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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. 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 or stockmen, of any publication in Canada.

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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
- 2.—It is not necessary for essayists to agree with our policy, so long as they give sound reasons for differing from us.
- 3.—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.
- 4.—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, the sum being decided by ourselves in each case, and the essay will appear in the same or in a succeeding issue.

Our prize of \$5.00 for the best original essay on *The Best Education for Farmers' Sons and Daughters who Remain on the Farm*, has been awarded to S. A. Laidman, Binbrook, Ont. The essay appears in this issue.

A prize of \$5.00 will be given for the best original essay on *Agricultural Exhibitions as Educational Institutions for the Farmer and his Family*. Essays to be handed in not later than July 15th.

A prize of \$5.00 will be given for the best original essay on the following subject: *On what Basis can the Middlesex Agricultural Council and Our Farmers most Harmoniously Co-operate for the Best Interests of Agriculture?* Essays to be handed in not later than August 15th.

A family near Little Rock, Ark., who drank milk from a cow bitten by a mad dog, suffered excruciatingly from hydrophobia.

Editorial.

On the Wing.

INDIAN AND COLONIAL EXHIBITION.

This Exhibition is looked upon by many as the most important gathering that has been held in our generation, as from it the blending in unity of all the British possessions is expected in such a manner as to aid each other's interests and prosperity. The beauty and wealth of the exhibits show that we have all the varied products of the world grown or produced in our possessions. The gorgeous display made by India and Australia seemed at first entirely to eclipse Canada; but a closer investigation proves that the value of Canada's representation is not surpassed. Her fruits make a grand display, the apple being represented by about 1,000 specimens, preserved in glass jars. Her cereals, dairy products, and agricultural machinery are hardly excelled in any part of the world. As for soil and territory to be opened up, we may say to the energetic what some nations cannot, that is, "Increase and multiply and replenish the earth." As an exhibitor, we were favored with a pass for self and two others on the memorable day—the 4th of May. The Queen was accompanied by H. R. H. the Prince of Wales, the Duke of Connaught, the Princess of Wales, the Princess Beatrice, &c. A long procession of dignitaries of state, officials, &c., had passed before the entrance of our Sovereign Lady sent a thrill through the hearts of all true Canadians whose good hap it was to be present on the august occasion.

Canada's exhibit was at the opening much behind the grand displays made by Australia, India, New Zealand, &c. But now it is getting in order, the opinion among visitors in the city is growing that Canada eclipses all others in the real value of her displays, and her courts are being better filled with visitors each day. We know not what would have been done had our Canadian exhibitors been unanimous in exhibiting. Not half the manufacturers of London (Ontario) are represented, as the people of Canada did not at first see the advantages to be gained by exhibiting. As it is, there is not half space enough to show with effect many exhibits of value that are sent. Many must remain very obscure, if seen at all. At one of our exhibitions in Canada the implements occupied ten times as much space as is allowed them here. The fact is, England is small—her roads, rooms, farms, fields, buildings—but the hearts of her people are as large.

Her gold is astonishingly abundant, and much good is being done with this wealth by many a noble and grand individual that the world never hears of.

Each of Canada's exhibits makes a silent appeal of more effect than words upon all visitors. Now we can say to our Canadian friends, "Come and see your country in its mother's arms. You will return with an elevation of yourself, with knowledge and pleasure that will amply repay you for expenditure, and with a proud feeling of being connected with your mother country and your sister colonies."

ENTERTAINED BY THE MARQUIS OF LORNE.

On the 5th of June, in company with other exhibitors, we accepted a kind invitation from the Marquis of Lorne to meet him at his residence at Kensington Palace. We made our appearance at the entrance, presented our card, entered our name in the register, and were then directed to go into a large paved courtyard. The Marquis was standing at one of the entrances to the palace to receive us. The quaint old yard, the tiled roof, the antique windows, the large, spacious, old-fashioned rooms of State, old tapestry, old paintings, and old historical reminiscences were very carefully described to us by the Marquis, who acted in the most courteous and hospitable manner towards us. He presented us to H. R. H. Princess Louise, the sight of whose face has always created in us a thrill of pleasure and admiration. The first time we saw her was in London (Ontario), the second in the Citadel in Quebec, and the third at Kensington Palace. The Marquis escorted us through the gardens and grounds, and then into a room where refreshments were furnished to us. After having spent a pleasant hour, we retired to ruminate on the historical treat we had just received.

PLEASING INCIDENTS.

On the morning of the 29th May, we went to the exhibition to have our exhibit arranged. We found the Canadian Department closed. We tried all the entrances and approaches we could find, but to no purpose. As we were at one of the gates, we heard a voice say: "Here they come!" and the crowd ran to another gate. We went also. The Queen's open carriage, drawn by a pair of very handsome chestnuts, had just arrived. Being fortunately in time, we walked by the side of the horse near the carriage from which the Queen was to alight. She was assisted as she stepped from the carriage by the Equerry in Waiting. The Prince and Princess of Wales were standing at the entrance on the Queen's arrival. At the entrance she took the Princess's hand in

hers, as if to shake hands. The Princess then stooped down, and kissed the Queen's hand; then the Queen kissed her on her cheek. The Prince then took the Queen's hand, and bending down, kissed it. He did not kiss his mother. Then they entered the Exhibition.

