. Wm. Warfield, in the Breeders' Gazette, who is regarded by our Agriculture and Arts Association as a high authority on Shorthorn matters, and who aided them so materially in their late Shorthorn Herdbook unpleasantness, makes the following reference to lean-stock shows:

"Originally intended to call out something from every breeder, and especially from the small breeder, and designed to encourage thereby such breeders, they have come in time to require such elaborate preparation and handling that only those who in a sense make a business of exhibiting can find a place in the prize lists of many of

our fairs. He who has one or two beasts to show looks on the months of continuous high feeding, and special attention these animals demand, as illly repaid by the small modicum of fame and the paltry prizes he could hope to win on them. The result has been, both in this country and in England, to gradually decrease the number of exhibitors—and, we may perhaps venture to say, to steadily increase the number of cattle that are annually fed to obesity for exhibition purposes.

"The practical Englishman and the shrewd American, alike, long ago detected the injury arising from this course, but the remedy has not been so easily discovered. The judges have been vainly ordered to award no prize to an animal in their judgment "overdone," but they have rarely been known to disqualify an animal under these directions, and when they have done so have very generally laid themselves open to criticism, severe in direct proportion to the critic's want of knowledge, as a rule. The difficulties in this line in passing upon cattle where the power to take on and carry flesh is eminently sought after, are undeniably great. But to recognize is not to overcome a difficulty, and it is to overcome them that we are striving. These circumstances render an experiment recently set on foot in England notable. This is the establishment of a *lean-stock* show. It is to be known as the East Sussex Lean-Stock Show, and the first exhibition to be held this autumn. Its avowed purpose is to encourage the tenant farmers to exhibit their cattle without extra feeding, and in order to effect this purpose the rules of the show require that no extra feed be given to the cattle shown after July 5th.

"This is a radical move, certainly, and we may well watch the results with eager interest. I have no doubt that such a test will be a surer one as to the real usefulness of stock than any we are now applying. What we want is a class of beasts that will keep in prime condition on pasture alone. Those that can be gotten into a show-yard form only by dint of infinite feeding are not the truly valuable kind. And yet this is so very radical a departure that we may well doubt how it will succeed. My own mind naturally regards it with favor, especially for those shows whose constituency is very small. The difficulty of getting the provision carried out according to the spirit of it is not to be lightly estimated, but then we have that problem in everything of the kind. Indeed, the English show managers are now contending with what seems to be quite wholesale under-classing of animals in the age rings, and are discussing the expediency of falling back upon dentition as a test of age. Fortunately such fraud is rare here. But any fraud in acting upon the rule requiring that no artificial feed be fed after a certain time, would be both difficult of detection and very dangerous to the success of the lean-stock experiment. However, I am not pessimist enough to stand on any such ground as this, and I shall wish the "East Sussex Lean-Stock Show" every success, and if it proves to be a good thing I shall hope to see the same experiment tried in this country. If anything could be done to make even forms and deep flesh take the place of great lumps and rolls of fat upon our prize-winners, it would be a fine day for the small breeder and the young and inexperienced purchasers, for the former class often suffers great injustice in the show-ring, and the latter is often taught a false and highly dangerous standard of merit."

We shall not yet commit ourselves as to the desirability of lean-stock shows, not yet knowing the details of the proposed scheme, but it is plain that some change is imperative. It is not at all probable that a rule can be enforced which prohibits extra rations being fed for a certain time previous to the exhibition.

There is another phase of the question which our Chicago correspondent hinted at in our last issue. The shipments of live stock to Great Britain have been falling off for some time past, and the refrigerator trade has been on the increase, which amounts to discrimination against heavy grades; these have been shipped at the same rates as lighter stock, which tended to en-

courage the production of heavy cattle. At our fat-stock shows and agricultural exhibitions partiality has been shown to heavy animals, as well as over-fed ones, and the new movement should have a tendency towards moderation in this respect.

Veterinary.

Wounds.

Wounds are divided, according to the way they are inflicted, into several classes: (1) Those caused by a clean-cutting instrument, called incised; (2) those inflicted by a pointed instrument, called punctured; (3) those in which the skin becomes torn, called lacerated wounds; and (4) bruised wounds, caused by a blow without separation of the skin. Incised wounds generally bleed profusely. This bleeding generally stops, if no large artery has been injured, after the edges of the wound have been brought together. Sometimes cold water, stiptics (perchloride of iron) or bandages are employed to stop the bleeding more quickly or effectually. If larger arteries have been injured, twist, tear or tie their ends. If the wound is in a limb, bleeding may be stopped, at least temporarily, by tying something tightly around the limb. It should be tied a short distance above the cut, if the blood comes principally from the upper side, has a light red color, and flows out in irregular gushes, and should be tied below the cut if the blood principally flows from that side, has a deep red color and flows out regularly.

Bring the edges of the wound together as soon as possible, as very often, if the patient is in a healthy condition, and the wound attended to immediately, and is not very large, it heals up in a very short time without suppurating or forming pus or matter, and without leaving a marked scar. Before closing the wound be sure that no foreign substance gets into it, as it will prevent healing. The syringe is a good instrument for removing such foreign matter, if small, and the forceps or the finger, if large.

Stitch all larger wounds, as no other method is so effectual in bringing the edges together. The stitches should be from one-half to three-quarters of an inch apart, and should be made with white silk or linen thread well waxed or steeped in a weak solution of carbolic acid, or it should be stitched with catgut or silver wire. If the sewing gives way, it is of no use to do it a second time. Stitches may be removed five or six days after they have been put in. Prevent inflammation as much as possible by the application of cold water when the wound is fresh, and poultice when it is older.

If a wound begins to form pus, wash it daily with warm water, and apply to it a solution of carbolic acid, 1 part of the acid to 80-100 parts of water. If proud flesh (a soft, flabby projection) appears, burn it out by lightly touching it with a stick of lunar caustic. If a wound becomes hard, apply some lard or vaseline, and prevent it from being exposed to the air by bandages. If it is very soft and pale, expose it more to the air. If a wound has a healthy appearance, but heals slowly or not at all, apply gentle stimulants; such as tincture of myrrh, aloes, arnica, etc.

Punctured wounds do not bleed as much as incised ones, but generally suppurate more, and are deeper. As the opening of these wounds is

generally very small, it is sometimes necessary to enlarge it to allow the pus to escape; for pus, wherever located, should have free exit, as otherwise it is liable to burrow an outlet for itself. These outlets (fistules) have a lining of diseased tissue, and have to be treated similar to those diseases known as poll evil, fistulous withers, quittars, etc. If a wound is near a joint it is very dangerous, as it may cause open joint, and the air must be prevented from entering them.

Diarrhea or Scouring.

An animal is said to have diarrhea when it discharges its solid excrements in a semi-solid condition, and at short intervals. This condition may arise from a great number of causes, and may be the symptom of other diseases. It may arise from a change of diet, especially from hard to soft foods, active exercise after a large drink of water, especially when the water is cold, drinking stagnant or putrid water, eating irritant or acrid plants, eating spoiled or acid foods, undigested matter in the bowels, exposure to cold, wet weather, and from various diseases.

A slight diarrhea does not affect the patient very much, but a severe attack causes loss of appetite, rapid falling off in condition, fever and weakness.

TREATMENT.—If the disease arises from some offensive material in the bowels, expel it by giving a laxative of linseed oil (cow, 1½ pts.; horse, 1 pt.; sheep, ½ pt.) Change the diet. Give mucilaginous drinks, such as slippery elm, linseed and starch water. In very bad cases, and where the above remedies have had no effect, it may be necessary to give laudanum, 1 oz., and catechu 1 dram, in a quart of gruel every 3 hours until the discharge ceases. Use this last remedy, with caution, and do not resort to it except in extreme cases.

White Scour.

Calves, foals and lambs are all subject to this disease. It may arise from various causes, such as raising foals and lambs on cow's milk not properly prepared, withholding the first milk (colostrum) from the newly born animal, feeding sour or cold milk when too young, allowing too long intervals between the meals, foreign bodies in the stomach, and improper treatment or health of dams.

SYMPTOMS.—Irregular appetite; swollen, tender, and drum-like abdomen; profuse, fetid, white, watery diarrhea; white or grayish coating on the tongue; dry scurf on the skin, and rapid loss of flesh.

TREATMENT.—Remove the cause of complaint, and, if not too weak, give castor-oil, ½ to 2 oz.; giving young lambs the smallest and calves the largest dose, and foals about ¾ the dose of a calf. If very weak, give laudanum, ¼ to 1½ drs., and brandy ½ to 4 drs. Always give warm, sweet milk or linseed tea three times a day, to which 2 to 3 oz. of lime water has been mixed. When the patient is improving, give a tablespoonful of tincture of gentian twice a day.

When a foal has to be raised on cows' milk, dilute it with ½ its bulk of water, sweeten with sugar and add lime-water. Feed all young animals regularly and frequently. Do not allow them to overload their stomachs; calves especially are very liable to do this. The effects of a faulty treatment of the young animals are not easily, if ever, overcome by subsequent good management.

Poultry.

Edited by J. W. Bartlett.

From a village in Quebec comes an exposure of misrepresentation that we never heard equalled. A breeder of Langshans writes a long article in the Poultry Review, in which he expatiates on the wonderful merits of Langshans as layers, and to do this, gives his experience with Wyandottes, pronouncing the latter in every way inferior to his favorites. In the next issue of the Review appears a communication from a neighbor of the first writer, stating that the Langshan man never had but one Wyandotte about his place and that a cockerel. It is not strange that poultry men should be looked upon with suspicion while they have men in their ranks that will condescend to such means to boom the breed of their choice. We do not approve of booms, as the term is generally used, but we can not condemn frank, true statements of the merits or demerits of any particular breed, as we all want the best; but we can not condemn too severely the man that attempts to bolster up his own favorites at the expense of more meritorious breeds. It would seem as though the Langshan required more of this than any other breed, at least it receives it as far as our experience goes, while the breed the Quebec man depreciates is coming to the front faster than any we ever knew. Even the famous Brown Leghorn is acknowledged by those who have kept both to be inferior to them as all-the-year-round layers.

Making New Breeds.

Many poultry breeders are possessed, as it were, of a mania for making new breeds, continually crossing breeds and experimenting with crosses with no particular object in view than to see if the result will not enable them to bring forward some new breed heretofore unknown. But it seems fortunate, rather than otherwise, that there are very great difficulties to surmount before a breed is made, and the greatest skill and experience in breeding is necessary to ensure a slight probability of success. To make a new breed is not simply to cross two varieties and call the result of the cross a breed, but they must be bred together and occasionally fresh blood must be introduced, and which must be procured in the same manner to insure anything like uniformity in their offspring, and when this is attained—before they will be recognized by breeders generally—they must gain admittance to the American standard of excellence, and before this can be accomplished they must satisfy the American Poultry Association that they have genuine merits, and will reproduce their likeness with a fair degree of certainty, and that there is uniformity in color and size of eggs.

As an example, there has been but one breed admitted to the standard in the last decade that was of American make-up. We would especially warn our readers against sending their hard cash for eggs for hatching to parties advertising a new breed of exceptional merit, but which is not named in the standard of excellence. And while we are prepared at all times to give all honor and credit to the man who produces a new breed of genuine merit, as in the case of the Wyandottes, yet we must deprecate the attempts made by some parties to foist new breeds on the public and claim for them superior merits, when in all probability they scarcely know what constitutes a distinct breed.

If, on the other hand, we look at the possibilities within our reach in the direction of improvement of the breeds we have, we think those aspiring to distinction and profit might much better direct their talents and energies in this direction. All poultry breeders know that there is one hen in every yard that will excel the rest in egg production. Now, if her eggs are kept separate for hatching purposes, the result will be an increase in egg production, while if fancy points are the object in view, use only the very best marked birds for breeders. The possibilities are large, indeed, if this method is pursued intelligently, while without such selection, the excellence of individual birds is lost, and it is the sports that excel instead of the sports being inferior.

Early Culling.

Whatever the line of breeding, the best only should be used to perpetuate the species. And the breeding of fowls, perhaps more than any other stock, requires to be carried on according to this principle, and, whether the stock be what is usually termed fancy, or whether it be of the veriest mongrel type, the surplus birds should be killed and marketed as soon as they are large enough, as they will, if hatched in early spring and marketed in July, fetch as much as the same chicks would in October or November. Keep the largest and squarest cockerels for breeding, and slaughter the rest as soon as they are fit for broilers; or, perhaps better still, kill all the cockerels and secure one of fresh blood and mate with half a dozen of the very best females about the place, for next season's breeding. This number will produce enough eggs for hatching for an ordinary farm.

Wake up the Agricultural Societies.

Farmers and others interested in fowls should now wake up the local agricultural societies, and keep stirring them up until they give poultry a fair show. It is a shame that the poultry industry should be so sadly neglected by our agricultural societies. Stir them up lively. Offer a special prize on some variety not before on their prize list. Get some of your friends to do the same, and you will be working wonders for the poultry interests, building, as it were, better than you know. Your special for one season on a breed may, and probably will, be the means of placing it permanently on the prize list.

Shade Indispensable.

While sun is indispensable to chicks, too much of it is almost or quite as bad as none. If the fowls or chicks are confined in a yard void of trees or some natural shade, there must be an artificial one provided. This may be done by leaning a few boards against the fence, or, better still, by placing four posts in the ground sixteen or eighteen inches high, laying strips on them and covering with maple or other limbs with the leaves on. No doubt other means will present themselves to an ordinarily thoughtful mind, but it matters not what the means employed, this is certain, chicks will not thrive without shade. Plenty of fresh, cool water also is decidedly conducive to thrift. Clean the drinking vessels twice a week, and thus prevent green slime from accumulating.

Give the chicks as much liberty as possible; they will destroy many noxious worms and slugs, and will grow and thrive much better than if kept in semi-confinement.

PRIZE ESSAY.**Poultry Farming as an Occupation for Farmers' Wives and Daughters.**

BY DAVID GARVEY, INGERSOLL, ONT.

In treating of an occupation for farmers' wives and daughters, we are touching on a subject which is of vast importance to farmers themselves, as well as to those whom our remarks are directly intended to benefit. Indeed, it may be doubted if any other question so immediately concerns the future welfare of our rural population as this. At the present time a want has begun to be felt for some out-door employment in which the female members of the farmer's family could participate, and thereby not only assist in increasing the profits of the farm, but also obtain the benefits of light physical exercise and plenty of out-door air, which are necessary for all who would enjoy perfect health.

In past years, when the farmer's time was fully occupied in clearing the land, and before the introduction of labor-saving machinery, the garden afforded a very suitable field in which the farmer's wife varied the routine of her daily duties, and, at the same time, materially assisted in defraying the expenses of the household; but in our day this work can be better and more easily performed with the assistance of a horse, and consequently the farmers' wives and daughters are being gradually excluded from this rather burdensome occupation, and left to choose a more congenial one. To what, then, shall our attention be next directed, and what shall we propose that will suit the tastes of our farmers' wives and daughters, and fulfil all the requirements of such an important want? Let us return to our subject and see how it will fill the bill. We will consider:

1. Its profitableness.
2. The pleasure and gratification attendant on its prosecution.
3. The scope which it affords for both the mental and physical powers.

If after a careful consideration of these points we conclude that it is worthy of being adopted, it will then be in order to show in what way it can be most satisfactorily carried on.

As to its *profitableness*, I think there is little doubt that poultry well cared for will afford ample returns to their keeper, especially when we consider the amount of food which they will utilize which would otherwise be wasted on the farm. Statistics prepared by those entirely dependent on them for a livelihood, show that under proper treatment they will yield a handsome percentage on the capital invested.

As to *pleasure*, where shall the lovers of animate nature find gratification if not among the gayly plumed members of a large flock of poultry, as they emerge from their sleeping quarters on a bright summer morning and give utterance to their hearty appreciation of their morning meal? And what pleasure to hasten to their joyous cackle at the completion of their daily task. Yes, the farmer's wives and daughters should be the most suitable persons to engage in the keeping of poultry, because, although the coarser and more disagreeable portion of the work, such as erecting buildings, cleaning their apartments and supplying their food, could be performed by the men, the constant care and attention to details which is necessary to secure success, and which which they will not thrive, will fall to the lot of the female members of the family.

As to its effects on the mind and body. What the farmers' wives and daughters need most, especially in the summer months, is something which calls them from the seclusion and confinement of the house to receive the benefit of the pure and wholesome air without, and their duty to the fowls in their charge will serve to do this admirably, and if the keeping of accounts be practiced, the mental faculties will receive the necessary amount of exercise.

Having decided to try the poultry business, we should endeavor to obey all the conditions necessary to attain success, and I think there will be no reason to regret the undertaking. The first step will be to prepare suitable buildings to protect the fowls from the cold in winter and to accommodate them at all seasons. These should be placed in a clean place in full view of the house, and should contain, besides roosting apartments, a large feed floor and also a place to rear early chickens. If possible, the house should open into a yard surrounded by a tight fence, and, if some of the large breeds are kept, they may be kept confined when necessary, although at some seasons of the year they may be allowed to roam the entire farm without doing any injury. With regard to the breed of fowls to keep, I think the Plymouth Rock stands at the head for a general purpose fowl, being hardy, a good layer and an excellent table fowl. But if they are to be kept for eggs alone, the Leghorn will be found all that can be desired, although they are very restless, and will not do well in confinement.

While it would be out of place to attempt to give any minute instructions concerning the care of poultry, I will give a few suggestions which, if followed, will, I think, contribute greatly to the pleasure and satisfaction of the poultry raiser. See that their apartments are kept scrupulously clean, and that they are supplied at all times with wholesome food. Any stock neglected is unprofitable, and poultry is doubly so, while none will give such good returns under proper care. Keep a systematic account of all sales and expenditures, crediting them with all sales of eggs and meat and also the increase, and debiting the food consumed at the market price; and then at the end of the year, by balancing the accounts, you will be able to judge whether or not the keeping of poultry has been sufficiently profitable to warrant its continuance in the future.