We have read of 100,000 troops being ordered out, to protect the Czar from danger while on a journey. Here, the Queen and Princess drive in their open carriage, as other citizens. No troops required to line the roads; only a sufficient number of policemen to keep the roads open.

A DINNER.

The Canadian exhibitors having inaugurated a plan to have a dinner together, the idea was at once taken up, and the Marquis of Lorne, the Lord Mayor of London, and the representatives of the Sister Colonies were invited. The dinner took place on the 28th of May, at the High Holborn Restaurant; the tickets were £1 or \$5 each. A very harmonious and pleasant time was spent, and we trust it may result in a strengthening of the old, and creation of new bonds of harmony and good fellowship.

More Model Farms—Prospects of the Experiment Stations Established by the Dominion Government—Are Model Farms Booms or Boons?

We have been patiently awaiting Prof. Saunders' report on agricultural colleges and experimental stations. We cannot see what object the Minister of Agriculture can have in withholding his Model Farm literature from us; we get his other blue books regularly enough. Does he fear our criticisms? However, we have been favored with Prof. Saunders' report from another source, with a request to review the institutions established, or about to be established, by the Dominion Government.

Prof. William Saunders, F.R.S.C., President of the Ontario Fruit Growers' Association, President of the Ontario Entomological Society, etc., etc., has been commissioned to visit the leading agricultural colleges and experiment stations in the United States, and to gather such other material as will justify the Hon. John Carling, Minister of Agriculture, in establishing similar institutions in the Dominion of Canada. The Professor presented his report several months ago, and a bill has passed our House of Commons known as *The Experimental Farm Station Act*, based upon Professor Saunders' report. This report is a sequel, as it were, of the action of a select committee of the House of Commons (1884) appointed to inquire into the desirability of establishing such institutions in Canada. This committee, as well as Prof. Saunders, made a favorable report of the questions intrusted to them, and as the evidence of many practical farmers examined before the committee has also been favorable to the establishment of Model Farms, as well as some of our leading journals, a large majority of the members of the House of Commons having voted favorably, it would surely be invidious for us to stand alone in opposition.

Succinctly, Prof. Saunders' plans are these:

The establishment, near Ottawa, of a central station consisting of not less than 400 acres of land, to serve jointly for Ontario and Quebec; a sub-station in the Maritime Provinces for

Nova Scotia, New Brunswick, and Prince Edward Island jointly, 200 acres; a sub-station each for Manitoba and the Northwest, 640 acres per station; and one for British Columbia, 200 acres, the central station to exercise some sort of regulating control over the sub-stations. The central station is to have a director, a superintendent of agriculture, a superintendent of horticulture, a superintendent of forestry, an entomologist, a botanist, a chemist, and a veterinary surgeon. The sub-stations are to have a superintendent of agriculture, and a superintendent of horticulture, subordinate to the director. Of course, a host of subordinate officials will also be required. Each station is to have nurseries and propagating houses, and a museum is to be established in connection with the central station. The special duties of the officers are to go round lecturing amongst farmers and fruit-growers.

The Act states that the stations shall execute the following functions:

1. Conduct researches and verify experiments designed to test the relative value, for all purposes, of different breeds of stock, and their adaptability to the varying climatic or other conditions which prevail in the several Provinces and the Northwest Territories.
2. Examine into the economic questions involved in the production of butter and cheese.
3. Test the merits, hardiness and adaptability of new or untried varieties of wheat or other cereals, and of field crops, grasses and forage plants, fruits, vegetables, plants and trees, and disseminate among persons engaged in farming, gardening or fruit growing, upon such conditions as are prescribed by the Minister, samples of the surplus of such products as are considered to be specially worthy of introduction.
4. Analyze fertilizers, whether natural or artificial, and conduct experiments with such fertilizers, in order to test their comparative value as applied to crops of different kinds.
5. Examine into the composition and digestibility of foods for domestic animals.
6. Conduct experiments in the planting of trees for timber and for shelter.
7. Examine into the diseases to which cultivated plants and trees are subject, and also into the ravages of destructive insects, and ascertain and test the most useful preventives and remedies to be used in each case.
8. Investigate the diseases to which domestic animals are subject.
9. Ascertain the vitality and purity of agricultural seeds, and
10. Conduct any other experiments and researches bearing upon the agricultural industry of Canada, which are approved by the Minister.

The Act also provides for the setting apart of large tracts of land in Manitoba, the Northwest and British Columbia for tree planting and timber growing. It also provides for the publication and free distribution amongst farmers of "bulletins of progress at least once in every three months;" also the publication of an annual report.

In a recent issue of the *ADVOCATE*, we viciously flung our pen at this gigantic bubble with the view of puncturing it, but to no effect. We must now accept the inevitable, and all we can do at present is to point out the prospects of failure or success. The cost at the outset will be about \$250,000 or thereabouts, and it is quite probable that the expenditures will soon go into the millions. The institution is based largely on the Washington concern, which costs over \$500,000 an-

nually, the seed and plant distribution alone costing \$100,000, and the bureau of animal industry \$150,000. If we had never had a live stock boom, which cost our farmers many millions of dollars, there would have been no necessity for such a bureau to regulate the movements of diseased stock, and so far as seed distribution is concerned, Washington has been converted into a dumping ground for all the seed rubbish of both hemispheres. Is Ottawa politically more moral than Washington?