Many advertisers, especially in the poultry line, finish their advertisements with the words, "send stamp for reply." Now we fail to see any reason why a person buying should pay all the postage, pay for the birds or eggs, and then pay express charges. We don't want our patrons to do it, and don't think it is right that they should. But on the other hand, when the buyer wants information as to where he can get some other breed than those advertised by the person he addresses, it is certainly only fair to enclose stamps for reply. We have frequently received postal cards with questions enough to require half a sheet of foolscap to answer. We think this is asking a little too much, especially when there is nothing pertaining to the advertiser's business.

The following is from an exchange: "To prevent the cock crowing at early dawn, or before he leaves the perch, hang a lath or other strip of wood lengthwise of the perch, and high enough that when chanticleer expands his chest for a shrill clarion note, and throws his proud head over his back, he will bring it into contact with said strip, which will banish the thought of music for the time being; and thus effectually quiet him while on the perch." We have never tried this, but believe the principle is sound.

The Apiary.

Introducing Queens.

Bee keepers who have the common black bees and who wish to improve their stock, can do so by introducing an Italian queen or some other improved breed. Introducing can be practiced nearly any time during the season. Early queens can be obtained from queen breeders in the Southern States, and many are imported by Canadian bee keepers who find some of their colonies queenless in the spring. It is not advisable, however, to take a good queen out of a hive in early spring to introduce another, but rather make the change later on when queens are reared by the bees during natural swarming.

Mr. James Heddon, an extensive bee keeper of Dowagiac, Mich., gives his method of introducing queens in the American Bee Journal, as follows: "If I have a very choice one and wish to take very little risk, I operate as follows: I kill the reigning queen, and put the new one to be introduced into a wire cage between the combs, and after twenty-four hours I open the hive, and if I see the bees 'balling' the cage (that is, two and three deep upon it, savagely trying to force an entrance), I close the hive for twenty-four hours more, and so on till I see the bees crawling over the cage in an unagitated manner; then I pull the stopper to the cage, the open end placed close to the entrance, and with smoker in hand smoke the queen in and smoke the bees by puffing right in after her."

If the queen is of only ordinary value, I smoke her right in without any of the previous caging. I have had almost uniform success with the latter method what little I have used it. Two points of caution are in order—never introduce any workers with the queen, just the queen alone; never open or otherwise disturb the colony under five days from the date of introduction.

How are We to Judge the Quality of Bees.

Mr. G. W. Demaree, in the Bee-Keepers' Advance, has the following in reference to the best breed of bees:

It has been common for writers to court favor for the black bees under the softening influence that hangs about the term native—"native bees." There are no bees "native" to this country so far as history informs us. The black bees were first imported here from England, as I understand from the meagre history bearing on the subject of bees, and should have the name English bees. The same race of bees were later imported from Holland and Germany, and these several importations may account for the slight variations we see in the black bees of the past and present. At the start my prejudices were against the Italians.

I am one of the old class of bee-keepers, and came down through all the years that have developed into what we call the modern system of bee-keeping. And by reason of my prejudice I went on "inventing" box hives and holding on to the English or black bees till the year 1876, when I procured movable frame hives and Italian bees, and tested all these matters for myself. And in the eleven years that have elapsed since then, I have never seen the slightest reason to doubt that the Italians are a superior race to the black race of bees. When speaking of their qualities, the one against the other, I have tried them side by side in the same apiary, and on a large scale, and in their purity, and as a mixture of blood—in the best of seasons, and in very poor seasons, and the Italians have proved superior under all conditions and circumstances. The most extensive test I made of the two races was in 1883. I had 120 colonies in my apiary that year, and about 30 of them were pure blacks.

The best Italians averaged about 100 pounds of honey to the colony, and the best blacks about 60 pounds.

The best black colony stored 100 pounds of surplus, and the best Italians 293 pounds. The figures I set down from memory, as I kept no record of that year's work. As to the physical qualities of the two races, there is but little if any difference as to the longevity of the Italians and blacks. Activity—energy—is the great wearing principle on the lives of bees, as we learn by the fact that all bees survive longer in a state of quietude than they do in a state of activity. But when it comes to the struggle for existence, the qualities of the Italians give them the advantage decidedly. They are proof against the moth worms, and defend their hives with greater courage than do the blacks.

This one superior trait in the Italians speaks volumes in their favor. Not so much because moth worms are dreaded by skilled apiarists, but because this cleanly trait and pluck on the part of the Italians carries with it a train of desirable qualities not likely to be found in bees defective in this respect.

When it comes to handling bees, and we must handle them at times, there are no bees as gentle as are the Italians, and no bees so wild as are the black bees. This difference between the two races, a difference admitted by every well informed apiarist—is like an impassable gulf between them. I do not use the word "gentle" as the opposite of vicious or bad temper, but as the opposite of "wild."

Every farmer knows the good qualities of gentle stock, and the bad qualities of wild stock. If you open a hive of black bees they stampede like wild beasts, while the Italians remain quiet, because they are a gentle race.

The Condition of the Farmer.

[Continued from page 208.]

Now the next question is, what is it worth to keep a cow for the twelve months, for she must be kept for this time for the nine months profit. My estimate is as follows:

Six months pasture.....	\$ 7.50
Hay for the winter.....	5.00
Roots, chop-feed and bran.....	10.00

Total for the year.....	\$22.50
Average receipts.....	20.00

Yearly profit.....\$ 2.50

You will see by these figures that the profit from a cow for one year is 25c. more than the profit from a steer in three years, but you will observe that I have not accounted for the expense incurred in milking and handling the milk.

If time permitted, I should also like something about the care and handling of milk. We have the finest country in the world for the manufacture of cheese, and our cheese-makers are the right class of men, but they are too often hampered by the inferior quality of the milk delivered at the factories, some of it being tainted, and sometimes the milk is tampered with by the patrons. Last summer our cheese maker said to me that one of the vats produced badly tainted cheese, and he had failed to locate the bad milk, although he had carefully inspected the milk of every patron whose milk went into that vat. I told him to change one patron's milk every day into another vat, and luckily in this manner he discovered the tainted on the first trial. We traced the cause and found that a dead and unburied cow had been left to decompose in the field where the cows were pasturing.

Our export trade in cheese is rapidly increasing owing to our good reputation for that product in the British markets, but our butter exports are on the decline owing to the inferior quality of our butter. I do not wish, however, to be understood to insinuate that many of our farmers' wives and daughters are not good butter-makers; the trouble generally comes in after the butter leaves their hands. There are many qualities packed together by the country store-keeper without any regard to a proper selection, the result being that the bad spoils the good. Another difficulty lies in the want of cold storage rooms for keeping the butter. No matter how good the butter is, un-

less it is kept at a low temperature, it will soon turn strong and rancid. I believe these are the causes which have mainly injured our reputation abroad. There is no doubt in my mind that, if we want to regain our reputation, we must adopt the factory system, which no doubt has been the means of establishing our reputation in the cheese markets. It is adapted to all classes of farmers, from those who keep a cow on the roadside to those largest proprietors, and when they have no conveniences for making butter in the hot weather, they can send their cream to the factory. According to the reports mentioned, the returns from the creamery are lower than those from the cheese factory, the season's product for 1885 bringing \$15.48 for butter alone, and \$22.11 where butter and cheese were combined, which makes the difference between the two systems very small, only \$1.91 per cow in favor of the cheese factory.

Commercial.

(FARMER'S ADVOCATE OFFICE,
London, Ont., July 1, 1887.

With fine growing showers and warm weather the crops are coming on finely, and promise well. Hay will not be a heavy crop, in fact, in some sections it is very little more than half a crop. On the whole, the crop prospects are good, and with fine, favorable weather the next month or six weeks, we will see another bountiful harvest secured.

WHEAT.

This article has been pretty badly tossed about the past month. On Tuesday, the 7th of June, wheat opened in Chicago at 92c. and fell to 73c., and on the following day to 69c., the latter price being the lowest point touched in that market since 1862, and a decline of 25½c. from the highest point this month. There has been no instance of such a break in wheat from a point below a dollar a bushel in any previous turn of affairs in speculative operations.

The supplies of the country, although now large in sight, are at a comparatively low point in the aggregate, and the accumulations in other countries have been depleted, so that with a prospect that admits of expectation of no larger a crop this year than last in this country, and probabilities favoring some reduction, with also an outlook from other countries implying no gain over an average year's production in the aggregate, the position certainly favors better prices than now prevail for wheat, with possibilities of a very decided advance in time, if there can be any means for grappling successfully or even partially so with the market wreckers. But it should not be overlooked that the commercial stocks of wheat are now large for this time in the year, and they may be available for hindering an advancing tendency.

The visible supply of wheat was decreased 894,000 bushels for the week, but shows 10,308,000 bushels more than a year ago. The exports from Atlantic ports were considerably reduced for the week, showing a total of 2,499,000 bushels, wheat and flour, against 3,498,000 as the average for four weeks previously. The receipts of wheat at primary markets aggregated 3,160,000 bushels, including some duplication, against 2,944,000 the preceding week. This large movement has probably reached an end for the present.

The feeling is that wheat is now low enough, but speculation for an advance has received very great discouragement, and confidence is lacking. The range of prices of cash wheat in Chicago in

recent years during the months mentioned has been as follows:

	June.	July.	Aug.	Sept.
1886..	70½@78	73¼@81	79¾@78½	72¼@70½
1885..	84½@90	85¼@90¼	78 @ 89	70¼@68½
1884..	83½@89½	79½@84½	76¼@83	73¼@79½
1883..	93½@113½	98¼@102¼	99¼@103¾	93 @99¼

It seems pretty clear that the present low range of prices for wheat cannot go on much longer. The fact is that wheat is now grown at a very small profit, if not at a loss, and no doubt that many farmers are dropping out of wheat, and more will follow. This must apply to the whole world. The millers, dealers and shippers of wheat will some day wake up to the fact that there is a serious falling off in the production, and that prices are unusually low.

The English grain crops are very backward, and a late and shortened harvest is expected. More genial weather has recently set in, which naturally gives a more cheerful view to the general outlook.

Reports by mail from France indicate that the season is particularly backward, having been wet and unusually cold, and the grain crops have suffered materially, so that there is much dissatisfaction at the general appearance of the crops. A small wheat crop and late harvest are now expected.

From Belgium mail advices report continued and excessive rains, with a turn to fine, warm weather, favorable for crops, the continuance of which was regarded as likely to secure a very good wheat crop. Sales of flour have recently materially improved, and accumulated stocks show a decrease.

Late mail advices from Germany report unreasonably cold weather and an excess of rain; nevertheless, it is said growing crops are making satisfactory progress, and generally are promising. It is reported that "millers are beginning to believe at last in the stability of the steady advance, and buy more freely, although they can not yet obtain adequate prices for their flour."

Advices from Austria state that there has seldom been seen so cold and rainy a month of May as the past one. The grain harvest promise, however, is considered good, it being said that "if June should be warm the yield of the Hungarian grain lands will be greater than it has been for a long time." Serious floods have occurred in some districts of Hungary.

In Holland the month of May was unusually cool and wet.

LIVE STOCK.

Late cable advices report the cattle trade no better, with supplies still in excess of the demand. The following is the report as per Montreal Gazette:

Although there has been no further decline in the British cattle markets, trade has continued depressed and dragging, and our special cables of to-day's date fail to indicate an evidence of improvement; in point of fact, the feeling to-day was weak, with trade very unsatisfactory. Receipts from Canada and the United States have continued heavy, while supplies from other quarters have been fair, and all markets have been plentifully stocked. Demand at Liverpool, Glasgow and London to-day was very poor, with trade extremely slow. At Liverpool to-day prime Canadian steers were at 11c., good to choice grades at 10½c., poor to medium at 9½c., and inferior and bulls at 7c. @ 8½c. Following were the quotations in Liverpool for three years:

	1885.	1886.	1887.
	per lb.,	per lb.,	per lb.,
	cents.	cents.	cents.
June 27	15	13	11
June 20	14½	13½	11
June 13	13½	13	12
June 6	14	14½	12½
May 30	14	14	12½
May 16	14	13	11½
May 9	15	11½	11½
April 25	12½	13	11
April 18	13	13	11½
April 11	13½	13	11

WOOL.

Montreal markets are reported as follows:

There is a moderate amount of business doing in Cape at 15c. to 18c., and in Australian at 16c. to 18c., but domestic pulled wools are hardly to be had at all, and fleece is scarce at 22c. to 24c. Toronto.—This market remains in much about the same condition as last week's. For round lots of fleece wool the current price is 22½ to 23c. Country holders are not selling readily yet. Receipts on farmers' market find purchasers at about the same figure. Factory men are buying fairly well of pulled wool in all descriptions and values are well maintained.

BUTTER.

The movement of butter the past ten days has been light, and with little change in prices which have recently prevailed. The outlook for ordinary dairy and store-packed butter is not very promising. While fine dairy, and especially creamery, may be good property, at present prices there is no inducement to buy ordinary butter to either hold or send forward to fill orders. All orders either written or cabled are for finest dairy or creamery, and no other; these commands are emphatic. The following are Montreal quotations on June the 28th:

	c.	c.
Creamery	18	@19
Townships	16	@17½
Morrisburg	14	@17
Brockville	14	@16½
Western	13	@14
Old Butter	8	@13

CHEESE.

The range of prices on the London cheese market on Saturday last, June the 25th, was a genuine surprise to many. Salesmen expected to go home without selling, or if they did sell, that they would have to take very low figures. Buyers declare they had positive orders not to pay more than 8½, and some said they had no orders at any price. Matters rested at this till about 4.30 o'clock, when some one made a break and paid 8½c. The effect of this was to set the whole crowd buying, and before train time (6 o'clock) some 8,200 had changed hands at 8½ to 8¾.

The Montreal Gazette treats the matter as follows:—

"The first cheese boom of the season has gained excellent headway, and already prices have made a considerable advance. Heavy buying has been indulged in all over the country, and many thousands of boxes have recently changed hands. Although the market is in an excited and feverish state, it is only the customary June boom, which even the simplest and smallest operator anticipated, which, however, has struck the market a week earlier than was deemed likely. It is true and generally admitted that June cheese is a favorite article on the other side, but June booms have failed before now, yet such cannot be considered a reason that this one should fail, even though it has commenced at 1½c. above that of last year. Whatever the result it is Montreal buyers who will have the credit of having risen up under the market, and some people have unkindly suggested that circumstances dictated the move. At the same time there are some who believe that the buying has been done on the strength of actual orders based on the idea that everybody will want more or less June cheese. The whole trade, however, is badly mixed up over the new departure, which in some quarters is viewed with satisfaction, in others with doubt, and in others again as only the premonitory spurge before another and a more severe break. Of course there is always the contingency of the weather, which may cut short the production, but so far the make has been heavy and it is, at any rate, a precarious thing to bet against the continuation of good weather. There can be no doubt that the course of the market last season, with its attendant profits, has begotten an important quantity of confidence, which may be a factor of some moment in determining the market, yet the present strength may proceed from ill-advised

causes, which may produce serious results in the way of blocking legitimate trade, when it would be desirous to foster the natural outlet. The week has opened with a strong market and a good demand, due largely to the events in the country."

TORONTO PRICES AT FARMERS' WAGONS. Wheat, fall, per bushel. 80 0 82. Wheat, red winter, per bushel. 80 0 82. Wheat, spring, do. 80 0 82. Wheat, goose, do. 80 0 82. Barley, do. 40 0 57. Oats, do. 34 0 35. Peas, do. 55 0 56. Dressed hogs, per 100 lbs. 6 50 7 00. Chickens, per pair. 40 0 70. Butter, pound rolls. 14 0 17. Eggs, fresh, per dozen. 15 0 16. Potatoes, per bag. 1 00 1 10. Apples, per barrel. 3 75 4 50. Onions, per doz. 0 15 0 20. Carrots, per doz. 0 60 0 75. Turnips, yellow. 0 40 0 50. Turnips, white. 0 40 0 40. Rhubarb. 0 00 0 25. Cabbage. 0 49 0 60. Celery. 0 40 0 60. Beets, per doz. 0 00 0 40. Radish, per doz. 0 00 0 30. Hay, per ton. 9 00 14 00. Straw. 6 00 10 00.

THE HORSE MARKET.

Toronto June 30, 1887.

The Mail gives the following observations and quotations: There is a pretty fair local demand for general purpose horses and drivers, but other kinds are quiet. At Grand's auction sale on Tuesday there was a good attendance, and very fair prices were realized. They ranged from \$44 to \$90 for common workers to \$100 to \$170 for good workers and drivers. The following is a description of the horses sold and the amount realized:

Bay mare, 5 years, 16 hands, sound. \$142 00. Bay mare, 5 years, 16 hands, sound. 165 00. Grey mare, 5 years, 16 hands, sound. 155 00. Grey mare, 5 years, 16 hands, sound. 130 00. Grey gelding, 5 years, 16 hands, sound. 131 00. Brown gelding, 5 years, 15 3 hands, sound. 85 00. Brown gelding, 8 years, 15 3 hands, sound. 138 00. Bay gelding, 16 hands, sound. 100 00. Chestnut gelding, 10 years, 16 hands, sound. 162 50. Brown gelding, 6 years, 15 2 hands, sound. 100 00. Bay gelding, 10 years, 16 hands, sound. 81 00. Bay mare, 3 years, 16 hands, broken double. 75 00. Bay gelding, 4 years, 16 hands, sound. 75 00. Chestnut gelding, 9 years, 15 3 hands, sound. 75 00. Chestnut gelding, 7 years, 16 hands, sound. 170 00. Bay mare, 6 years, 16 hands, sound. 115 00. Black mare, 5 years, 15 2 hands, sound. 115 00. Bay gelding, 6 years, 15 2 hands, sound. 140 00. Grey mare, 16 hands, sound. 80 00. Grey gelding, 7 years, 16 hands, sound. 44 00. Bay gelding, 8 years, 15 2 hands, sound. 160 00. Bay gelding, 8 years, 15 2 hands, sound. 60 00. Brown mare, 15 hands, sound. 77 00. Black gelding, 16 hands, sound. 87 00. Black gelding, 9 yrs., 15 2 hds., kind in harness. 80 00. Bay mare, 15 hands, sound. 78 00. Bay gelding, 15 3 hands, sound. 78 00. Chestnut gelding, 5 years, 15 3 hands, sound. 56 00. Bay gelding, 16 hands, sound. 100 00. Black mare, 7 years, 15 3 hands, sound. 148 00. Grey mare, 5 years, 15 2 hands, sound. 148 00. In addition to these Mr. Grand also sold ten others at \$75 to \$150 per head.