The Hon. Mr. Carling is put forward by his admirers as the father of the Ontario Model Farm, and by a lucky incident, it is said, he has been raised to father Model Farms for the whole Dominion. This statement is based on the assumption that the Ontario Model Farm has been a success. The success of this institution has been confined to the College department; and the Dominion Act does not provide for the establishment of colleges. With reference to live stock, all that the Guelph Farm has done is to nurse the booms favored by speculators, and all that the Dominion Government has done is the establishment of quarantines to legalize the importation of diseased stock, and to compensate the speculators for damages caused by the importation of contagious diseases. Should we expect better things in other departments of husbandry?

The secret of the whole affair is that our office-seekers are very prolific, and the number is abnormally increasing. They all walk in fashionable circles, and our farmers should not expect them to lower their dignity by long hours or honest toil. It is not to their interests that the farmer should be educated in the principles of agriculture, for he would then be able to comprehend what monstrous frauds many of our so-called scientific experiments are.

We have already expressed ourselves with reference to agricultural expenditures. The principle is wrong, but so long as the policy of grab prevails, we would not be doing justice to our farmers if we refused to acknowledge their right to a share in the spoils. The grabbers, however, are directly benefited by the plunder system, while our agricultural interests have lost more than they have gained. We have attempted to turn the farmers' share to the best interests of agriculture, but so far we have met with very poor success.

But we fear that, in the above remarks, we have not meted out justice to Prof. Saunders. He is not an office-seeker. He is an eminent chemist who can make an honest living, and has devoted his spare moments to various sciences out of pure love for them. He is not a practical agriculturist, and although the science of agriculture is not his forte, yet he is an eminent horticulturist and entomologist, and we believe that he could easily adapt himself to the new situation, should he be appointed director of the experiment stations—and there is no doubt but he will. We do not express the opinion that the institutions which he has so strongly recommended will be a failure, but the chances are greatly against them—at least for many years to come. If Prof. Saunders had the supreme control, and were in a position to defy the politicians, the chances would be in his favor; for we believe that he would appoint only the most qualified men. A large majority of similar institutions in the United States have failed to be of any benefit to the agricul-

tural interests, and they have had better opportunities than we, for they have funds independent of their governments, while we shall have to depend upon government appropriations from time to time, which will throw the institutions into the hands of the politicians, and the stations, unless our political morality greatly improves, will be turned into political machines. The supreme control will reside in the Minister of Agriculture, who, as a rule, is totally ignorant of agricultural matters, and, as past experience proves, he will be controlled by rings of speculators who affect to be the greatest friends of our farmers.

At least two of the expectations of Prof. Saunders will not likely be realized. There is no present prospect of our Local and Federal Governments acting in harmony; there is greater reason to believe that they will agree on points of constitutional law. Each Government will want to claim that it has done the greater amount of good to our agricultural interests. The learned Professor also thinks that, on grounds of economy, several departments should be united in one person until the institutions get into running order. This will not work. At many other stations the Professors have their specialties, and have become leading authorities in their particular branch, and unless our station follows their example, their researches will be of no value, and their bulletins and reports may do more harm than good. This is the main cause of the failure of our Ontario Model Farm. There are only two alternatives: money must be lavishly spent in the hope of doing a small amount of good, or moderate sums must be spent with the certainty of doing no good.

We express the opinion that Nova Scotia is the only level-headed Province in the Dominion. It is preparing teachers to teach agricultural subjects in the public schools. This method requires no extra expenditures for agricultural education, and when the youths of our country once begin to appreciate the principles of agriculture, all the desirable will gradually follow.

Late advices from England state that contracts are being made for the delivery of Indian wheat in June and July at 93½ cents per bushel of 60 pounds. While the berry of the Indian wheat is rather hard and flinty, English millers are modifying their grinding machinery to fit it, and it is not unlikely that in the future India and not America will determine the market price of wheat in Europe.

The Calgary Tribune tells a tale about the ranching industry of Alberta, and gives figures showing the extent of the business. The list contains the names of seventy ranches, and the number of head of stock is given at 76,325 cattle, 10,025 horses and 21,300 sheep. Valued at \$40 per head, we would have \$3,053,000 invested in cattle; \$601,500 in horses at \$60 per head; and \$85,200 in sheep at \$4 per head. This is a most encouraging report, when it is considered that the industry is yet in its infancy. It is only some three or four years since the first attempt was made to establish ranching in the Northwest, and the results of the first winter were most discouraging, owing to mismanagement and lack of that knowledge necessary to success. Notwithstanding this setback, those who were best informed as to the climatic peculiarities of the country were not disheartened, and since then nothing but success has attended all efforts. The past winter has been very favorable, and stock now on the ranches are said to be in excellent condition.

The Farm.

Knights of Agriculture—Long Hours and Short Pay—The Ballot is Mightier than the Bullet.

A correspondent in another column appeals to us to break silence on the labor question, stating that he has waited in vain for our solution of the problem.