BUFFALO LIVE STOCK MARKETS.

June 27, 1887, Cattle.—Receipts, 10,454, against 10,628 the previous week. The market opened up on Monday with 183 car loads on sale. There was a fair attendance of buyers, but with the heavy supply the demand was soon satisfied, and the market declined 20 to 25 cents per hundred from the rates of the previous Monday, closing with quite a few left over. The best steers on sale brought \$4 65 @ 4 75, good 1,250 to 1,325 lbs. sold at \$4 40 @ 4 55; good 1,100 to 1,200 lbs. \$4 10 @ 4 25; 900 to 1,050 lbs., \$3 75 @ 4; mixed butchers' stock, \$3 50 @ 4; stockers, \$3 @ 3 25. There were no fresh receipts on Tuesday, but about 15 loads that were left over were on sale. The demand was light and prices weak. Up to Friday night there was very little done, and prices continued weak. On Saturday 26 cars were on sale. Market ruled weak at the following:

QUOTATIONS: Extra Beeves—Graded steers weighing 1,300 to 1,450 lbs. \$4 55 @ 4 75. Choice Beeves—Fine, fat, well formed steers, weighing 1,300 to 1,400 lbs. 4 25 @ 4 50. Good Beeves—Well-fattened steers weighing 1,200 to 1,350 lbs. 4 15 @ 4 25. Medium Grades—Steers in fine flesh, weighing 1,100 to 1,200 lbs. 3 75 @ 4 25. Light Butchers'—Steers averaging 850 to 1,100 lbs., of fair to good quality. 3 75 @ 4 25. Butchers' Stock—Inferior to common steers and heifers, for city slaughter, weighing 900 to 1,000 lbs. 3 25 @ 3 65. Michigan stock cattle, common to choice. 3 25 @ 3 55. Michigan feeders, fair to choice. 3 75 @ 4 00.

Fat bulls, fair to extra. 3 00 @ 3 75. Sheep.—Receipts 26,000, against 35,200 the previous week. The offerings of sheep on Monday consisted of 35 car loads. The reports from the east were unfavorable, and the demand from all classes of buyers was light. For the best grades Saturday's prices were paid, but all others were 10 to 15 cents lower. Culls and common sold at \$2 30 @ 3 50; fair to good 75 to 80 lbs. sheep, \$3 75 @ 4 10; good to choice 85 to 90 lbs., \$4 15 @ 4 30; good 95 to 100 lbs., \$4 40 @ 4 50; 110 to 120 lbs., \$4 40 @ 4 50; lambs, fair to extra, \$4 @ 4 50. There were 7 loads on sale Tuesday, mostly common. Buyers were slow taking hold and prices were 10 cents lower. On Wednesday there were 12 loads on sale. The demand was better but prices did not improve. The offerings were light on Thursday and Friday and the market opened strong but closed dull. Six cars were on sale. Culls and common sheep sold at \$2 30 @ 3 50; fair to good 75 to 80 lbs. sheep \$3 90 @ 4; 85 to 90 lbs., \$4 10 @ 4; good 95 to 105 lbs., \$4 35 @ 4 45; 110 to 120 lbs., \$4 40 @ 4 50; lambs, fair to extra, \$4 @ 4 50; spring lambs, \$5 00 @ 5 50. Hogs.—Receipts 23,084, against 35,200 the previous week. The offerings of hogs on Monday consisted of 51 car loads. The demand was active and prices a shade stronger than at the close on Saturday. Good to choice Yorkers sold at \$5 20 @ 5 25; fair do., \$5 05 @ 5 15; medium weights fair to choice, \$5 15 @ 5 30; good to choice heavy, \$5 30 @ 5 35; pigs, \$4 75 @ 5. The market was steady on Tuesday, and on Wednesday medium weights advanced 5 cents. On Thursday and Friday the receipts were light and prices weak. On Saturday seven cars were on sale; Yorkers were a shade higher, while lighter grades were slow of sale. Good to choice Yorkers sold at \$5 20 @ 5 25; fair do., \$5 10 @ 5 15; medium weights, fair to choice, \$5 15 @ 5 20; good to extra heavy, \$5 35 @ 5 40; pigs, \$4 60 @ 5.

Correspondence.

Lotteries.—Will you kindly let me know through the ADVOCATE what, if any, restrictions are on lotteries in Canada?—B. B., Goshen.

[All lotteries are by a statute of the Dominion of Canada declared illegal, and every person who is convicted of advertising such, or who sells or purchases a ticket for a lottery, may be fined or imprisoned.]

White Grub.—We are badly troubled with a bug or grub at the potatoes; it eats the stalk just above the ground; I will send you some by express. Please send word what is best to do with them in your paper.

[The grubs you sent are the white grub. For description and remedies see ADVOCATE page 170, June issue. In addition to the remedies given there, also consult the ADVOCATE, page 68 March issue, relating to salt as a remedy for grubs.]

Liquid Manure.—Kindly let me know if the fresh droppings in the cow-yard would make good liquid manure for the vegetable garden, and oblige—W. C., Springfield, Man.

[The fresh droppings from cows contain very little soluble matter, and therefore the liquid obtained from them cannot be rich. The urine from the same animals is a very stimulating manure, but it contains no phosphates and is therefore not a complete fertilizer, but together with superphosphate, it is very valuable. The leakage from a fermenting manure heap has somewhat the same composition as the urine, with the exception that it contains a small percentage of phosphates, and is more diluted.]

Pure-bred vs. Grades.—The question as to whether pure-bred cattle of any particular breed are preferable to grades seems at the present time to be one of great importance to Canadian farmers. Now, Mr. Editor, I am not a farmer, although my interests are identical with his, but one point strikes me as worthy of notice. In my trips through the country I find the best farms, best buildings, and highest bred cattle very closely associated. Quite recently I had the pleasure of enjoying the hospitality of a farmer in London Township who had seven cows, each of which appeared to be Durhams, but on enquiry I found they were high grades, some of which were fourth crosses or more, and all were animals any farmer might be proud of, and most of them in condition for the block. Now, although some of them had been giving milk seven or eight months, they aggregated about eighty-four quarts of milk as near as I could judge from the pails used. This was one of many cases that came under my own personal notice (although this was the deepest milking), consequently I infer the Durhams must be more profitable than native cattle, else why do men who are excellent business men in other ways, sufficiently so to stand head and shoulders above the average farmer, keep them, and this too in a majority of cases without any of the allurements of fancy prices. Surely these men have not been the victims of herd book rings or breed booms. Then again this scrub tax business. Would it not be wisdom to tax all bulls? Would not the best survive, and the poorest go to the block? Is not this talk about taxing scrubs slightly misleading? Would it not lead the reader to believe the scrub was to be taxed and the higher-toned animal with a pedigree to escape? I at least understand it that way from the way it is put in "Susie's dream." By the way if "Susie's" medium does not help her at once please advise "Corny" to

diet her on steak from Durhams or some other good beefing breed, avoiding poorly fattened scrubs. We have no axe to grind, Mr. Editor; don't own a Short-horn, and have no pecuniary interest in them, but that is just how it appears to one that hasn't.—RAMBLER, Westminster.

[What do you mean by first-class stock? You have evidently judged by pedigree or appearance, which has considerable weight when judging beef-breeds, but why should tests of the individual merits of cows be made, if your forms of judging settle the matter? Do those farmers you speak of know what it costs to produce a quart of milk from their heavy grades? You can't tax "scrubs" out of existence until you make thorough and pains-taking tests in order to ascertain which animals are scrubs and which are not. Farmers should have the same liberty in choosing their stock as in choosing their implements, or any other article of consumption. The "scrub tax business" certainly means that, only registered or pedigreed animals should escape the tax.]

Fungi in Hot-beds.—Can you inform me what is the cause of a tremendous crop of fungi or toadstools in a hot bed, rooting up the growing plants? Also, whether anything can be done to kill off the present crop or prevent the start of future ones?—W. P. A., Ottawa.

[The spawn or spores of the fungi must have been introduced into your hot-bed with the soil used in its preparation. A temperature of 50 to 60 degrees is most favorable to their growth. The only remedy we know of is to treat the toadstools like weeds.]

Weeds Identified.—We have received a parcel containing nine specimens of weeds for identification. No letter has come with them, but we must suppose the letter has gone astray; and although by our conditions we should give no answer, yet we desire to encourage the sending of botanical specimens, so long as they are sent while in flower. We keep a collection of all specimens sent to us. The following are the names of the specimens sent, and we hope our correspondent will send us his name and address:

- 1, Hounds tongue (Cynoglossum officinale); 2, Norway cinque foil (Potentilla Norvegica); 3, Daisy fleabane (Erigeron strigosus); 4, Night-flowering catchfly or campion (Silene noctiflora); 5, stick-weed (Echinospermum lappula); 6, Likely belongs to worm-wood family (Artemisia), but we cannot safely say until we see the flower and seeds; kindly send same; 7, Shepherds Purse (Capsella bursa-pastoris); 8, Wild water pepper (Polygonum hydropiperoides); 9, Wild pepper grass (Lepidium intermedium)

Feeding Calves.—The ADVOCATE has been of more benefit to me than all the other agricultural journals I take combined. As a farmer I am a new beginner, and only in a small way, but inclined to the opinion that a small farm well tilled is more profitable than a large one skimmed over, with large labor bills to pay. In your next issue would you kindly give me your opinion as to turning calves out to grass. They are doing finely on twenty pounds of skimmed milk per day, with a quart of dry whole oats at noon, and a little hay when they want it. May have to diminish the milk after July 1st; they will then be four months old.—E. P. S., Knowlton, P. Q.

[Thanks for your flattering remarks about the ADVOCATE. We strive to merit the good wishes of every independent farmer in Canada. Calves should be turned to grass as early as the weather permits and a substantial bite of grass can be obtained. In hot weather shade of some kind should be provided. So far as we can see your system of feeding is a good one. We recommend the system pursued by Mr. J. B. Lane, which you will find in another column.]

Retained Placenta.—What is the proper treatment for retained placenta in a cow? Should it be removed by the hand, or is it best to allow it to remain and be expelled after a certain amount of putrefaction takes place? In which case is there most danger of blood poisoning?—R. C., Upper Steinacke, N. S.

[If the cow does not clean within 24 hours after calving, give her a purgative (say 3/4 to 1 lb. of salts, according to the size of the cow), and if this does not produce the desired results within about 12 hours from the administering of the dose, the placenta should then be removed by the hand. This is a skillful operation, and the services of a veterinary should, if possible, be secured. There is danger of blood-poisoning after putrefaction sets in.]

Orchard Grass and Rye.—Would you tell me through the ADVOCATE the names of the specimens sent. I found them in a meadow which I seeded down last year. The soil is a very light sandy one and not in the best condition at that, yet they grew to over four feet in height, while the meadow fescue and timothy were not over half that height. If they are grasses, please give their names, also their value for either soiling, pasture or hay, and the time they should be cut.—G. A., North Nation.

[The specimens you send are orchard grass and rye. The former is gaining popularity very rapidly in Ontario, being excellent for hay or pasture. It is a rapid and early grower, and should therefore be kept grazed pretty low to prevent it from becoming hard and wiry. When sown with red clover, it is preferable to timothy because it matures at the same time as the clover, and when cut early, the mixture makes excellent food for all kinds of stock. Rye is specially useful for fall sowing, either for green manuring or for late and early grazing or for soiling.]

The Household.

Teach Children to be Industrious.

There is one thing that has impressed itself upon my mind for some time which I would like to bring before your readers, believing many of them to be mothers who have many earnest thoughts in regard to the future of their children. It is this: If we expect to have useful, honorable business men and women in the next generation, the boys and girls must be kept out of the streets more, and be given regular tasks or work every day, for which they must be made to feel that they alone are responsible. It has been my observation for more than a score of years, that boys and girls who have been brought up with nothing to do but play, out of school hours, never amount to much. On the contrary, give a child some special work to do from the time he or she is three or four years old, increasing the number of "chores" as they grow older, and have it understood, unless they are positively ill, they are alone responsible for that labor, however slight, and when they are grown to manhood or womanhood you will find persons who are capable and willing to fill any position in life. Let the boys and girls have their fun and play at proper times and places, but keep them out of the streets, don't let them become rude and bold by the contamination of street influences. And as for the work required of them, it will only give an added zest to their sports.

There is a boy who is my neighbor, who has been brought up in the way I suggest until now, although less than fifteen years old, and small of his age, he is doing what not one boy in ten of my acquaintance would ever think of doing. One year ago his father was taken very ill, and all through the long weary months of summer and early autumn, lay wasting away with consumption, and finally died in the late autumn. No one can know what a comfort and support that boy was to his father through the long months of his illness, or to his mother through the same trying time and the darker hours of her bereavement and sorrow. The chores about the place were never neglected, but were done as the careful father was accustomed to do them, and there were no worries least their boy should forget or leave cattle or horses to suffer, for he had been trained to faithfulness. Perhaps some have looked on and said, "Too bad, so young a lad to bear such responsibility." "It's too bad to make a man of him so soon." Perhaps he has borne harder burdens than some young shoulders could; but I predict if that lad lives to be a man, he will be one whom his townpeople will delight to honor for his uprightness and integrity, as well as the strong right arm and support of his widowed mother and only sister.

On the other hand, I have for my neighbor a young married woman, who from a small child was allowed to have her own way, and when out of school to run and play just as she pleased. She never was required to do anything but this until she was almost a young lady, and then her requirements were of the lightest, and expected to be put aside for the most trivial excuse, and she grew up without responsibility or any fixed habits of industry. She was lively and sparkling in society, and had abundance of good looks, and had the good fortune, for her, to marry one of the finest young men of our place. But, poor fellow, what a life she leads him. She

is a perfect sloven and "gad about." Her work waits idly for her hands, her house is ever in confusion and disorder, her meals are never ready on time, and when ready are never well prepared; to have a "good time" is her whole object and aim in life. If her husband was not a Christian, I believe he would have left her long ago, or resorted to that other panacea for earthly ills so common now-a-days, committed suicide.

Her father groans in agony over her loud, unwomanly ways and habits, but her mother was spared the sight of the fruitage of the tares which she perhaps in ignorance allowed to grow, having passed away from earth before her marriage. This last way may be an exceptional case, as I hope it is, but it is as truly the harvest of her early habits of idleness and irresponsibility, as the rank weeds are the growth of foul seed.

Then I say to every mother and father, if you wish to have your children grow up to be honored, useful men and women, teach them from earliest childhood to be faithful and prompt in performance of duty.

Life is too full of solemn realities, and there are too many grand possibilities in it to send forth upon its fitful, changeable billows children who have no practical idea of the meaning of the true manhood and womanhood. Give them this chance of making the most of themselves, and in after years they will "rise up and call you blessed." Only as you fulfil your duty to them in this as well as other directions, can you expect that "your sons will grow up as plants in their youth, and your daughters will be as corner-stones polished after the similitude of a palace." EARNEST.

Cure for a Felon.

If you ever endured the agony of a felon, you will appreciate the fact it can be cured by woolen smoke. Place the woolen rags under an inverted flower pot, and put coals upon them, or set them on fire some other way, then hold the felon over the smoke, and it will extract all pain. This has been done by a friend of mine within a week. I assure you that in my circle we consider it as great a discovery as that ether will temporarily deaden pain. The only remedy for a felon that I ever considered infallible, and I have had cognizance of several aggravated cases, was having the part laid open (under the influence of ether) and the bone thoroughly scraped. That reaches the root of the difficulty; but the smoke cure is far better. —Exchange.

FLOWERS AT THE TABLE.—The beauty and fragrance of flowers add not a little to the pleasure of the table hour, truthfully said the late Dr. Dio Lewis. A large, fragrant bouquet takes the place of an extra dish. And nothing is so cheap as flowers. During a considerable part of the year they cost absolutely nothing. It is the sweetest pleasure to grow them. The service of flowers at the table, in recalling the lost appetite of the invalid, has long been recognized. Their service in refining the appetites of all is now generally appreciated. It would take a brute to eat like one at a table made sweet by the presence of flowers.

If troubled with wakefulness on retiring to bed, eat three or four small onions; they will act as a gentle and soothing narcotic. Onions are excellent to eat when one is much exposed to cold.

Be Agreeable.

Good humor is like a lubricating grease. It oils well the machinery of the household, of the business or of society, when the wheels run heavily. It is not every business man who demands payment in this way:

"Agreeable to custom, it is with pleasure that I inform you that the interest on your note, amounting to—will be due. I hope it will be convenient for you to pay." And who receives the prompt reply: "With just as much pleasure I enclose," etc. How much smoother this is than "Please allow me to inform you that the interest on your note is due," with an implied "if you don't pay, etc."

No one knows how much the "It reminds me of a little story," had to do during the late war towards making things run smoothly, and keeping up heart in those depressing times.

"There's always sunshine where Mark is!" remarked a sick man of his son who had been to see him. Mark has his troubles, serious ones too, but it is his nature to make light for others.

A Girl's Reading.

This is the title of a bright article in the Atlantic Monthly for January. The writer bewails a rapidly growing evil of our times, of which all those having the care of young people will do well to beware. Here is the sum of it:

If we pursue a modern school girl along the track of her self-chosen reading, we shall be astonished that so much printed matter can yield so little mental nourishment. She has begun, no doubt, with childish stories, bright and well written, probably, but following each other in such quick succession that none of them have left any distinct impression on her mind. Books that children read but once are of scant service to them; those that have really helped to warm our imaginations and to train our faculties are the few old friends we know so well that they have become a portion of our thinking selves. At ten or twelve the little girl aspires to something partly grown-up,—to those nondescript tales which, trembling ever on the brink of sentiment, seem afraid to risk the plunge; and with her appetite whetted by a course of this unsatisfying diet, she is soon ripe for a little more excitement and a great deal more love, so graduates into Rhoda Broughton and the "Duchess," at which point her intellectual career is closed. She has no idea even of what she has missed in the world of books. She tells you that she "don't care for Dickens," and "can't get interested in Scott," with a placidity that plainly shows she lays the blame for this state of affairs on the two great masters who have amused and charmed the world. As for Northanger Abbey or Emma, she would as soon think of finding entertainment in Henry Esmond. She has probably never read a single masterpiece of our language; she has never been moved by a noble poem, or stirred to the quick by a well-told page of history; she has never opened the pores of her mind for the reception of a vigorous thought, or the solution of a mental problem; yet she may be found daily in the circulating library, and is seldom visible on the street without a book or two under her arm.

To remove old paint, cover with a wash of three parts of quick stone lime, slack in water to which one part of pearl ash is added. Allow the coating to remain for sixteen hours, when the paint may be easily scraped off.

Iron or steel, immersed in a solution of carbonate of potash or soda for a few minutes, will not rust for years, not even when exposed to a damp atmosphere. A thin coat of varnish applied to straw matting will make it much more durable and keep the matting looking fresh and new. White varnish should be used on white matting. Use skim milk for washing oil clothes, instead of soap and water.

Family Circle.

NEIL'S DILEMMA.

BY JERUSA JUMBLE.

"Was that Ettie Bradley?"

"Yes."

"I thought so; but you bowed so coolly, and looked so sober, I thought I must be mistaken. What's up now, Neil? Did she give you the mitten?"

"No."

"Well then, perhaps you are afraid she will?"

"I think not."

"Well, well, I don't like to be too inquisitive, if I can find out without; but really a man's curiosity is quite equal to a woman's, when fully roused; so I promise you no peace until you satisfy mine. What troubles you?"

"Did I say anything did?"

"Yes. Actions speak louder than words sometimes; you have not been looking well for several days; I thought perhaps you had overdone, and there was a little liver trouble; now I begin to see that the heart has more to do with it than the liver. Sit right down under this tree and tell me all about it. You know my interest is born of genuine friendship. You will be better off to unburden your mind to some one, and I will never betray you in any way. What did that sigh mean?"

"It arose from amid the ashes of a dead hope. But I hesitate to speak my feelings, even to you, because I dislike to speak of another's mistakes; it seems like disloyalty to the friendship which has so long existed between Ettie Bradley and myself."

"The friendship which has existed! Doesn't it still exist? I am sure she bowed politely, and smiled as pleasantly as one would ask when you met just now; otherwise I would almost imagine you had quarrelled."

"I should consider myself a disgrace to the mother who bore me, if I could so far forget myself as to quarrel with a lady."

"O come, Neil, you know I would not insult you, or repeat anything told me in secret. So tell your story in as few words as you choose."

"Well, Fred, you know I have enjoyed Ettie's company very much. I had talked, walked, and driven with her; in fact spent many delightful hours in her company, and was fast coming to the conclusion that she was the woman of all women for me. I don't think this will surprise you, as you seemed pretty well aware of my feelings, judging from some words you have spoken in jest."

"Yes, Neil, I understood your attentions to mean something more than a mere pastime. But I must have misjudged the girl very much if your friendship was not reciprocated."

"I believe it was; and this belief only adds to my sufferings to-day. You are already aware that I have always prized very highly my mother's advice. With my usual confidence, I spoke to her of my serious intention of trying to win Ettie's love. She talked to me in a loving manner; but I thought she seemed disturbed, although she declined to explain; but advised me to get a closer look into Ettie's home life before I fully decided a matter so important to both parties. I had never thought so much about obtaining a housekeeper, as a companion, but mother convinced me that I should miss my tidy home, and for health's sake should need my food properly prepared; and had never been accustomed, either, to sew on my own buttons, or go with them off. I then realized that I was not in reality acquainted with Ettie's home life; my calls had either been made in the evening, or according to previous engagement. She sings and plays so nicely that I gave her little chance for other work during my visits; that she could, and did, do fancy work, I knew, because I had seen her work (or what she said was hers). She does Kensington paintings, among the rest. I called the next Tuesday evening, with my eyes and ears on the alert. It seemed to me that she was more becomingly dressed than usual; her pretty hair coiled loosely upon the back of her shapely head, while the front hair seemed one mass of tiny waves; her complexion is almost faultless, so cosmetics are unnecessary. I did not call for music as soon as usual, and she busied her fingers (which were shapely if not lily-white) with a dainty little piece of ric-rac. After a pleasant chat and some music, I left for home, more in love than ever. During the evening I learned that Mr. and Mrs. Bradley were going to Kingston, to spend the next day, and laid my plans accordingly. I rode over to Britin's with father, purchased a book I had promised Ettie, and started to deliver it, cutting across lots, etc., and coming into the yard at the back of the house. I confess the back yard seemed distantly related to the flower yard, and my heart throbbled with a mighty fear of the revelations which might follow. I did not wish to see yet felt compelled to look. I walked on, feeling more like a criminal going to judgment, than a lover calling upon the girl he loved. Coming around the corner of the house, I saw through the open window, first, a basket of unfolded clothes, nicely sprinkled with flies. The breakfast, just as the family left it, except that the flies were holding high carnival over everything."

"Go on, Neil; murder will out, and you may as well tell the whole truth first as last."

"Well, the next sight must have paralyzed my power of action, for the instant, for I came to a dead halt, just opposite the window. You know my mother is always a lady, never a sloven, even in the kitchen, and the picture presented looked worse to my eyes than it would to those better accustomed to such sights. In a low rocker sat Ettie

Bradley, so changed from the Ettie Bradley of my acquaintance as to be almost unrecognizable. The dress and apron she wore were far from clean; the shoes were ragged and slipshod; no collar adorned the pretty neck; the hair had been slept in, but not combed since my visit; the tiny waves were in preparation, in the form of two hateful looking horns. And shall I say it? Her hands and face were ornamented with something very like pot-black."

"What was she doing to allow such an inventory of her charms?"

"Reading an exciting novel which she had laid aside upon my entrance the previous evening. So engrossed was she with her book, as to be apparently oblivious to all surroundings. Then you know it takes longer to tell about a thing than it does to look at it. While my regret was very deep, I was even then conscious of a feeling of deep thankfulness, that I saw this sight with eyes free to look in another direction. Recovering my senses, I passed quickly around to the front door and rang the bell. In a few moments I heard stealthy footsteps, and felt rather than knew that Ettie was looking at me from behind the curtain. But the door did not open. I rang again and waited, determined to have it out while I was about it. In perhaps fifteen minutes the door opened and there stood my pretty Ettie; face and hands clean, hair brushed, and while it showed haste, still it looked very unlike the last view I had had of it; only serving to show how little time it would take to make some heads more presentable. Her wrapper and apron were clean; at the neck she wore a neat ric-rac collar, fastened by a small, but neat pin; to be sure her face was over-flushed from haste and excitement, but she looked so different, and so pretty, that my heart throbbled with a mighty regret, and I felt for the moment capable of almost any sacrifice, if that could, thereby, have become the *regatta*, everything else in accordance. But I was to have a still greater trial, for while giving me a most cordial welcome, she, at the same time, apologized for keeping me standing, saying she was housekeeper in her mother's absence, and was just making up the bread. At this she blushed deeply, but turned it off, saying she supposed I would not be shocked to learn she ever done such things. I very warmly assured her that I believed it the duty of every young lady to perfect herself in all the arts of housekeeping. Then blushing more deeply than before, she answered, 'I think so too! I could not tell you all that passed. I kept saying over and over to myself: 'Untruthful and untidy, untruthful and untidy.' I felt like one in a dream, she urged me to spend the day with her, but I desired to get away by myself, and declined, having no desire to dine at that neglected breakfast table, where I knew the flies must be still paying their horrible regrets.' Some people seem to think a nice parlor compensates for an untidy kitchen; or afternoon 'fix-ups' for morning untidiness. But Ettie's falsehoods, fashionable though they be, grieve me beyond aught else. I could never love, or respect her, as I desire to the woman I call wife. You can see, Fred, it is a hopeless case."

"Yes, Neil, I do, and from my heart. I pity you. In fact I pity you both. It seemed so nice. To tell the honest truth, had it not been for the visit you received from your little brown-eyed Cousin Rieta, I should have made a fool of myself over Ettie Bradley."

"I say what I know, Fred, when I say Rieta is worthy of your love, and I shall be only too happy to claim you as a cousin, when the time comes."

"Thank you; may the time still come when you shall find your Rieta; one good enough to pay for all previous disappointments."

"It does not seem, now, that I can ever care for another. The feelings I entertained toward the Ettie I believed her to be, still haunt me. 'The nightmare from which I cannot wake. The Ettie I love, lives only in an idea; the Ettie I saw in Mr. Bradley's dining-room is a reality which I cannot love or respect."

"Still, Neil, I pity her, because she has not had your bringing up."

"I know it; I more than ever realize a mother's responsibility in training her children. For this reason alone, I could never install Ettie Bradley where it might fall to her lot to train a daughter to make any man such a wife as she would make me. If young men and young women were always wise they would always look before they leap. A mother's wisdom caused the look which prevented the fatal leap in my case. But it cannot prevent all suffering. What will Ettie think of me? I believe she was fast learning to love me as well as she was capable of loving. I cannot endure the thought of her believing me to be that most despicable of creatures, the flirt, who strives to win what he really don't want, or won't take. I have given her reason to think that my attentions were of a serious nature; now what can I do?"

"I presume you will be horrified to hear that I have about made up my mind to tell her the exact truth. I would rather merit her anger than her contempt."

"Well, sir, I presume you will have both if you try that on, whether you merit them or not. But I must go home now; you know I start for Philadelphia in the morning."

Three months have fled, and we will listen to a second conversation between Neil Dawson and Fred Ivison. Neil Dawson's face wears a look of contented happiness; Fred's one of puzzled inquiry.

"Well! Neil Dawson, I used to think you a man of your words; but only three months ago, you spoke these words: 'I could never love and respect her, as I desire to the woman I call wife.' Now what am I to think upon learning that you now expect to make this same her your wife? Are you marrying a woman you neither love nor respect? or

have you changed your opinion as to the virtues which can command the same? Don't worry about my dropping in to dinner oftener than once or twice a day."

"I won't, I promise you; nevertheless shall expect the honor of your company quite often; not so much for the dinner's sake, as because you appreciate the cook."

"Bah! don't talk to me; my love for the cook is not, as yet, sufficiently strong to relieve my memory of a very interesting, and life-like picture, imprinted by your animated description of a certain breakfast-table. I enjoy my hash better without the relishing thought that its ingredients had ever furnished picnic grounds for a few aristocratic (if flies, "Don't Fred; please oblige me by not making the disgust, evidently so genuine, so ludicrous that I am obliged to laugh in your face. Give me time to convince you that my word has not been broken—scarcely cracked. The girl I love, and am proud of, bids fair to be one of the neatest, as well as the sweetest little house and home-keepers among your acquaintances."

"I won't pretend to question either your word or your judgment; am open to conviction, but can't see exactly how one could change so much in so short a time."

"Where there is a will there is a way. But I will explain. The evening you left us I went to Ettie in perfect candor, telling her what my feelings were toward the woman I had thought her to be. I did not hide my love, only declaring firmly that it belonged to the ideal, not the reality. She wept bitterly, showing no signs of anger; frankly owning, not only her faults, but her affection for me, also. You may imagine something of our feelings: joined in heart, but separated by an awful barrier to a nearer and dearer union in our lonely lives. It was a sad interview. When I left she asked me to come again in two months, begging me not to close my heart against her, until she had made at least an effort to be worthy of my love and respect. Her mother married very young, without the least knowledge in regard to the housekeeping; spent the first few years in a boarding-house (that base of all young married people who patronize them). Of course she is not capable of training her daughter. Ettie said my words to her that sad Wednesday morning had roused her somewhat to her true condition, causing a new ambition; therefore a difference in her manners as to work and dress, and she felt that already she was a little different from the girl she was that day. Said she never saw her untidiness as she did that morning; ashamed to be seen by anyone outside of the family, in that trim, she never could have opened the door before making a change; in her great shame was driven to speak deceiving words, lest I should guess she was lying. She had grieved much over these things. Only finding compunction in the new-born hope of still becoming in reality what she was in pretension, I told my mother just how things stood. She said it would be next to impossible for Ettie to overcome, alone and unaided, the mischief of mis-spent years. So you can imagine I spent a miserable two months; receiving from her no word of encouragement, could only hope she was succeeding better than my mother thought she could. Fortunately I was obliged to go away on business the next week, and returned only the day before my time was up. It is possible that might have had something to do with my returning just when I did; however I was very glad to get home, and mother seemed pleased to have me back again, and more than usually pleased with my appreciation of the dinner I found just ready to be eaten; but if she had spent, as I had, two, or nearly two, months, in a little backwoods hotel, where there was nothing first-class but the charges, she could have enjoyed it better herself. We never fully realize the value of a thing until we lose it, or are likely to. Perhaps this will, in a measure, account for the increased vigor of my love for Ettie. Well, it's getting late, and I will cut my story short. I found my mother had put her 'hand to the plow.' She was teacher and adviser. Ettie had proved an apt and willing scholar. She it was who had prepared my good dinner; and better than that had won my mother's affection as well as mine. Sometimes I am almost tempted to be jealous of their friendship for each other; you know my mother never had a daughter's love. She thinks we will be safe in setting up a 'dove cot' of our own, six months hence, when you will consider yourself upon a standing invitation to dine whenever it suits your convenience."

"Thank you; the proof of the pudding is in the eating. I shall surely put in an appearance, out of curiosity, if nothing more. Then, after I have ransacked pantry and closets, rummaged drawers and boxes, peeped under beds and into corners, finding everywhere a full corroboration of your very sanguine expectations, I may possibly consent to prove the 'pudding,' which, mind you, is to be seasoned with—well, I don't care what, so it is not our friends at the breakfast table. Ah! Neil, an otherwise sensible man is a 'precious goose' when he is in love. Don't contradict me; I speak from experience; and she is the 'best teacher,' you know. And everyone wants a lesson from her science of Love."

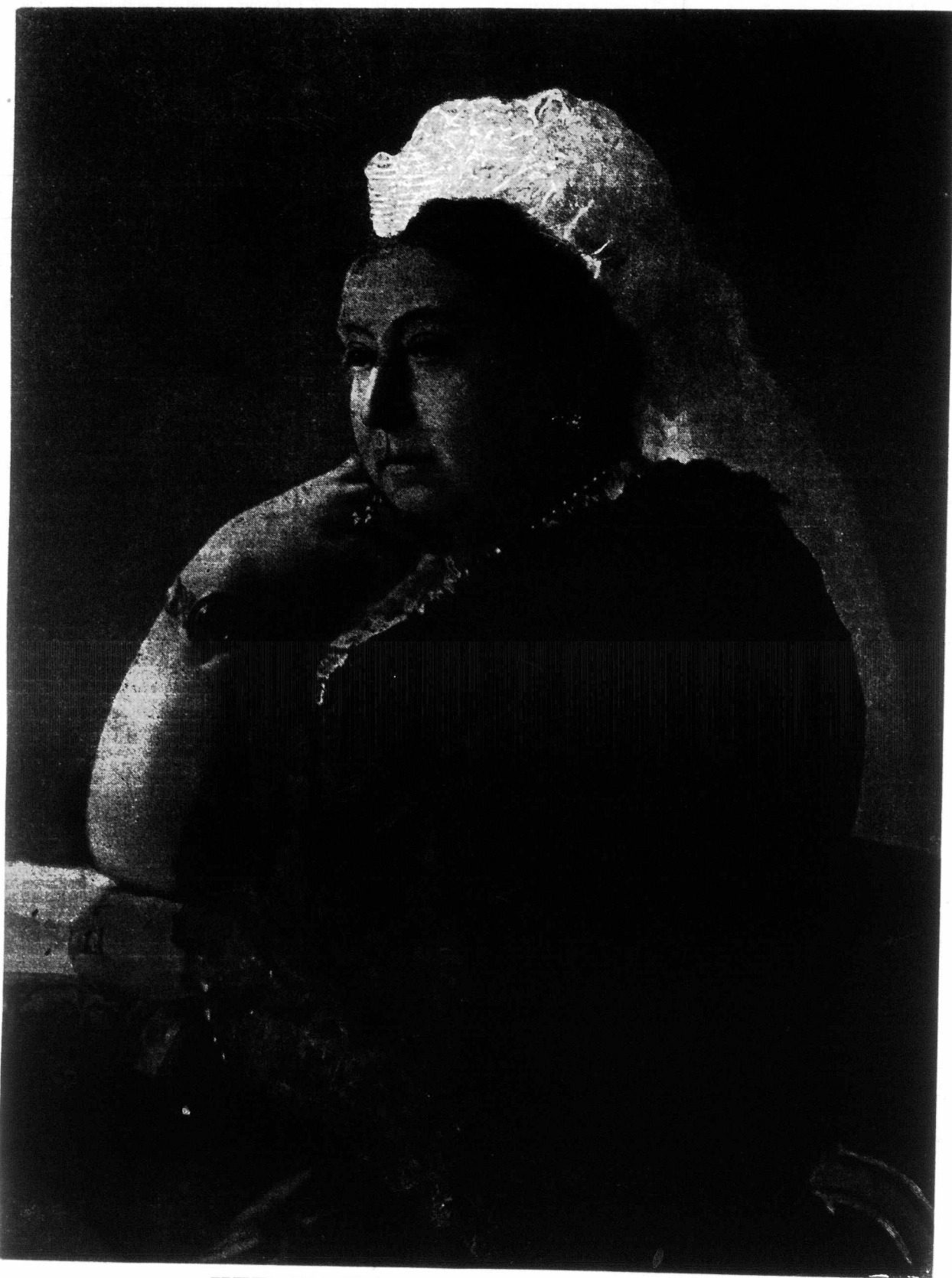
A rusting tea-kettle can be remedied, it is said, by browning coffee in it. A thorough washing with soap and water will remove all the odor of the coffee, and leave the kettle free from rust. Another way is to place an oyster shell in the kettle, upon which the rust gathers. Remove the shell when it gets crusted, and substitute another.