This is not strictly an agricultural question, and as it is being exhaustively discussed by political papers, we have not deemed it our duty to interfere. As a Canadian citizen, we are deeply interested in the movement; but in our professional capacity it takes us more than ten hours of hard work daily to keep abreast of the times in agricultural questions, and our readers will not be so exacting as to impose an extra hour or two upon us in order that we may constitute ourselves a leading authority on the labor question. However, as the problem has recently assumed an agricultural form, it being asserted that mutual sympathy has arisen between the Knights of Labor and the Patrons of Husbandry, and as most of the political papers are laboring more than ten hours per day to gain the support of the laboring classes, instead of contending for sound principles, our independence in the matter may be an ample equivalent for weakness in any other respect.

Our life has been devoted to the cause of the Knights of Agriculture, but we have received unsatisfactory encouragement owing to their unorganized condition. We have been thwarted, moreover, by the policy of political journals. When a scandal comes to light in political circles, the other party daubs it as a slander; and, no matter how shameful or shameless the act may be, the knights of toil receive the intelligence with supreme indifference. We as a people are crushed to the dust by the heels of monopoly; we create officials to tax us, making them our masters to whom we must bow in reverential awe, and when their pay gets too short, and their hours too long to be consistent with the dignity of their position, the only remedy to them is the imposition of more taxes; we must create lucrative offices for those who are not able to make an honest living by independent exertions; we appoint a number of officials to collect our taxes, where one man could do the work as well, in order that we may not feel the money go out of our pockets in lumps; we cause articles of consumption to be produced in dear localities, and restrict freedom of trade, in order to keep up prices and create monopolies; we vote for blusters of the Bill Frye stamp in order to create the greatest possible necessity for a standing army, creating knights of the sword to luxuriate upon our taxes. So long as this state of affairs exists, we must work several hours a day to earn our taxes, and many hours more to enable us to exist, while the knights of the pen and the tongue are trampling us still lower in the dust. It is a victory of minds in a state of organization over unorganized, slavish brute force.

The real issue is not, or rather should not be, one of labor against capital, but of labor and capital against monopolies. We make this distinction between the capitalist and the monopolist, that the money of the former is legitimately earned and is invested in legitimate en-

terprises, while that of the latter is plundered from the people through their representatives. When the people demand restitution, the cry of "VESTED RIGHTS" is raised. Let the knights of labor, capital, and agriculture unite in their might and demand that no "vested rights" can exist in the plunderings of the people; and on this issue let the knights of monopoly be vanquished.

Any platform erected on an unsound foundation cannot stand. The Knights of Labor have too many unsound planks in their platform; it will totter and fall by virtue of its own weight. If it is a social wrong for mankind to work ten hours a day, will the gallant knights force their wives and daughters to drop their needle or their dish-cloth at the tolling of their curfew? What about the poor farmer's wife who toils from early morn till the flickering of the midnight lamp? On the other hand we must recognize the rights of labor's knights. They have a right to drive the hardest legitimate bargain with their employers, and if they can get ten hours' pay for one hour's work, they are justifiable in doing so; but the same right should be conceded to other citizens, viz., to get as much labor as possible for a given expenditure.

Society as a body can be elevated and strengthened in two ways: Each part may benefit itself by working for the whole, or the whole may be vitalized by each member doctoring itself. The former is the natural, the latter the artificial and costly method. Agriculture is the vital organs, and when any of them becomes congested or dyspeptic, all the other constituent parts of the body must suffer. The labor limb cannot strengthen itself by over-burdening the vital organs. No cure can be permanent unless it originates in the circulatory system. Abscesses constantly breaking out on the limbs tend to degeneracy of the whole body, and require constitutional treatment.

Our correspondent appears to have the impression that there is no power, human or divine, against which the Knights of Agriculture can strike in order to secure short hours and long pay. He is greatly in error. Let them try the experiment of destroying the parasites—not with the bullet, but with the ballot. To do so requires organized effort. If the business is to be accomplished by strikes, strike against your enemies, not against your friends. On this principle labor cannot successfully strike against capital, or capital against labor. The common enemy of society is a parasite of the Plunder genus, of which there are three well known species, viz., Monopoly, Corruption and Taxation. Let the Knights of Labor, Agriculture and Capital unite their forces, arming themselves with that deadly weapon, the ballot, and route their common foe. Meanwhile, let this be the only plank in the platform. This will inaugurate the era of short hours and long pay, and all the other blessings will speedily follow.

Meanwhile, the Knights of Agriculture should practice the drill. Let them spend the long winters' evenings in learning how to hit with the ballot. Organize clubs until every one can hit the "bull's eye" with unerring certainty. The Knights of Agriculture will never, never accomplish this object so long as they continue to depend upon the Government

for their organization. In any case they must foot the bill, with this difference, that the Government bill is always indefinitely more extravagant. Let this be the first step towards economy, the eight hour movement, and the slaughter of the parasites. The Knights of Labor do not accept Government appropriations for organization purposes; the essence of union resides within them, where it should be.

Our correspondent seems to think that the eight hour movement will increase the cost of his implements and machinery. This is a complicated question. If less labor is performed in eight hours than in ten, more men will be required to do the work, farmers will then have more consumers for their products, and the competition amongst them will thus be to some extent relieved, which may to some extent be an offset against the enhanced cost of production. The pay has little to do with the hours. Although the hours may be fixed, the pay will mainly depend upon other circumstances. What is wanted is to drive officials from non-productive and sinecure offices to profitable employments, thereby relieving the world of non-producing consumers.