Minnie May's Dep't.

We will devote our young readers' departments to some instructive and amusing incidents regarding our Sovereign, which we believe all will read with much interest and profit.

Take for example the following expression of her sorrow when she heard that the Duke of Wellington was dead:—"One can not think of this country without 'the Duke'—our immortal hero! In him centred almost every earthly honor a subject could possess. His position was

never will—so devoted, loyal, and faithful a subject, so staunch a supporter! To us (who, alas! have lost now so many of our valued and experienced friends,) his loss is irreparable, for his readiness to aid and advise, if it could be of use to us, and to overcome any and every difficulty, was



HER MAJESTY, QUEEN VICTORIA.

No monarch that ever lived has taken a more active interest than Queen Victoria in the foreign affairs of her kingdom. If I may so express it, she has shown a genius for sympathy, and her affection has gone out in a remarkable manner towards the soldiers who fought her battles and the sailors who manned her fleets.

the highest a subject ever had—above party—looked up to by all—revered by the whole nation—the friend of the sovereign; and how simply he carried these honors! With what singleness of purpose, what straightforwardness, what courage, were all the motives of his actions guided. The Crown never possessed—and I fear

unequaled." These are gracious words, my fellow-subjects, but they have been accompanied hundreds of times by equally gracious deeds, proving that out of the abundance of a truly loving and grateful heart, the Queen's mouth has spoken. In Balmoral and at Osborne she has frequently visited the sick and the dying. A clergyman at

Osborne had occasion to visit an aged invalid. Upon his arrival at the house, as he entered the door where the sufferer was, he found a lady in deep mourning sitting by the bedside, and reading the Word of God. He was about to retire, when the lady remarked, "Pray remain. I should not wish the invalid to lose the comfort which a clergyman might afford." The lady retired, and the clergyman found lying on the bed a book, with texts of Scripture adapted to the sick, which had been read to the sufferer. That lady was the Queen of England. This incident reminds us that any sketch of the Queen's life would be imperfect which did not contain an allusion to the partner of her joys and sorrows, Albert the good, and to his early death, which has cast a gloom upon all the later years of the royal widow.

The Rev. Dr. Guthrie says, in the *Sunday Magazine*, that some three years previously, when in the neighborhood of Balmoral, he was asked to visit a widow, who, but a short time previously, had been bereaved of her husband—a plain, humble, but pious man—who had been an elder in the Free Church congregation there. Her home was a cottage within the Queen's grounds. "Within these walls the Queen had stood, with her kind hands smoothing the thorns of a dying man's pillow. There, left alone with him at her own request, she had sat by the bed of death—a queen ministering to the comfort of a saint—preparing one of her humblest subjects to meet the Sovereign of us all. The scene, as our fancy pictured it, seemed like the breaking of the day when old prophecies shall be fulfilled; kings become nursing fathers, and queens nursing mothers to the Church."

The *Aberdeen Free Press* also tells how she visited a farmer who had been seriously ill for nearly six months; and, lest her visit should have an exciting effect upon him, sent word the previous day that she wished to come to his bedside, and hoped he would not be annoyed, and how afterwards she sent inquiries of kind interest as to his health. The Queen sometimes goes from door to door of the cottages near Balmoral with a large roll of serviceable Scotch "linsey" in her arms, and the fabric grows shorter by a "pattern" as she departs from each lowly dwelling.

We have received several representations of the Queen in which her attire is more gorgeous than in the one we now publish on the preceding page. We give this one because we consider the features are more like her Majesty when we last saw her, than any yet seen.

The Queen.

HER MAJESTY'S JUBILEE.

In no part of Queen Victoria's vast domains has there been a greater amount of interest excited in her Jubilee, or a more keen anxiety to do honor to the occasion, than in Canada. In our little Forest City greater enthusiasm has never been before shown, all doing their utmost to do honor to our good Queen, which is as spontaneous and genuine as it is universal and demonstrative, not only in the British Empire, but beyond its wide limits, and it is the expression of a vast people's loving favor. Never before has the world beheld a demonstration like this, to that Queen on whose domains the sun never sets, and whose word is waited for with eagerness in every quarter of the globe. We will now endeavor to give a brief account of the celebrated event in Old London. Each mansion vies with

its neighbor in the effectiveness of its decorations. Costly Oriental rugs and curtains floating outside give the gayest appearance to the windows; flags of all nations flutter from every pinnacle; festoons of ribbons and flowers curve from the graceful Venetian masts along the curbstones, and everybody has come out in holiday attire, regardless of cost or trouble.

Here they come! What a brilliant tableau it looks! Why, the very horses have put on imperial air and grace for the day. How do they manage to put all those prancings and curvettings into a pace that is very slow after all! The whole pageant seems to strut rather than move with ordinary motion. The military display is simply splendid. And the stalwart fellows are no mere ornamental toys. They are the fighting men of the Egyptian desert, and their steeds know the roar of battle and seem to be reminded of it by the confused roar of the hurrahs that greet the Jubilee procession. Most of the chariots have outriders and footmen, and mounted escorts dot the line on both sides. We pay little heed to the occupants of these, even to the only other Queen in the show, Kapiolani, the obese. Their names and titles are magnificent, no doubt, but we want to greet our good old Queen, who, with all her faults, is a true woman, and has been the wisest sovereign ruler of nations this century has seen. The race, color and the history of many who participate in the festival proclaim the world-wide influence of Victoria, Queen and Empress of Great Britain, India, the vast colonial dependencies. Aye, and criticise as we may, her influence has been an influence for good. This is why we shout in true fervor today: "Long live our noble Queen!"

The cortege has passed, the noise of the cheering multitude is bewildering, the scene seems to have been a mere flash of glory, and it has gone. The critical moment was when the endless train of carriages had gone by and the Queen came in sight. Her carriage was quite by itself, preceded by a brilliant cavalcade of mounted notables, but every eye was eagerly straining with one supreme object—to see the Queen. The carriage itself was a magnificent sight. To see those six cream-colored horses, each one led by a groom on the trot, yet moving so slowly, caparisoned most gorgeously, and the carriage wheels, apparently solid gleaming gold, was a spectacle that no sketch can do justice to, as a mere picture! And the Queen sat there in full view, incessantly bowing to right and left, glittering with the jewels and gems that seemed to have fallen like hailstones on her head. It was but a passing gleam of regal pomp and glory—but what a stupendous influence it has on otherwise matter-of-fact folk! Enthusiasm! More than merely that must have inspired this lavish manifestation of joy and loyalty. True, it was meant as good-speed to the Princess—a charming picture in her brilliant attirings—and the brave, doubly to be welcomed German Crown Prince—he drew the cheers of English sympathy—but somehow, be it intoxication of national sentiment or what it may, the vox-populi to-day gratefully celebrates an old nation's old-fashioned loyalty to a good old Queen.

The first of the royal procession was composed of the Indian Princes and a few minor German Princes. Punctually at 11.15 a. m., the Queen, in an open carriage, emerged from the palace gates. At sight of her thousands of voices were lifted up in cheers, the applause being accom-

panied by the music of the many military bands stationed in front of the palace.

The Queen did not wear her state robes, but was dressed in black. Her carriage was drawn by eight ponies. The Prince of Wales, the Duke of Edinburgh, the Duke of Connaught, her sons; the Crown Prince Imperial of Germany, the Marquis of Lorne, Prince Christian of Schleswig-Holstein, and Prince Henry of Battenberg, her sons-in-law, and Princes Albert Victor and George of Wales; Prince Alfred of Edinburgh, and Prince William of Prussia, her grandsons, all rode in full uniform beside the Queen's coach as a bodyguard. When the people at the palace gates had shouted themselves hoarse cheering for the Queen, they continued to cry out long life to the Prince and Princess of Wales. The Queen, as she left the palace, seemed to be in excellent spirits.

The Queen's carriage was a large one, of chocolate color, wheels red and the royal arms in gold emblazoned upon the panels. Red morocco harness was used for the horses, which were otherwise decorated with royal blue ribbons. All the servants wore state liveries of scarlet and gold. The other carriages containing members of the royal family were of a gorgeous character, horsed with four bays each, and all open.

Many American ladies and gentlemen had secured seats at a palatial commercial establishment in Waterloo Place, and joined in the enthusiasm as warmly as the English. Passing around Pall Mall east, a large gallery was erected over the colonnade of Her Majesty's Theatre, while 1,500 chairs, rented at from two and three to five guineas each, were all filled at Waterloo House, in Cockspur street. Trafalgar Square was now reached, and everywhere one looked nothing but heads were to be seen. The crowd here was tremendous, and completely eclipsed any that has assembled at the greatest political gatherings of recent years. The steps and lions of the Nelson column were crowded with people, while the roof and steps of St. Martin's church and the steps of the National Gallery were packed with a dense mob. After crossing Trafalgar Square, where the police had great difficulty in keeping the people back, the procession gradually approached Northumberland avenue, which, on its southwest side, is mainly covered with two gigantic hotels, viz., the Hotel Victoria and the Hotel Metropole. These, as well as the newly erected Constitutional Club building, were crowded with sight-seers.

The scene at Westminster Abbey was most brilliant. Every seat was filled, and every person present was a distinguished person.

On the procession nearing the Abbey the troops saluted, guns were fired, the bells of churches rang out merry peals and flags were run up.

The scene in the Abbey when the Queen entered was dazzling. Ten thousand people were seated. They all rose. The women discarded their wraps and revealed the full splendor of their beauty and attire. The tiers of galleries had been built in the Abbey with seats for 10,000. The peers and their wives were seated in the south transept. The ambassadors and diplomatic corps were seated right and left of the peers. Members of the House of Commons were placed in the north transept. The seats for members of the reigning families of Europe, etc., were within the communion rails. All the great learned societies and corporations were repre-

sented, while the notables of the law, science, art and agriculture and workingmen's representatives from all parts of the United Kingdom had seats duly allotted to them.

The Queen was evidently profoundly impressed with the scene prepared for her. She was noticeably pale when she reached the dais. She soon, however, recovered and regained the bright and pleasant aspect she had borne all the morning.

The religious services in the Abbey in commemoration of the Queen's Jubilee were conducted according to a carefully prepared programme.

When they were seated, the Archbishop of Canterbury and the Dean of Westminster, who had taken their places within the sacristy, began the service by asking of God a blessing upon the Queen.

The Te Deum Laudamus was then sung by the choir to the music composed by the Prince Consort, the Queen having requested this.

The Lord's Prayer was said and the responses (adapted to the occasion) were intoned. Then the following special prayer was offered up:

Almighty God, we humbly offer unto Thy Divine Majesty our prayers and hearty thanksgiving for our gracious sovereign lady, Queen Victoria, unto whom Thou hast accomplished fifty years of sovereignty. We praise Thee that through Thy grace she hath kept the charge Thou gavest her in the day when Thou didst set the crown upon her head, bidding her "to do justice, stay the growth of iniquity, and protect the Holy Church of God, to help and defend widows and orphans, to restore the things gone to decay, maintain the things that are restored, punish and reform what is amiss, and confirm what is in good order; to keep the royal law and lively oracles of God." We bless Thee that Thou hast heard through sorrow and through joy our prayer that she should possess the hearts of her people. And we humbly pray Thee that for the years to come she may rejoice in Thy strength, and at the resurrection of the just enter into Thine immortal kingdom. Through Jesus Christ our Lord. Amen.

Special prayers followed, and were supplemented by the benediction, which was pronounced by the Archbishop.

After the royal salutations had all been made, the Queen descended the dais and moved out of the Abbey, preceded by the royal family, the congregation standing and cheering with fervor all the while, Mendelssohn's march from "Athalia" being rendered by the organ and band until Her Majesty had departed. The congregation at once dissolved, selections of sacred music being played until all had left the Abbey.

"PARDONED."

Some of the Queen's duties were particularly painful to her loving heart. Before Parliament relieved her of the necessity, she had to sign the death-warrant of all prisoners sentenced to suffer capital punishment. It is said that this always caused her great distress; and that frequently she begged that the lives of the offenders might be spared. On one occasion she wrote Pardon across the fatal scroll, her hand trembling with eagerness and emotion.

PRESENCE OF MIND.

On Easter Monday, 20th April, 1840, the first year of their married life, the Prince Consort met with an accident that might have had serious consequences. He was riding in the Home Park, when his horse became unmanageable, and ran

away at full speed. The Prince tried to stop him, and turned him several times; but at last the horse brushed against a tree, and his rider was thrown. The Queen, who was looking on, wrote in her journal:—"Oh, how thankful I felt that it was no worse! His anxiety was all for me, not for himself!" The Prince said afterwards that Victoria was the only person present who maintained composure and presence of mind.

A Jubilee Ode.

BY MRS. J. T. WRIGHT, ST. MARYS, ONT., AN OLD SUBSCRIBER OF THE ADVOCATE.

What brings such joy to every home,
Heartfelt, though unexpressed by some?
The year of Jubilee has come
To our "BELOVED VICTORIA."

Through five long decades has she reigned,
Midst many conflicts been sustained,
And mighty victories have been gained
By our "GREAT QUEEN VICTORIA."

Through numerous dangers she has passed,
And foes unseen her path have crossed,
But sheltering "ARMS" from first to last
Encircled "QUEEN VICTORIA."

Affliction's waves have o'er her roll'd,
She's "passed thro' waters" deep and cold,
ONE FRIEND there was who did uphold
And strengthen "QUEEN VICTORIA."

Oft as a Nation's tears were shed,
Their Monarch's heart likewise has bled,
And sorrowing ones were comforted
By words from "QUEEN VICTORIA."

Her trust is ever in the Lord,
She dearly loves His Holy Word;
Well doth she wield the "Spirit's Sword,"
And God hath bless'd "VICTORIA."

Bless'd in her Kingdom, and her Throne,
Bless'd afar off, and bless'd at Home,
In every clime, where'er is known
The name of "QUEEN VICTORIA."

And as we calmly view the past,
Recounting all from first to last,
We joy to think our lot is cast
In days of "GOOD VICTORIA."

And when from voices yet unknown,
The question comes in childish tone,
Who best hath filled Old England's Throne?
We'll answer—"QUEEN VICTORIA."

If history's long page we scan,
Attempt we may, but never can
Find one more true to God and man,
Than Britain's Queen—"VICTORIA."

And when earth's closing scene shall come,
May He who triumph'd o'er the tomb,
Illuming the dark valley's gloom,
Be very near "VICTORIA."

Conduct her to the Heavenly Land,
Amongst the glorified to stand,
And there assign at "God's right hand,"
A place for "QUEEN VICTORIA."

HIS presence then alone can cheer,
And death disarm of every fear,
While God's own hand "will wipe the tear"
That falls for "QUEEN VICTORIA."

With rapture she will then lay down
The earthly for the Heavenly Crown,
Ascribing to God's Grace alone
Salvation for "VICTORIA."

Rich diadem will then adorn,
Fair "robes of white" by her be worn,
And brighter Jubilee shall dawn
On our "BELOVED VICTORIA."

A Jubilee whose joyous sound
Shall fill Eternity's long round,
One—not with earthly honors crowned—
Awaits our "DEAR VICTORIA."

And there we leave our gracious Queen,
Words ne'er can utter half we mean;
We leave her to the care of HIM
Who careth for "VICTORIA."

Long live the Queen! God save the Queen!
Not "length of days" on earth we mean;
Long live the Queen! God save the Queen!
In Heaven live "QUEEN VICTORIA."

"Jane, did I not tell you if you were again tempted to eat the currants you must say: 'Get thee behind me, Satan!' 'Yes, mmm, an' I did, an' he got behind me and pushed me right into the currant bushes."

A man in New York, wishing to be witty, accosted an old rag man as follows: "You take all sorts of trumpery in your cart, don't you?" "Yes, jump in, jump in!"

The Day of Rest.

A story is told of the early days of the Queen's reign which affords a lesson to all who needlessly deprive others of the Rest Day. Late one Saturday night one of the ministers arrived at Windsor.

"I have brought down for your Majesty's inspection," said he, "some documents of great importance. But as I shall be obliged to trouble you to examine them in detail, I will not encroach on the time of your Majesty to-night, but will request your attention to-morrow morning."

"To-morrow morning!" repeated the Queen.

"To-morrow is Sunday, my lord."

"True, your Majesty, but business of the State will not admit of delay."

"I am aware of that," replied the Queen; "and as your lordship could not have arrived earlier at the Palace to-night, I will, if the papers are of such pressing importance, attend to their contents to-morrow morning."

Next morning the Queen and the Court went to church, and so did the noble lord; and the subject of the sermon was "The Christian Sabbath: its duties and obligations."

After the service the Queen inquired, "How did your lordship like the sermon?"

"Very much, indeed, your Majesty," was the answer of the nobleman.

"Well, then," said the Queen, "I will not conceal from you that last night I sent the clergyman the text from which he preached. I hope we shall all be improved by the sermon."

Not a word was said during the whole of the day about the State papers: but when the Queen wished her minister good-night, she said, "To-morrow morning, my lord, at any hour you please; as early as seven, if you like, we will look into those papers."

"I could not think of intruding upon your Majesty at so early an hour," was the reply; "nine o'clock will be quite soon enough."

And at nine o'clock the next morning he found the Queen ready to receive him.

The Queen and Expediency.

From the first Her Majesty evinced her resolve to give her whole mind to the duties of her high station. She felt the responsibilities which rested upon her. Returning from her first Council, we are told she threw herself into a chair, and was absorbed in thought for some minutes. Then addressing herself to the Duchess of Kent, she said: "I can scarcely believe that I am Queen of England; but I suppose I really am so; and in time I shall become accustomed to the change." And then the youthful Queen asked, as her first Royal request, to be left for two hours alone. Such seasons of retirement were often sought, and the result was seen in the devotion of Her Majesty to her public duties.

Her Prime Minister once said he could not place a single document in the Queen's hand for signature but she first asked an infinite variety of questions respecting it: and not unfrequently declined to sign her name until she had taken time to consider the matter.

On one occasion, having submitted some act of Government for Her Majesty's approval, he was proceeding to urge the expediency of the measure, when he was stopped short by the Queen, who observed with firmness:—"I have been taught, my lord, to judge between what is right and what is wrong; but expediency is a word I neither wish to hear nor to understand."

The Home at Balmoral.

Grace Greenwood tells a Balmoral incident which touchingly showed the womanly tenderness which has endeared the Queen to all our hearts:—

"When I was in England, I heard several pleasant anecdotes of the Queen and her family from a lady who had received them from her friend, the governess of the Royal children. This governess, a very interesting young lady, was the orphan daughter of a Scottish clergyman. During the first year of her residence at Windsor her mother died. When she first received the news of her serious illness, she applied to the Queen to resign her situation, feeling that to her mother she owed even a more sacred duty than to her Sovereign. The Queen, who had been much pleased with her, would not hear of her making this sacrifice, but said, in a tone of most gentle sympathy, 'Go at once to your mother, child; stay with her as long as she needs you, and then come back to us. I will keep your place for you. Prince Albert and I will hear the children's lessons; so in any event let your mind be at rest in regard to your pupils.'

"The governess went, and had several weeks of sweet, mournful communion with her dying mother; then, when she had seen that dear form laid to sleep under the daisies in the old kirkyard, she returned to the palace, where the loneliness of Royal grandeur would have oppressed her sorrowing heart beyond endurance, had it not been for the gracious womanly sympathy of the Queen, who came every day to her school-room, and the considerate kindness of her young pupils.

"A year went by; the first anniversary of her great loss dawned upon her, and she was overwhelmed as never before by the utter loneliness of her grief. She felt that no one in all that great household knew how much goodness and sweetness passed out of mortal life that day a year ago, or could give her one tear, one thought to that grave under the Scottish daisies.

"Every morning before breakfast, which the elder children took with their father and mother, in the pleasant crimson parlour looking out on the terrace at Windsor, her pupils came to the school-room for a brief religious exercise. This morning the voice of the governess trembled in reading the Scripture for the day; some words of divine tenderness were too much for her poor, lonely, grieving heart—her strength gave way, and laying her head on the desk before her, she burst into tears, murmuring, 'Oh, mother, mother!'

"One after another the children stole out of the room and went to their mother, to tell her how sadly their governess was feeling; and that kind-hearted monarch, exclaiming, 'Oh, poor girl! it is the anniversary of her mother's death,' hurried to the school-room, where she found Miss ——— struggling to regain her composure.

"My poor child," she said, 'I am sorry the children disturbed you this morning. I meant to have given orders that you should have this day entirely to yourself. Take it as a sad and sacred holiday—I will hear the lessons of the children.' And then she added, 'To show you that I have not forgotten this mournful anniversary, I bring you this gift,' clasping on her arm a beautiful mourning bracelet with a locket for her mother's hair, marked with the date of her mother's death.

"What wonder that the orphan kissed, with tears, this gift, and the more than Royal hand that bestowed it!"

An Incident of the Queen's Early Days.

Economy and self-control were early lessons taught her. On one occasion it became known at Tunbridge Wells that the Princess had been unable to buy a box at the bazaar because she had spent her money. At this bazaar she had bought presents for almost all her relations, and had laid out her last shilling, when she remembered one cousin more, and saw a box, for half a crown, which would suit him. The shop people, of course, placed the box with the other purchases, but the little lady's governess admonished them by saying, "No; you see the Princess has not got the money; therefore, of course, she cannot have the box." This being perceived, the next offer was to lay by the box until it could be purchased, and the answer was, "Oh, well, if you will be so good as to do that." On Quarter-day, before seven in the morning, the Princess appeared on her donkey to claim her purchase.

Hay-making time gave the Princess occupation. She would be seen on the grass every afternoon with her little rake, fork and cart, industriously employed in collecting the hay, which she would carry to a little distance, and returning, fill her cart again. One day she had quite tired herself, and at length threw down her rake when the cart was but half loaded. Her governess, who took care even in her recreation to turn every little incident to the benefit of her future character, immediately desired her to finish filling the cart. The Princess replied she was too tired. "But, Princess," said the governess, "you should have thought of that before you began the last load, for you know we never leave anything unfinished." And her Royal Highness was most judiciously persuaded to complete the work she had begun.

"Mrs. H.," exclaimed a little urchin, on running into a near neighbor's house, "mother wanted me to ask would ye please lend 'er yer candle-molds?"

The molds were given him, and he ran home. In a few minutes he returned with this query:

"Mother wants to know if ye'd be kind enough to lend 'er some wickin'!"

The wicking was measured off, and he again departed. But he soon appeared again, and said:

"Mother would be so thankful if you had a little taller ye'd be so kind as to lend her?"

Mrs. H. good-naturedly produced the desired article, and as the boy started for the door, she said:

"Wouldn't your mother like to have me come over and mold the candles for her?"

"Wal, yes," replied the boy. "I reckon she'd lik it fust rate, cos she said she didn't understand it very well; but she don't like to be troublin' her neighbors, so she wouldn't ask ye."

"What and When to Eat" is the title of an exchange. The "when" never gave us any trouble in our eating, but we have been compelled to do a sight of skirmishing after the "what."

Butcher (to young housekeeper)—"How would you like a leg of mutton or beef, mum?" Young housekeeper (thoughtfully)—"We had a leg of mutton yesterday, I guess you may send a leg of beef."

MY DEAR NIECES.—Let us be up and doing; this is not the age for drones, but to-day our sex is most creditably filling prominent positions in public duties, and why shouldn't we? Better far to earn our own pocket money or livelihood and be independent. Many of you have assisted us by your contributions. Now let us unite and aid the good old ADVOCATE by sending in some new subscribers, in which we shall be doing a double duty—a duty to ourselves and to the farmers. It is no disgrace for a woman to work, but an honor. "Better to wear out than to rust." Look at our good Queen, for example, how fully engaged her moments are; and in this grand jubilee year wake up and work in our hive by sending some new subscribers to our journal. Write to Minnie May, and I shall be pleased to furnish you with full particulars.

DELICIOUS BREAKFAST PUFFS.—Beat the whites of six eggs till they stand alone, and the yolks the same space of time; cream in by degrees nine tablespoonfuls of flour; put in a tablespoonful of melted butter and a teaspoonful of salt; then make into a batter with one pint of sweet milk. Grease little petty pans, pour in the batter, and bake rapidly till of a light brown color. Nutmeg may be added as a flavoring, if liked.

BUTTERMILK MUFFINS.—One quart of buttermilk, two eggs, one teaspoonful of soda dissolved in hot water, two teaspoonfuls of salt, flour to make a good batter. Beat the eggs well, and stir into the milk, beating hard all the while, add the flour and salt, and at last the soda. Bake at once in a quick oven.

FRENCH TOAST.—Beat four eggs very light, and stir with them a pint of milk; slice some baker's bread, dip the piece into the egg, then lay them in a pan of hot boiling lard, and fry brown; if liked, sprinkle a little powdered sugar and cinnamon or grated nutmeg on each piece, and serve hot.

A DAINY, SWEET DISH.—Put half a pint of water in a pan, with a quarter of a pound of butter and two ounces of white sugar; when it boils, mix into the pan five ounces of fine sifted flour; stir and mix well, and let the pan stand on the stove for ten minutes for the contents to cook. Let the mixture cool, and then stir in by degrees three whole eggs, well beaten, with a teaspoonful of vanilla essence; work the paste well with the egg, and lay it in spoonsful about as large as a walnut on a baking pan; glaze with a whole egg, beaten, and bake for half an hour. When cool, pull apart with two forks, and place a teaspoonful of jam or hard jelly in, close up again put a spoonful of icing on top, return to the oven and brown slightly. Serve on a napkin.

Poor flour should never be bought for bread; the best is cheapest. Pans for wheat bread should be greased very lightly, either with butter or lard; for rye, Indian or Graham, they must be greased more thoroughly, as the dough clings to the pans more. Bread or anything containing much starch should be eaten slowly. A crust of French bread eaten very slowly at the beginning of a meal often improves the appetite of delicate people.

If you wish to polish up your furniture, mix equal parts of vinegar, spirits of turpentine and sweet oil in a bottle, and apply with a flannel cloth, rubbing afterwards with a chamois or piece of silk. It is better than a coat of varnish.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—The lovely month of roses is in the "perfection of its beauty," as I pen these words to you, and my thoughts again involuntarily turn to an old farm house. I can see it yet as I could in the long ago, when a soft west wind was blowing, showing the silvery side of the leaves, and making the forest musical with the "murmuring of pines, and old oaks and hemlocks." I used to lie in the dell, a happy, careless urchin, and watch the fields of headed grain bending in the summer wind. "Billowy rays of grass, ever rolling in shadow and sunshine." While the clover fields were one expanse of bloom and fragrance. The thoughts of these early days are so pleasant to me now that I would devote the following suggestion to you—dear boys and girls of the farm: Endeavor to associate with the home of your childhood beautiful ideas and lofty aspirations. If you have the will to do this, it is wonderful how you may find the way. I know many of you are busy, but there is time at your own disposal; I know it, and why not use that in reading? When I was about ten or twelve years old it fell to my lot to be the "herd-laddie." We had a field in which there was grain and grass, and my duty was to keep the cattle where they ought to be—in the pasture. While doing so I read, for the first time, a whole book of poetry, and memorised some of its most beautiful lines. Would you like to know the name of the author? I shall let you have the pleasure of finding that out for yourselves, after I tell you some of his words. It was he who said:

"The rank is but the guinea's stamp,
The man's the gowd for a' that."
And in his tenderer moments wrote—
Ayr, gurgling, kissed the pebbled shore,
Or hung with wild woods thickening green
The fragrant buds, and hawthorn hoar
Twined anxious round the raptured scene.
The flowers sprang wanton to be pressed,
The birds sang love on every spray,
Till soon, too soon, the glowing west
Proclaimed the speed of winged day.

Still, o'er these scenes my memory wakes,
And fondly broods with wiser care.
Time but the impression deeper makes,
As streams their channels deeper wear."
I was a harem-scarem laddie, too, at the time of which I speak generally in disgrace at school, so I know if you were once interested you would learn to love what is beautiful in literature, as well as what is beautiful in nature. In meeting with country girls and boys, and I know many of them, it is very unusual to find those who have read the most beautiful selections of our standard writers. I believe it is not because you lack appreciation of these things, but because you have never read anything of the kind I have referred to. There may be many reasons why you have not read them—you may not have them to read, or, having them, you may think you have not time. You may assign a third and a fourth reason—you may say you have no taste for such reading, and you may ask what good will the reading of them do you?

I will take these objections, one by one, commencing with the last, and let us see if we cannot find some way of satisfactorily removing all of them. First, then, the good the reading of the thoughts of great men will do you. You have seen a fine piece of ground unsown and neglected, and what is the result? A crop of weeds. What is true in the natural world is true in the moral and spiritual. The rich soil of your young minds is lying fallow—you keep the weeds down because you have been taught right from wrong; but what are you doing that it may

bring forth abundantly? Germs of thought from the weekly newspaper, or the ordinary story book, do not give promise of a bountiful harvest. Thoughts of great men, uttered in simple or sublime language, will not unfit you for present duty, but in the doing it will lift you above those of your fellows who have not learned the secret. Tell me a better sentiment for the boys and girls of the homestead than that contained in the couplet—

"Honor and fame from no condition rise,
Act well your part—there all true honor lies."

Or a more practical one than that contained in the following advice:

"Gather gear by every wile
That's justified by honor;
Nor for to hide it in a hedge,
Nor for a train attendant,
But for the glorious privilege
Of being independent."

What good will such reading do you? Let me answer further. If read with the right motive, you will see a grandeur in nature you never saw before, and you will wonder why it was the world seemed so commonplace—the fields and the forest, the birds and the brooks, will speak to your hearts of God—the Creator of all.

With regard to the third objection, let me assure you a taste for this kind of reading can be cultivated. At first it may seem dry and uninteresting, but I speak from experience and observation (and I trust you will kindly pardon Uncle Tom's egotism in referring so much to himself in this letter) when I tell you that if you have a taste for sensible reading of any kind, the love for higher literature can be greatly developed. If any of my nephews and nieces find themselves in a state of unrest and impatience until the next chapter of some "love and wonder" story arrives, I cannot give you much encouragement in this matter. I can tell you, however, that when the cares of manhood and womanhood come upon you, and you find how unreal are the pictures of life such stories give, and how low the ideal of true living, you will, as many others before have done, repent that you did not better redeem the time in the halcyon days of buoyant youth. I write earnestly to you on this matter—do not waste your young lives in that which is worse than idleness.

Two objections still remain, and as my letter is already long, I will leave them until the next, hoping that with your picnics and excursions, and general merry-making, you may find golden store to the treasure of your minds.

UNCLE TOM.

Puzzles.

1—LADDER PUZZLE.

Diagram.
* Initials, a rejoicing.
* * * * * Finals, Canada's boast.
* * * * * First rung, to open (transposed).
* * * * * Second rung, angry.
* * * * * Third rung, a small animal.
* * * * * ADA ARMAND.

2—NUMERICAL ENIGMA.

My 21, 15, 29, 5, 1, 12, 29, 5, is a word imitating the sound of a bell.
My 17, 8, 23, 8, 2, 10, is a tree or shrub.
My 22, 10, 13, 16, 30, is a flower.
My 28, 25, 23, 29, 5, 9, is a fruit.
My 27, 4, 3, 3, 6, 24, is fed to canaries.
My 21, 26, 11, 11, is an herb.
My 24, 15, 7, 18, 14, to color slightly.
My 20, 19, are both vowels.
My whole is a wise saying.

A. HOWKINS.

3—CROSS.

Diagram.
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *

- To imitate.
- To weep.
- A plaything.
- People who live on the other side of the earth.
- To increase.
- Enormous.
- An animal.
- An enclosure for swine.
- To discover.

FAIR BROTHER.

4—DROP VOWEL PUZZLE.

- t - s - n - t - j - s - t - s - w - t - k - t -
Th - s - m - st - c - l - w - r - ld - f - r - s
L - f - s - f - ld - w - ll - y - ld - s - w - m - k - t -
- h - rv - st - f - th - rns - r - ff - w - rs.

HENRY REEVE.

5—FLOWERS ENIGMATICALLY EXPRESSED.

- a—A carriage, and a people.
- b—A bird, and to impel.
- c—Part of a domestic fowl, also a conceited dandy.
- d—A wild animal, and part of our dress.
- e—A stitch in needlework, and a fastener.
- f—A useful bird, and woe.
- g—A spice, and where money is coined.
- h—A word of endearment, and a thorn.

HENRY REEVE.

6—ILLUSTRATED REBUS.



7—HALF SQUARE.

- 1. A vaulter. 2. A neck-cloth. 3. A bird.
 - 4. Across. 5. A public notice. 6. Near by. 7. A letter.
- FAIR BROTHER.

Answers to June Puzzles.

- 1—Kind hearts are the gardens,
Kind thoughts are the roots,
Kind words are the blossoms,
Kind deeds are the fruits.

- 2—
Dante
Read E
Morse
Plat O
Burn S
Scot T
Smit H
Moor E
Napier
Wolf E
Sterne

- 3—Care to our coffin adds a nail, no doubt,
And every grin so merry draws one out.

- 4—
T R Y
C O D
A C T
C U T T H R O A T
R O C H E S T E R
B R I M S T O N E
S T Y
B E N
W R Y

- 5—Absence of occupation is not rest;
A mind quite vacant is a mind distressed.

- 6—Bobolink.

- 7—Gladstone.

- 8.— Oh many a shaft at random sent,
Finds mark the archer little meant,
And many a word at random spoken
May soothe or wound a heart that's broken.

- 9.— Oh youth, guard well thy purity,
It is the pearl of thy heart;
That priceless pearl once lost to thee,
No wealth of thine can re-impart.

- 10—With-in.

Names of Those who Sent Correct Answers to June Puzzles.

Russell Boss, Hugh Barrett, Wm. B. Anderson, Adolphus B. Pickett, Mary Morrison, Arthur T. Reeve, A. Howkins, Ada Armand, Annie C. Rothwell, Louisa F. Redmond, Robert Wilson, Henry Reeve, Emma Dennee, Helen Connell, Carrie Bell, Amos Carleton, James Pavey, Fannie Hammond, Charles Grobe, Nellie Hickey.

The Crow.

The carrion crow inhabits every part of North America. In autumn they congregate in flocks of thousands and fly to a warmer climate, but vast numbers remain all winter in the vicinity of Lake Huron, where they feed upon the fish cast ashore. They are very bold, and will drive away birds much larger than themselves, that come to rob their nests. The carrion crow will eat grain in preference to carrion; indeed they only eat flesh when they are very hungry; and have been known to peck the eyes out of a young lamb, and carry off goslings, and young turkeys. Often they sit by the edge of a pond and catch a frog when he puts up his head for a croak. They are capable of being tamed, and make favorite pets with boys. A farmer's son brought me two crows just before they left the nest; they were very helpless for some time. All they eat had to be dropped into their beaks, which they would open wide with a loud "caw," "caw," "caw," when they saw you approaching. Corney and Tom became great pets, and very mischievous too, in fact they became very troublesome, and would fly in at an open window, upset all they could displace, and fly off with anything they could carry. One Sunday I went to church, and forgetting to shut my windows, when I returned what a sight my room was! Corney had taken a bath in my wash-basin; threw everything from the toilet-table unto the floor that he could lift, hopped all over my bed with his dripping feathers, and flew out of the window with a loud "caw" of defiance as I entered. He was very fond of a bath every day, and met his death in the rain-water barrel, where he had hopped in, not knowing it was so deep. He learned to talk from my parrot, and could say "poor Polly" as plain as Polly herself. Their large wings, black eyes and broad head show their superior intelligence, and their shining black coat, strong beak and majestic strut, entitle them to everyone's respect.