Canadian Knights of Agriculture! You say you cannot organize owing to your isolated condition. You can. You have the power to accomplish these objects, but you have not the will. You possess the most independent and powerful organ in the Dominion in which you can talk your grievances to each other as if through a telephone—a privilege possessed by no other organization. Eschew those political organs that shout WOLF! to gain your ear, when there is no wolf there, and make it hot for those slander and scandal mongers whose aim it is to blind you against your real interests. Be independent and self-reliant, and unite with other organizations on any question founded on sound principles and established for the purpose of vanquishing the common enemies of yourselves and society. Then the short hours and the long pay will be yours.

Notice to Farmers' Clubs.

In answer to a number of correspondents who have written to us for information about constitution and by-laws suitable for farmers' clubs, we refer them to the report of the proceedings of the Middlesex Agricultural Council as published in our last issue.

It appears to be the intention to publish a small pamphlet containing introductory observations on farmers' clubs, with the constitution and by-laws of the Middlesex Agricultural Council, as revised by the committee appointed for that purpose. The pamphlet will probably also contain a form of constitution and by laws suitable for farmers' clubs. It has not yet been decided how many pamphlets will be printed, but as they will be sent free, it is not probable that there will be a sufficient number to satisfy all demands. Those friends of the Council who contemplate the organization of farmers' clubs, should send in their names to the corresponding secretary as early as possible, in order that their demands will be sure to be supplied. The corresponding secretary will also answer any inquiries relating to the Council.

Our friends should bear in mind that the organization of farmers' clubs in association with the Middlesex Agricultural Council is merely an experiment. An excellent opportunity is

offered to the farmers to unite for the purpose of discussing matters pertaining to their own interests, and if they do not accept it, we know of no power that can organize them. Never has there been greater need than at the present time. The Council is not a secret organization; the discussions are open to all. There will be no binding obligations further than that independence and self-reliance are to be observed in the promotion of our agricultural interests.

We may have insinuated that the Council desired farmers' clubs to co-operate with it. Perhaps it would be more correct to say that the Council desires to co-operate with the farmers' clubs, although we should like to see mutual co-operation. This relation has not yet been fully discussed by the Council, and, as will be seen in another column, we offer a prize essay on the subject. We hope to have a large number of competitors, and should also like to have suggestions from friends who have not time, during this busy season, to compete in the ordinary way. Should we fail to get a large number of replies, our ardor in the farmers' interests will be greatly dampened.

Canadian Phosphate Rock in Relation to Stock Raising.

The U. S. Consul at Ottawa has sent an exhaustive report to Washington relating to our phosphate mines and the extent of the trade. In 1882 the shipments were 16,585 tons, which have increased to 25,000 tons in 1885. He says it is one of the purest phosphates in the world, and is greatly sought after owing to its concentrated form, it being thus cheaply shipped, and a large percentage of phosphoric acid can easily be made available.

This rock is known to geologists under the name of "apatite," and on analysis ours has been shown to contain 88.91 percent of insoluble phosphate of lime. It is greatly in demand in France, Denmark and Belgium, where large quantities of the sugar beet are grown. The writer says that the present demand is entirely European, Great Britain and Germany being our chief customers, though France is grasping for the entire output; but in 1883, 254 tons were shipped to the United States, and 221 tons in 1884, Great Britain having exported, in 1883, to the U. S., 1,262 tons of the crude and 7,766 tons of the manufactured material in the form of superphosphate. That is to say, Canadian phosphates were shipped to England, manufactured there, and then returned to America. The writer then says:

"The United States Government admits this article free of duty, and the Canadian Government and people are inviting us to come and get it. Neglecting to do this, we are allowing Continental Europe to gobble every pound of the production, pay the freight twice across the ocean, with all the incidental expenses attached to such procedure, and with no known check on its adulteration, we complacently purchase it at last at a value that necessitates its resale to the agricultural community at a price that virtually amounts to prohibition. Canadian phosphate would have supplied one-half the United States demand in 1883, and the entire demand in 1884. The average cost of Canadian crude, as paid by the foreign buyers in 1883, was \$21.67 per ton; the average value as entered in United States customs, imported from foreign countries in 1883, is \$9.78. It was purchased in the lump, freighted to Europe, there crushed and pulverized, by grinding or otherwise, and returned to the United States valued at half its original cost. When we con-

sider that Canadian phosphates yield 75 to 90 percent of pure phosphate of lime, and that its equal in purity is not found elsewhere in any appreciable quantities, is it not surprising that its intrinsic value should be so little recognized by those who require it to the extent which characterizes the known wants of American agriculturists? And, too, when by a little effort on our part (I speak as an American), every pound needed can be mined here by American industry, placed direct in the American market in its purity, and at a largely reduced cost, quality considered? There is now about \$1,000,000 of capital invested in this country adjacent to Ottawa. The demand for proper fertilizers is limitless, and must remain so. "The grain exported from Montreal alone, in a single year, has been estimated to contain 2,547 tons of phosphoric acid, which implies the total exhaustion, so far as phosphates are concerned, of 75,000 acres of wheat land, the renewal of which would necessitate the application of 6,000 tons of phosphates." If this be true—and it comes from the highest authority—what would be written of the steady exhaustion of the great agricultural districts of the United States, and their present and future necessities?"