The Pet Crows.

"Come, pets, and eat your breakfast
Of water and cornmeal?
"No, Bertie, we have had ours,
And very full we feel.
Long before you wakened
We strutted o'er the ground;
We did not look so very long,
Before a worm we found;
Tom saw it first and gave a pull,
But Grubby was so fat
It came apart below the ribs,
So Tom he swallowed that.
Then Corney went and caught it
And pulled it from its bed;
It tasted very tender,
And looked so nice and red.
So we don't want the corn meal,
We had the grub to munch;
If we feel hungry we can eat
The corn meal for our lunch."

"How shall I keep my boys at home?" asked a matron of an aged and experienced head of a family. "How old are they, madam?" interrogated the sage, before committing himself. "My eldest she replied, "is thirteen, and my baby boy will be six years old the thirtieth of September." "Of course you would not like to chain them up, would you?" "No." "And your husband is not able to rent a circus and have it in the house the year round?" "No, he is in very moderate circumstances." Well, then, I would suggest as the most economical, at the

same time the most effective plan, to place patches on the boys' trousers; make the patches of different cloth from the rest of the garment, and place them where they will be least seen when the boys are seated. This will keep them at home, and may induce sedentary and studious habits. If this fails with the youngest, tie a sunbonnet on his head—tie it tight so he can't get it off. As long as the sunbonnet lasts he will stay at home. Nothing can coax him into society."

A Dainty and Cheap Apron.

A very trim, dainty little apron may be made of cheese cloth for the sum of 26 cents, as follows:—Take one yard of the material, hem it across the bottom with an inch-wide hem. Draw threads enough from the material to make a third of an inch space; overcast top and bottom edges, in groups, then gather the up and down threads in groups of four bunches of thread, and draw them together by a chain stitch. Decorate the apron by herring-boning a border in pale blue English crewels above and below the drawn work. Above this run an inch wide tuck, and if the apron is too long, another with a row of



THE PET CROWS.

herring-boning at the head of each tuck. Make two pretty pockets in form of half ovals, and work a herring-bone border on each side of a drawn-work border on the top of each. Herring-bone the waist-band of the apron in pale blue, and finish the pockets by a bow or rosette of pale blue satin ribbon at the bottom, and one at each corner of the top.

A simple and usually successful mode of extracting a needle or any piece of steel or iron that has broken off in the flesh is by the application of a simple pocket magnet. Iron filings have a way of imbedding themselves in the eye which defies almost every ordinary means for their extraction. For their removal a small, blunt pointed bar of steel, well magnetized, will be found excellent.

THE AGE OF FISHES.—Crows are commonly said to live for a hundred years, and turtles are reported to have even longer life; but if Professor Baird be right, the greatest animal longevity is possessed by fishes. Professor Baird says that as a fish has no maturity, there is nothing to prevent it from living indefinitely and growing continually. He cites in proof a pike living in Russia, whose age dates back to the fifteenth century. In the royal aquarium at St. Petersburg there are fish that have been there a hundred and forty years.

Notices.

On our table we find a work entitled "Practical Information on Ensilage and the Building of Silos," by E. W. Ross & Co., of Springfield, Ohio. It contains a very great deal of valuable information on the construction of silos, how they should be filled and managed, etc.

The prize list of the Dominion and Industrial Exhibition of Toronto has been received. The exhibition will be held from the 5th to the 17th of September. The very liberal sum of \$30,000 is offered in prizes. Any of our readers who have not attended the Industrial Exhibition should pay it a visit, and they would be well repaid. It promises to be one of the best exhibitions ever held in Canada. Exhibitors should send to the Secretary, Mr. H. J. Hill, for prize list and entry forms.

Messrs. T. & A. B. Snider, of German Mills, Ont., report the following sales of Percheron horses: One 2-year-old to Messrs. Ely & Shirk for \$500, which went to Michigan; another went to the State of Pennsylvania for \$450; also a pure bred Percheron for the sum of \$950, which went to the Eastern Townships. They also report enquiries for stallions and mares have been good for some time. "We have a very fine crop of Shorthorn calves this season. Our imported cow, Jean Blossom, bred by A. Cruikshank, Scotland, has a fine pair of twin heifer calves. This cow being only six years old, has now raised four heifer calves, all red, her yearling being one of the finest we ever raised out of Lord Strathallan, his dam being Rose of Strathallan 2nd, whose show career is known so well."

The Western Fair.

AS IT WAS—AS IT IS.

This worthy institution held its first exhibition in 1868—twenty years ago—when the modest sum of \$2,000 was offered in prizes. Its growth and progress up to the present time is something marvelous. This result has been obtained almost wholly by the push and enterprise of its promoters, and the fact that London is the centre of one of the finest agricultural districts in the Dominion. The nominal sum of \$700 is all the Association has received annually from the Government.

The entries have steadily advanced from less than 2,000 in 1868 to over 10,000, and the prize list has steadily increased until the sum of \$17,000 has been reached. The Directors, while highly gratified with the results secured, have been impressed with the fact that the time had arrived for placing the Fair on a much broader basis, in order that the resources of the Province in agriculture, manufactures and arts should be more successfully developed and encouraged. To this end an Act was applied for at the last session of the Ontario Legislature, giving the Agricultural Societies, the Dairymen's Association, the Creameries Association, the Fruit Growers' Association, and some twenty-five other Societies, Associations and Corporations representation on the Western Fair Association, and from the representatives sent the Board of Management is elected. The corporation of the City of London have furnished new grounds, known as the Queen's Park, and valued at \$40,000 to \$50,000, as the place for holding the future exhibitions of the Association. The sum of \$60,000 has been granted also for the erection of new buildings. The Association hold a sum of \$10,000 as a guarantee fund against contingencies. With all these advantages and appliances it is predicted that the forthcoming Western Fair and Jubilee Exhibition will far excel all previous efforts. The forthcoming fair will undoubtedly be the great event of the season. Keep the date in mind, Sept. 19th to 24th.

GEO. MCBROOM, Secretary.

The 42nd Provincial Exhibition will be held in Ottawa from the 19th to the 24th of September. For prize list, entry forms and other particulars, address Henry Wade, Esq., Secretary, Toronto.

We desire to call the farmers' sons attention to the advertisement of the Canada Business College. This College is said to be one of the leading Commercial Colleges in Canada, and should be well patronized.

NEW WORK ON GRASSES.—We are in receipt of Vol. I. of a new and excellent work on grasses, by Prof. W. J. Beal, M. A., M. Sc., Ph. D., Professor of Botany and Forestry in Michigan Agricultural College. The work comprises a description of all the grasses found in North America; also useful and instructive chapters on their physiology, composition, selection, improvement, cultivation, management of grass lands, clovers, injurious insects and fungi. Over 700 species are described, and a large number of engravings are given. The work supplies a long-felt want, and is adapted for practical farmers as well as for students of botany. We have much pleasure in recommending it to farmers, and especially to dairymen, and we place it on our list of books which we supply to our subscribers. Knowing Prof. Beal to be an earnest and painstaking worker in his sphere of action, we recommend the work with great confidence.

Leading Exhibitions to be Held in Canada, '87.

Table listing various exhibitions across Canada with dates and locations. Includes Grand Dominion and Industrial Exhibition in Toronto, and numerous local fairs in Ontario, Quebec, and the Maritimes.

Most of the Important Exhibitions and Fairs for 1887 to be Held in the United States.

Table listing important exhibitions and fairs in the United States, including the 42nd Provincial Exhibition in Ottawa, and various state and county fairs across the Midwest and South.

NEW ADVERTISEMENTS.

ADVERTISING RATES.

The regular rate for ordinary advertisements is 25c. per line, nonpariel, or \$3 per inch. No advertisement inserted for less than \$1. Special contracts for definite time and space made on application.

Advertisements unaccompanied by specific instructions inserted until ordered out, and charged at regular rates.

The FARMER'S ADVOCATE is the unrivalled advertising medium to reach the farmers of Canada, exceeding in circulation the combined issues of all the other agricultural publications in the Dominion. Send for an advertising circular and an estimate.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can, in the nature of things, be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

ST. CATHARINES Business College Phonographic Institute and School of Telegraphy.

Although not yet quite two years old, is to-day one of the largest, and unquestionably the most flourishing, commercial school in Canada. Don't enter any other until you receive the new catalogue, which is sent free on application.

W. H. ANGER, B. A., Principal, ST. CATHARINES, ONT.

WESTERN FAIR INDUSTRIAL and ART EXHIBITION, LONDON, CANADA, SEPT. 19th to 24th, 1887.

LIBERAL PREMIUMS will be given for Live Stock, Horticultural Products, Etc. \$60,000.00

have been expended in erecting new buildings on the Queen's Park for the forthcoming Jubilee Exhibition.

A GRAND PROGRAMME of attractions is being prepared by the Committee. Prize Lists and all information may be had on application to the Secretary.

This exhibition will be the great event of the season. Wait for it. A. W. PORTE, President. GEO. MCBROOM, Secretary.

42nd PROVINCIAL EXHIBITION UNDER THE AUSPICES OF THE Agriculture and Arts Association of Ontario,

TO BE HELD AT OTTAWA ON THE

19th to 24th September, 1887.

Entries must be made with the Secretary, at Toronto, on or before the undermentioned dates, viz.: Horses, Cattle, Sheep, Swine, Poultry and Agricultural Implements, on or before Saturday, August 20th.

Grain, Field Roots and other Farm Products, Machinery and Manufactures generally, on or before Saturday, August 27th.

Horticultural Products, Ladies' Work, Fine Arts, etc., on or before Saturday, September 3rd.

Prize Lists and Blank Forms for making the Entries upon can be obtained of the Secretaries of all Agricultural and Horticultural Societies and Mechanics' Institutes throughout the Province, and from HENRY WADE,

Secretary Agriculture and Arts Association.

POT GROWN STRAWBERRIES!

We will have our usual fine supply ready about July 15th. Catalogue containing correct descriptions of the best old and new varieties with cultural directions, mailed free.

ELLWANGER & BARRY, Mount Hope Nurseries, ROCHESTER, N.Y.

"ACME" PULVERIZING HARROW, Clod Crusher and Leveller.

The best tool in the world for working Summer Fallows and for preparing wheat ground. Agents wanted in unoccupied territory. DUANE H. NASH, Sole Manufacturer, Millington, New Jersey, U. S. A.

N. B.—"Tillage is Manure" and other essays sent free to parties who name this paper.

Grand Dominion and Industrial EXHIBITION 1887 TORONTO, SEPT. 5th to 17th.

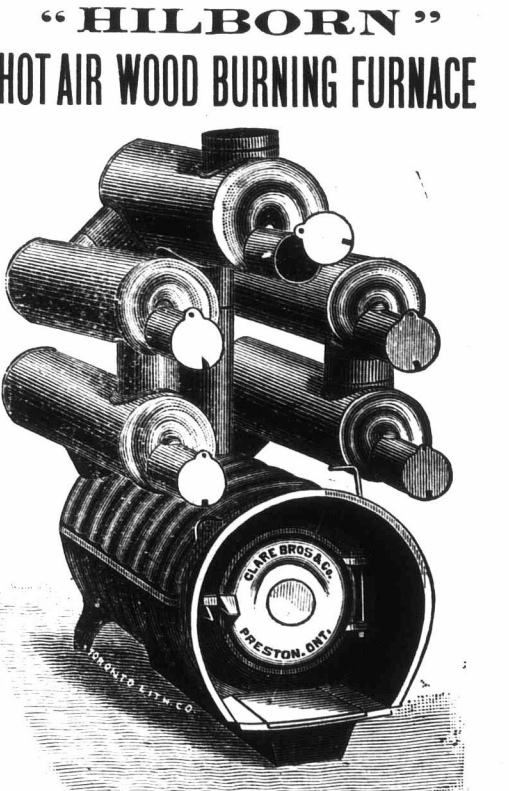
PATRONS: His Excellency the Governor-General. Hon. John Carling, Minister of Agriculture.

\$30,000 IN PRIZES!

The larger portion of which is for Live Stock, Agricultural and Dairy Products. A grand Programme of Attractions is being prepared for this Exhibition. The greatest celebration of the Jubilee Year. Entries close August 13th.

For copies of Prize List, Entry Forms and full information drop a post card to J. J. WITHEROW, H. J. HILL, President, Manager and Sec., TORONTO.

"HILBORN" HOT AIR WOOD BURNING FURNACE



This furnace, made in eight sizes, is unequalled for Efficiency, Economy, Ease of Management and Durability. It is corrugated and made very heavy. The Drums are of Sheet Steel. Will save first cost within a few years, as the roughest kind of wood that can be cleaned out at any time satisfactorily. Its heating capacity is enormous, there being more radiating surface than in any other wood burning furnace made. Write for illustrated catalogue of the largest and best variety of Hot Air Furnaces and Registers manufactured in Canada.

CLARE BROS. & CO., PRESTON, ONT. Mention this paper.

M. WILSON & CO.,
HAMILTON, ONT.,

Manufacturers of all kinds of

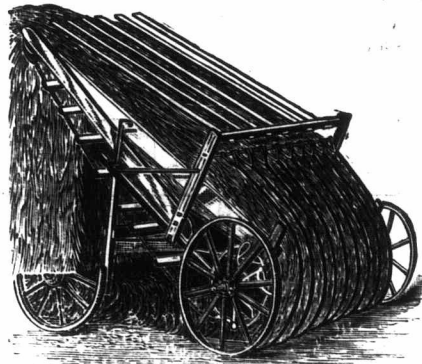
HAY TOOLS.

FOUST'S PATENT HAY LOADER.

ANDERSON'S PATENT RAKE ATTACHMENT.

GRAND RAPIDS HAY TEDDER. WISCONSIN

DEAD LOCK HAY CARRIER AND FORK.



The above cut shows the Foust's Hay Loader with Anderson's Patent Rake Attachment. It will take up grain with short straw. It will take up grain as clean out of the furrow as on the ridge, without the necessity of using the horse rake. In hay it can be used after the Tedder, and will take it from the swarth without using a horse rake. 257-c

—1887—
BUY NOW

FOR IMMEDIATE SHIPMENT.

The Oshawa Mowers.

They surpass all other mowers in workmanship, quality of material, excellence of construction, and performance of work.

New Model Threshers.

The best threshing machines in America. They do the largest amount of work, and thresh cleaner than any other machines can do the work. In excellence of construction they are unequalled. They are the best made in Canada, and are only equalled by their namesakes in the United States.

Portable Engines.

No better agricultural engines are made.

Hall Threshing Machines.

The best in the market for horse-powers.

Champion Reapers

of well-established repute. Only a few remaining.

WOODBURY, OR DINGEE, IMPROVED HORSE-POWERS,

now the easiest running and best in the world, also the

CALIFORNIA, PLANET, AND PITT'S HORSE-POWERS,

of established repute.

REPAIRS ON HAND FOR EVERY MACHINE MADE.

JOHN LIVINGSTONE, Trustee,

JOSEPH HALL MACHINE WORKS.

258-c

2nd-HAND MACHINERY.

Descriptive Catalogue sent free on application.

258-y Address H. W. PETRIE, Brantford, Can.

OLIVER CHILLED PLOW and UNION AGRICULTURAL WORKS.

Merner, Killer & Co., Props WATERLOO, ONT.

MANUFACTURERS OF

MOWERS, TWINE BINDERS, PITT'S HORSE-POWERS, Mounted and Unmounted.
STRAW CUTTERS, ROOT CUTTERS, CHOPPING MILLS, GANG PLOWS, SCUFFLERS, LAND ROLLERS, SPRING-TOOTH CULTIVATORS,

AND THE GRAIN THRESHER KNOWN AS THE

WATERLOO CHIEF,

OF WHICH WE MAKE A SPECIALTY,

It being the greatest Grain Saver of the age, cleans the grain fit for the market, saves all kinds of Seeds such as timothy, etc., and separates them from the market grain.

The superiority of this machine over all others is its ease of draft, running fully two horses lighter than any other machine of same capacity—owing to the way the machine is geared. Any check given to the cylinder by bad feeding has only a very slight effect upon the motion of the other parts. Simplicity, avoiding continuous delay and stoppage, only four belts being used, the widest only two inches. Any farmer, even without experience, will have less difficulty and less breakage than the most experienced thresher with other machines. The cylinder journals have eight inch bearing, all other journals are in proportion. Will thresh all kinds of grain equally well, and as a Pea Thresher is second to none. Before you give your order for any of the above implements, send for catalogue and prices. Address

MERNER, KILLER & CO.,

257-f

WATERLOO, ONT.

**INVALUABLE TO EVERY HOUSEHOLD!
THE MODERN FAMILY PHYSICIAN
AND HYGIENIC GUIDE.**

GRANDEST BOOK PUBLISHED!

THE MODERN FAMILY PHYSICIAN AND HYGIENIC GUIDE was written by three of the most eminent physicians known to the profession—Drs. Richardson, Ford and Vanderbeck—whose experience forms a world of learning. They have produced a volume that has for its object the prevention and cure of disease, and so perfect is the work in every detail that nothing of the kind can approach it. The aim of the book, to benefit mankind everywhere, has been accomplished. It is emphatically the **Grandest Household Work of the Times.** You want to know what to do for the various ailments of life; how to eat, and what is the most wholesome food; how to prepare it; how to exercise; in short, how to enjoy life?—The Family Physician tells you. The Vegetable Materia Medica provides Nature's remedies for a multitude of complaints, and chapter upon chapter of useful knowledge completes a work never equalled. It furnishes a Veterinary Department for the farmer worth many times the cost of the book; hints to make a good housewife out of a poor one, and a better one out of a good one; treats of the proper care of domestic animals—the Horse, the Cow, Sheep, Poultry, Birds—and furnishes remedies for their many diseases. It is perfect in almost every detail, and a better executed book has never been put upon the market. Handsomely illustrated with several hundred engravings, and carefully arranged and neatly printed in one large volume of nearly 1300 pages. Everybody needs this great book.