The first idea that strikes us upon reading this report is that our ideas about exports and imports should be revolutionized. Our politicians will no doubt boast that they have created an extensive trade in the products of our apatite mines, whereas if our farmers and fruit-growers understood the value of phosphates, and knew how to apply them, they would have been exported in the form of grain, meat and fruits. There is very little land in Canada that would not be benefited by phosphates, and a few bushels per acre added to half the usual application of farmyard manure would often enable the farmer to double the number of his acres now fertilized.

All this blatherskiting about raising more beef in order to get more manure for the soil, is a cry got up in the interests of live stock speculators. It is true that many feeders are making money by buying up two and three year old steers from our farmers, and the organs endeavor to impress it upon our minds that the country is becoming enriched by the transactions. The farmers, however, are losing money, for it is impossible for them to raise store steers profitably, and sell them for three or four cents a pound, live weight. If they use these steers merely as manure makers, it would probably be more profitable for them to give up the business and buy phosphates to keep up the fertility of their land. However, we are in favor of investigation, and we can see no reason why our farmers cannot make more profit from cheap phosphate than farmers in other countries can make from the dear article.

Farm Drainage.

No. XI.

Drainage for Health.—One of the effects of the most practical importance is the action of drainage upon the health of the farmer and his stock, and this advantage alone will often pay more than the cost—even counting the direct saving in the bills of doctors and veterinarians—besides enjoying the pleasures of health to the good.

Some diseases are natural to animals and plants in soils affected by stagnant water; and if these maladies do not always manifest themselves, the vitality of the growing plants or the grazing animals must suffer to a greater or less extent. The herbage, especially in wet seasons, grows coarse and lacks in nutritive value,

as well as in flavor, and these inferior qualities are conveyed to the beef and dairy products, as well as to the flesh of other domestic animals. Finally, the consumers of these products cannot have wholesome food. The air also becomes contaminated, especially in the vicinity of stagnant pools, and when the stock drinks from these pools, the case becomes still more aggravated. Stagnant water should specially be avoided near the sides of the house from which the prevailing winds blow.

The farmer's dwelling should be specially well drained, and if the house has a cellar, its drainage should be complete. All garbage should be kept away from the cellar and the house drains; it should be conveyed to the compost heap or to the cultivated field, where its noxious effects will be less seriously felt.

We have now completed our series of articles, and we hope they have been read with interest and profit by a large number of our readers. We might have enlarged on the subject, but our aim has been to present the leading principles, thereby awakening reflection, and to give such facts as will be of immediate practical importance to those who contemplate draining their land. We have purposely avoided saying anything about stone or wooden drains, believing that it would be better not to teach farmers how to do what they should not do. In most every locality tiles can now be had at reasonable prices; and as durability is a leading factor in all drainage, we do not recommend the use of any other material. If we have accidentally omitted any feature of the subject, which is of any practical importance, we shall be pleased to answer any inquiries through our correspondence columns.

[CONCLUDED.]

Women's Out-door Work.

One of our essayists on the above subject takes a very gloomy view of the situation. As she requests us to withhold her name, we publish her essay in our correspondence column. Our essayists should bear in mind that we cannot award prizes to those who request their names or addresses to be withheld.

Judging from her composition and penmanship, the writer is a lady of rare ability and education, and yet she writes with such intensity of feeling that one would suppose her to be one of the sufferers. We publish her article because some of our masculine essayists have prescribed the out-door duties of their wives and daughters, or their sisters, as the case may be, as if human females were beasts of burden, and it is hoped that the writer will awaken in their minds and consciences better thoughts and feelings. Her picture is surely not a true one of Canadian farm life; it is to be hoped that it is extremely overdrawn, and only true to life in exceedingly rare instances.

One writer referred to the American custom, viz., that the men would not get a bite to eat if the women had to soil their fingers by any out-door employment whatever. This is surely the other extreme. The woman, be she wife, sister, or daughter, who can entertain her friends utterly oblivious of the privations of the out-door workers, is not worthy of them. Some of our essayists suggested that the in-door workers should familiarize themselves with out-door work in order that the latter might come useful on the farm during the dearth of laborers; but

they forgot to mention that, in the same mode of reasoning, the out-door workers should familiarize themselves with household work. We commend the cogent thoughts presented by our prize essayist and we hope they will strengthen the moral tone of domestic life.

The life of a nation, moral, social, and religious, bears a close relation to the consideration shown to our mothers, wives, daughters, and sisters, and weak is the pulse of the nation where they are regarded as slaves instead of companions. This generation of Canadians plays an important part in moulding the character of rural life in all the ages to come.

What Birds are Beneficial and Wherein?

At a recent meeting of the Oxford (Ohio) Farmers' Club, the above was the topic for discussion, the substance of which is given in the *Cincinnati Weekly Gazette* as follows:

"The first place on the programme had been allotted to Dr. Walker, but in his absence the president called on Mr. Wetmore, who stated that birds, if we except the sparrow, are becoming scarcer every year. He thinks this is indirectly a cause, too, for the increase of insect pests.