ENERGETIC AGENTS WANTED. An opportunity never before offered in the book business. Send for descriptive circulars and terms to

259-c **JOHN E. POTTER & CO., PUBLISHERS, 29, 31, 33 AND 35 N. TENTH STREET, PHILADELPHIA, PA.**

**BAIN WAGON CO.'S
FARM TRUCK**



This cut represents the most convenient Wagon ever put on a farm, because it is suitable for all kinds of work, and always ready, no changes being necessary. This Wagon was invented and first introduced in Michigan, U. S., and is now very extensively used by leading farmers in the United States.

And every Wagon made and sold by us in Canada is giving entire satisfaction. For further particulars and prices

255-d

Address **BAIN WAGON CO., Woodstock, Ont.**

ONTARIO PUMP Co.

(LIMITED.)

TORONTO, ONTARIO,



MANUFACTURERS OF

WIND MILLS, FEED GRINDERS, HAYING TOOLS, IRON & WOOD PUMPS,

AND A FULL LINE OF

Railway, Town, Farm and Ornamental Water Supply Materials.

Geared Windmills for driving machinery, pumping water, &c., from 1 to 40 horsepower. Send for Descriptive Catalogue. 255-y

FIRST ANNUAL SALE AT OAKLANDS JERSEY STOCK FARM

—OF—

JERSEYS, HORSES, SHEEP.

We purpose establishing at Oakland Farm an Annual Sale
of stock. Our first sale will be held about the
END OF AUGUST.

The JERSEYS will number about 40 head, and will consist of yearlings and two-year-olds, cows in milk, bulls and bull calves, of our own breeding and of other known breeders. The majority of our females will be in calf to our stock bulls. All are registered in the American Jersey Cattle Herd Register.

The HORSES include the imported Clyde Stallion, 'Star of Carnock,' imported by John Hope, Esq., of Bow Park Farm; a Canadian-bred Clyde mare, and the Standard-bred trotting stallion, 'Isaac W.,' purchased from J. G. Wiser, Esq.

The SHEEP will consist of a draft of Imported and Home-bred Dorset Horned Sheep.

Catalogues furnished free on and after August 1st next.

VALANCEY E. & H. H. FULLER,
Proprietors, Hamilton, Canada. 258-a

THE JOHN ABELL ENGINE AND MACHINE WORKS TORONTO, - ONTARIO.

Headquarters for
STEAM AND HORSE-POWER
THRESHING OUTFITS

THE TORONTO ADVANCE
is the most perfect Threshing
Machine made.



—THE—
TRIUMPH TRACTION ENGINE

Fitted with two speeds, is the
strongest, most simple, the
most powerful, the lightest
and most durable Traction
Engine on the continent.

Valuable Improvements for 1887.

13 GOLD MEDALS AWARDED THE TRIUMPH ENGINE

Send for Catalogue.
258-1f

JOHN ABELL,
TORONTO, ONTARIO.

STOCK FARM FOR SALE IN WARWICK, LAMBTON CO., ONT.

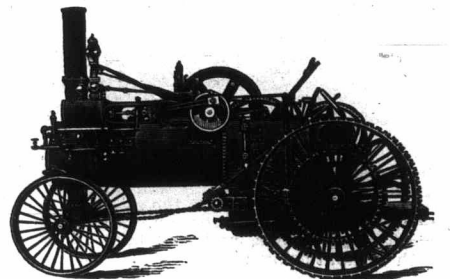
1,000 ACRES
(nearly) within a ring fence, being composed of lots 8 and 9, on the 1st con., South Egremont Road, and lots 7, 8 and 9, on the 2nd con. A never failing creek (Bear Creek) crosses the property diagonally, as does also the London and Sarnia Road. To be sold in one parcel, or in lots of 200 acres or more to suit purchasers.
258-b
May 26th, 1887. **CHAS. J. KINGSTONE,**
Warwick, Lambton Co., Ont.

LOW COST OF HOUSES AND HOW TO BUILD THEM.

Thirty cuts with specifications, estimates, and full description of desirable modern houses, from four rooms up, costing from \$400 to \$5,000, profusely illustrating every detail and many original ideas in regard to decorating. Homes adapted to all climates and all classes of people. The latest, best and only cheap work of the kind published in the world. Sent by mail, post paid, on receipt of 25 cts. Stamps taken. Address

BROOKLYN BUILDING ASSOCIATION-
258-d
BROOKLYN, N. Y.

KING of the TRACTIONS



THE MOST POWERFUL AND COMPLETE

TRACTION ENGINE

self-steering, and fitted with all the latest improvements—large Driving Wheels, Main Axle in front of boiler, Friction Clutch on engine pulley, which is a most valuable attachment for starting heavy loads, and both Pump and Injector for feeding boiler.

THRESHERS will find our Traction or plain Portable Engines first-class machines. Send for circular.

PETERSON & SONS' ENGINE WORKS
N. C. PETERSON.

258-c
SARNIA, ONT.

INTERCOLONIAL Railway of Canada.

THE DIRECT ROUTE BETWEEN THE WEST
AND ALL POINTS ON THE LOWER ST.
LAWRENCE AND BAIE DE CHA-
LEUR, PROVINCE OF QUEBEC.

—ALSO FOR—
New Brunswick, Nova Scotia, Prince Edward
and Cape Breton Islands, Newfound-
land and St. Pierre.

ALL THE POPULAR SUMMER SEA BATHING
AND FISHING RESORTS OF CANADA
ARE ALONG THIS LINE.

New and Elegant Buffet Sleeping and Day
Cars run on through Express Trains
between Montreal, Halifax and
St. John.

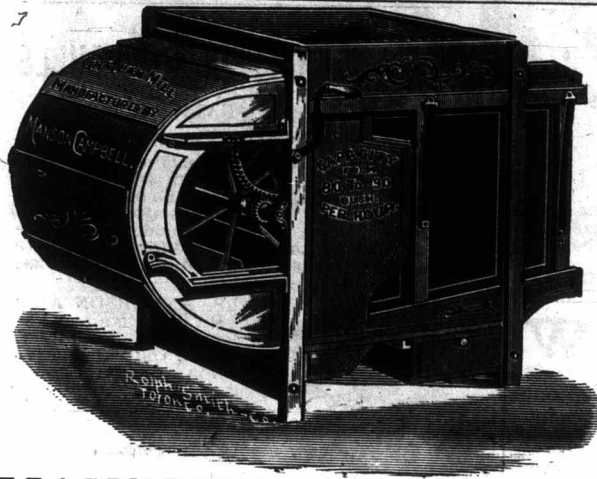
CANADIAN EUROPEAN MAIL AND PAS-
SENGER ROUTE.

Passengers for Great Britain or the Continent,
leaving Montreal on Thursday morning, will join
outward mail steamer at Rimouski the same
evening.

The attention of shippers is directed to the
superior facilities offered by this route for trans-
port of flour and general merchandise intended for
the Eastern Provinces, also for shipments of grain
and produce intended for the European market.

Tickets may be obtained and all information
about the route, freight and passenger rates on
application to **ROBERT B. MOODIE,** Western
Freight and Passenger Agent, 93 Rossif House
Block, York Street, Toronto.

D. POTTINGER,
Railway Office,
Moncton, N.B., 6th June, 1887. Chief Superintendent.
258-y



THE Chatham Fanning Mill

Over 15,000 now in use.
Over 2,000 sold in 1886.
FARMERS, BUY THIS MILL AND HAVE NO OTHER. IT CANNOT BE SURPASSED IN AMERICA.

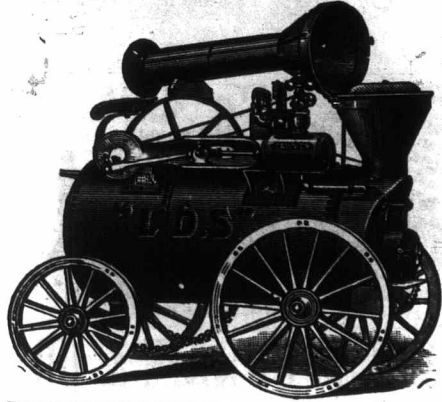
The most reliable Fanning Mill in Canada for all kinds of grain. Sold on liberal terms, and delivered, freight paid, to any station in Canada. Be sure and see 1887 improvements before buying. Send for circulars and prices. Address

MANSON CAMPBELL, CHATHAM, Ont.

256-g MESSRS. VAN ALLEN & AGUR, Winnipeg, Agents for Manitoba and the N. W. T.
R. J. LATIMER, 32 McGill street, Montreal, General Agt. for Province of Quebec.
TUPPETT, BURDETT & CO., St. Johns, Agts. for Maritime Provinces.

"L.D.S." ENGINES

WOOD, COAL AND STRAW BURNERS,
PLAIN AND TRACTION.



"Grain Saver" AND "Peerless" SEPARATORS.

"Pitts" Sweep-Powers, for 2, 4, 6, 8, 10 and 12 Horses.
Tread Powers, for 1, 2 and 3 Horses.

"ECLIPSE" LIGHT SEPARATORS.

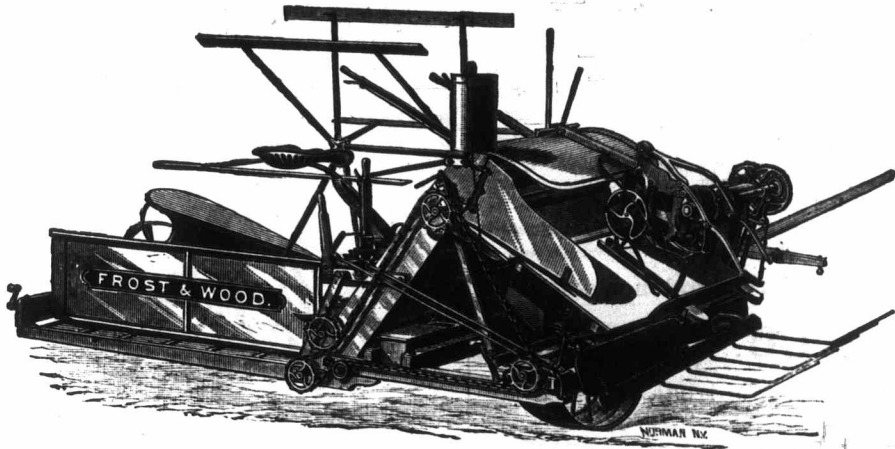
Send for Illustrated Catalogue and Price List for 1887.

L. D. SAWYER & CO.,
HAMILTON, ONT.

NEW LIGHT

Steel-Wheel Harvester & Binder

BUNDLE CARRIER ATTACHED.



BUCKEYE MOWERS, "DAISY" LIGHT REAPERS,

"Tiger" Self-Dump and "Ithaca" Horse Hay Bakes.

The most complete line of Harvesting Machines offered by any manufacturers in the Dominion, and adapted to the wants of all classes of farmers. Especial attention is invited to our

LIGHT HARVESTER AND BINDER

With Steel Driving Wheel (strongest and lightest in use), Steel Bundle Carrier, its Knot-tying Mechanism, its Vibrating Sheaf-buttor, easy and ample Tilt Movement, adjustability of Reel, and other valuable features. We also manufacture STEEL PLOWS in large variety. Send for Circular.

FROST & WOOD,
SMITH'S FALLS, ONT.

256-d

CHOICE MANITOBA FARMS FOR SALE.

East 1/4 Sec. 4, Tp. 18, Range 8 (320 acres.) This 1/4 section is in the Qu'Appelle Valley, 4 1/4 miles from Summerbury Station on the main line of the C.P.R. On it there is a good log house, stable and well; 45 acres under cultivation; very deep black loam, clay subsoil; every foot of this 1/4 section can be cultivated.

Also, south-east 1/4 of Sec. 15, Tp. 7, Range 15, west of the 1st principal meridian, Glenboro P. O., a few miles from R. R. station on C. P. R. (160 acres), 80 of which have been cultivated and well fenced. This is a very choice 1/4 section, very rich soil, with excellent water from 10 to 15 feet from surface; a few beautiful groves of trees upon the land.

Also, 120 acres of Sec. 17, Tp. 6, Range 2, east of the principal meridian, St. Agatha P. O., Man., about 4 miles from station on C. P. R., between Winnipeg and Gretna. Dominion Land Field Notes: "High and dry and land of first quality."

For further particulars address

JOHN WELD, London, Ont.

R. McDougall & Co., Galt

We are the only manufacturers in Canada of the now well-known

SCIENTIFIC

ALL

IRON

WIND MILLS



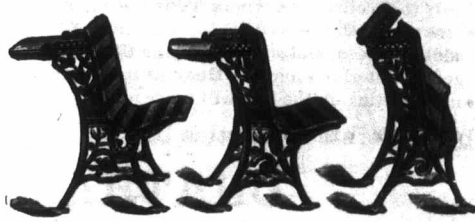
Adapted for Cutting, Pumping and Grinding, and all general power purposes. The late very severe storms have demonstrated the need of a mill practically storm-proof, and the results given by our mill have been entirely satisfactory; not a mill has been damaged without the derriok blowing over or breaking. Intending purchasers bear this in mind and write us for prices.

R. McDOUGALL & Co
GALT, ONT. 250-y

W. Stahlschmidt & Co., Preston, Ont

MANUFACTURERS OF

OFFICE, SCHOOL, CHURCH & LODGE FURNITURE.



THE "MARVEL" SCHOOL DESK.

Patented Jan. 14th, 1886. Send for circulars and price lists. Name this paper. 253-y

THE BENNET FURNISHING CO.

London, Canada.



MANUFACTURERS OF

SCHOOL, CHURCH, HALL & LODGE FURNITURE.

Send for illustrated catalogue and price list. 254-y

Hamilton Business College

Corner of King and James Street's, HAMILTON, ONT.

"It affords me great pleasure to testify to the efficiency of the Hamilton Business College, having completed the course of study there. I can state that the instruction is practical in every respect. I found the teachers both able and anxious to assist the students, and zealous to deal in their power to make the time of their pupils both profitable and pleasant." D. WISHART.

256-y

Send for circulars.

BATTERY & GEIGER.

TWO-FURROW GANG PLOW



Two horses can draw this Gang all day without change or rest. Will plow six (6) inches deep, and do the work as well as single plows. Beams will not bend in heaviest land. Mould boards very large. The only Gang made in Canada with tempered soft centre steel mould boards. Adjustments for depth, &c., made in a moment, and may be very slight as well as great, as the operator may wish. Put together by mechanics, finely finished throughout and handsomely painted.

When required, we furnish a Three-furrow Gang similar to the Two-furrow.

J. FLEURY'S SONS

Aurora, Ont.

Manufacturers of all styles of

PLOWS

of best material and workmanship, and of finest finish.

258-1f

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CHATHAM



WAGON

Adopted by the Government of the Dominion of Canada as the STANDARD WAGON, should command your preference:

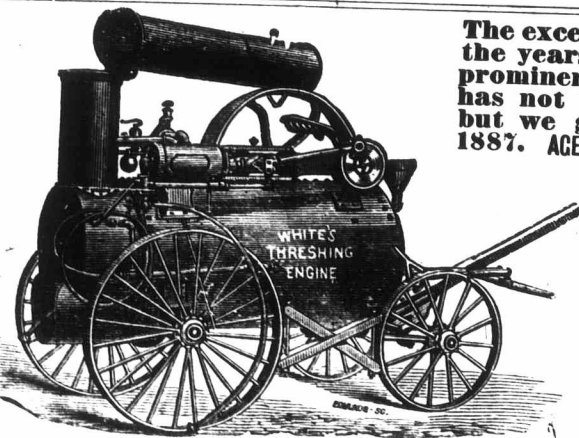
The intrinsic cost and value of it is at least \$10 more than any other wagon made in Canada, and any unprejudiced practical man will tell you so, and the thousands who now have them in use say so, because it is not only made from the best, carefully selected and thoroughly seasoned timber and best of iron, but the Skains used, made only by us, are superior to any skains made or used in Canada, and are constructed specially to receive our Climax Truss Rod, which doubles the strength of the axle; the boxing of the hubs are pressed, not wedged in, a guarantee for a year accompanies each wagon, and notwithstanding this additional cost and superiority, the Chatham Wagon can be purchased at no greater price than is charged for inferior wagons. Bear in mind it is the running gear that carries the load, and no amount of fancy painting on the box will make an easy running and great carrier of a poorly constructed wagon.

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The Engine for the Northwest is made to burn either coal, wood or straw. Farmers, procure a Genuine White Threshing Engine at the Forest City Machine Works, London, Ont., Can.

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Have been made 15 years, and have never blown down without tower breaking, a record no other mill can show. Write us, stating nature of work to be done, and we will give contract figures for the job. Send for Catalogue to 258-1f St. Catharines Pump & Wind Mill Works.



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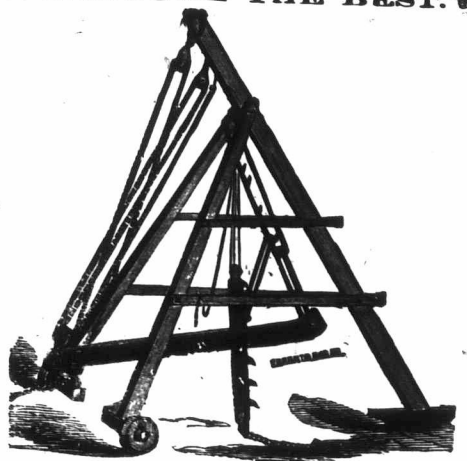
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