"The robin is still to be found here in goodly numbers, and his value is not appreciated. He is an early riser, and after his song of praise, he proceeds promptly to prepare a hearty breakfast for himself and family from worms and bugs in the garden and fields.

"The barn swallows used to be numerous here, but the boys and the tightly weather-boarded barns are fast thinning them out.

"The English sparrow is a nuisance, and makes ceaseless war on the swallow. He thinks it might properly be called the Irish sparrow, because of its quarrelsome nature. His grandchildren had been watching a contest between barn swallows and sparrows. The latter had made battle on the swallows, and when a swallow would leave the nest for food the pestiferous foreigner would throw out her young or eggs and nest lining and begin to build a nest for herself. The swallow retaliated, and when Mrs. Sparrow went out for food the swallow threw out the sparrow's nest, and thus the war went on. The thievish sparrow won the day. And this is but one of the many instances of robbery that can be brought against this imported pest. It is a quarrelsome, ncisy, dirty nuisance about our homes and barns. It can not be frozen out nor starved out.

"He put in a plea for the quail, and showed his devotion to the beautiful bird by declaring that he would no longer eat quail. Unless we cease destroying them for food and for game, they will likely become extinct, and rather than this calamity should befall us, we ought to combine for their protection. Their beauty and their cheerful notes are not to be made good to us when we permit their extinction. The law should forbid killing quails entirely for a few years, until they have time to recuperate and restock our farms.

"The crow is more a friend than enemy to the farmer. He destroys in early spring more grubs than any other bird. Even the woodpecker is worthy of our care, both for his beauty and usefulness in destroying insects which injure the trees. As he drove to the club he noticed the crows walking along the rows of corn, which is just coming up large

enough for the cut-worm. The crow is ready for him, and destroys the worm by the thousands. Birds generally can be classed among the farmer's best friends.

"Mr. Bonham said he was very glad to hear his senior speak a good word for the much-abused crow. It must be admitted that the crow is not always engaged in good works. He is a cunning fellow, and knows a good thing when he sees it, and is very apt to see it. It is a fact he likes eggs, and for a change will add tender young chicken to his bill of fare. But let us give him credit for the service done us before we bring in a bill of charges. He comes as soon as frost is out of the ground, and a grub or cut-worm can thaw out. He follows faithfully the plow in early spring, and revels on the white grubs and larvae turned up by the plow. He keeps this up until after corn is up and the cut-worm threatens to destroy the tender shoots. Our friend the crow knows just where to find the cut-worm, and if you watch him carefully you will see him stop at the hill of corn where the cut-worm has cut off a tender shoot, and very deftly the crow picks him out from his hiding place and ends his career of destruction.

"Sometimes the cut-worm is so deeply hidden that to unearth him the crow accidentally pulls out the corn. It was the cut-worm he was after and not the corn. He likes cut-worms better than corn. If you doubt this, just place both before a pet crow and see how quickly he chooses. After an active spring campaign and heavy feeding on grubs and cut worms, is it generous to begrudge him an egg or a young chicken by way of change?

"The blackbird, too, is another of the early birds which catches the worm. He follows us in the furrow; no larva escapes his keen eye. His capacity for worms is amazing. He never tires. Give him ten minutes to sing in an old tree top and he can return to his worms and eat as many more.

"In his destruction of cut-worms he has a royal helper in the beautiful robin. Dr. Brewer says he has seen a mother robin feed her young five hundred moths of the cut-worm in a day, and says his indebtedness to his robins is worth all the cherries he could raise. The robin is one of our best friends. If it were not his fondness for cut-worm moths, and the crow and blackbird's fondness for grubs and cut-worms, we cannot assert that we could save our tender garden plants or corn from this countless wriggling horde. Their capacity for destruction is marvellous and wanton. Let us not begrudge the cherry crop, when we are nourishing so efficient allies in this fearful war against our insect foes.

"There are robbers and cut-throats among birds, but they are few. The blue jay and the sparrow are the worst of these we have. If only ladies would take to ornamenting hats with the showy blue jay's plumes and the sombre shades of the sparrow, we would have fashions helping us to make good corn crops.

"He spoke good words for the redbird, the yellow-hammer, the meadow lark, the chimney swallow. The latter, he said, was most useful, as it fed at night on the myriads of night moths, which are the source of evil to our fruit. These birds are so humble and plain looking that they have been spared from the silly and ruel fashion of ornamenting homely women's

hats. We need to know more about birds, to appreciate their value to the agriculturists. Some are scavengers, to purify the atmosphere; some are hunters, birds of prey, to destroy the hordes of creeping, flying pests which threaten every crop we grow. All are beautiful, and many add harmony to their exquisite grace of motion and beauty and brightness.

"They propagate slowly, and have the perils of storms and hunger to decimate them. On the other hand, our insect pests have none of these attractions. They are destructive, and many of them repulsive, and all voracious and prolific. While our bird friends lay but five or six eggs a year, our insect enemies lay from 500 to 6,000,000,000 a year. Without birds how shall we prevent these hungry hordes from over-running the land, and laying waste our crops? We can spare a few hills of corn, a few young chickens, and a few quarts of cherries, but we cannot spare our bird friends."

Why Weeds Grow—Methods of Extermination.

Nature's law of "the survival of the fittest" is strikingly illustrated in the propagation and growth of weeds. A weed has been defined to be "a plant out of place," but in reality its extraordinary vitality is caused by its being just the very right thing in the right place—that is, the right place for the weeds, but the wrong place for the farmer. This is the law of their existence. They always find the right place for their growth, whereas man is constantly struggling to find the right place for the growth of agricultural plants. It is a struggle of man against Nature, and we need not waste space to say which of the competitors has the inside track. If by some freak Nature revolutionized this law, changing agricultural plants to weeds and weeds to agricultural plants, after several centuries we would find that we could not exterminate the former, while our rapidly growing system of hot-bed culture would hardly be sufficient to preserve the latter from extinction. The same law operates in plant and animal life; we are struggling and toiling 12 to 16 hours every day in order that the unfittest may survive, whereas if we did not interfere with Nature's laws, consuming only those things which are conducive to our health, we could revel in luxury and ease without a struggle.

The more you attempt to kill weeds, the greater is the tendency for them to survive. The natural law is this: In attempting to exterminate a field of weeds, a few will not succumb to the privations to which they have been subjected, and are consequently the fittest to survive. These being the right plants in the right place, are naturally very hardy, very productive and very free from all tendencies to disease or the attacks of animal or vegetable parasites. In this manner, the few remaining weeds are fitter to survive than those of previous years, and so the process continues from year to year, until after a time it will be as difficult to exterminate a hundred plants as it previously was to exterminate a thousand.

Compare this with our system of treating agricultural plants. Let us first go back to our ideas of "improvement." It is said that what we want is *quality*. Our ideas of quality are that the grain must be neatly rounded off and plump, something like a steer fed for a fat-

stock Christmas show (at the expense of the Government). Now in reality this condition is not *quality*, but it means *inferiority* in every sense of the word: the nutritive properties, the prolific qualities, the hardness—all are inferior, the only superiority being that the article delights the eye, and so may tend to make the teeth water. When a new variety is introduced, of course it must afford a greater pleasure and delight to the eye than all previous varieties. The article is now boomed up until it brings a fictitious price, and the buyer, in order to preserve it from the stringency of nature's arbitrary laws, must coddle it half to death; otherwise it will not survive, and the money invested will be wasted. It must be brought up in a hothouse, mulched, or protected by wind breaks; Model Farms and Experiment Stations must be established all over the country in order to teach the farmers how to keep the thing alive, how to preserve it from insects, rusts, mildews, etc.—all for the benefit of agriculture and the science of "improvement." All this fills the eye, but it doesn't fill the bill; and so far as health is concerned, woe! woe! woe!! Is it not time for us to look back and ask, whither are we drifting? So soon as we begin to reverse our steps the farmer will see the highway to short hours and long pay.

Apple Butter.

Where apple butter is not made on a larger scale a very good article may be made as follows: Take twenty gallons of cider just from the press and made from good, sound apples, and boil it down to ten gallons. Then apples enough are pared and cored (the cores and all bruised spots taken out, and the apples quartered) to make from ten to twelve gallons, dry measure. If the cider is much acid, the apples should be less so, and *vice versa*. Rambo apples make the best of apple butter, although the various kinds of pippins usually found in most orchards are about equally as good. These twenty gallons of apples, when properly cooked, will make about seven gallons of good, old-fashioned butter, provided the stirring is kept constantly going on during the process; otherwise the butter is very apt to acquire a burnt taste. It usually takes from six to eight hours constant stirring before being taken off the fire. Spices to suit the taste are added some minutes before the kettle and contents are removed from the fire. There is no getting over the fact, however, that such butter costs all it will sell for if we consider the labor it takes. But a supply of this favorite article of "creature comforts" is a treasure which no good housewife would deny herself merely for the sake of the little extra labor it requires.—[Baltimore Sun.]

The greatest possible yield of the potato crop and the average yield are surprisingly far apart. The average yield for eleven years prior to 1883 in the United States, was 84 bushels per acre. The average yield in 1882 was 78 bushels. In 1881 the average yield in Maine was 52 bushels; in New Hampshire, 63 bushels; in Vermont, 70 bushels; in Massachusetts, 55 bushels; in New York, 57 bushels per acre. These average yields look small, and so they are; 1881 was an unfavorable year for potatoes, yet the average for the eleven years was only 84 bushels per acre. These results, compared with maximum yield, viz., 1,200 to 1,300 bushels per acre, prove how much we have yet to learn about potato farming.

PRIZE ESSAY.

The Best Education for Farmers' Sons and Daughters who Remain on the Farm.

BY S. A. LAIDMAN, BINBROOK, ONT.

There has somehow arisen a kind of aristocratic feeling among city folk by which they regard themselves considerably above the average of the country people. If they wish to ridicule any of their fellows, they will say that he acts as if he had just come from the country. Now, is there anything about country folk to justify this opinion of them? We are afraid that in some cases there are good reasons for such opinions. Not that we consider farming to be a criminal offence; far from it, for we know that it is one of the noblest occupations that a man can follow. But, as a rule, the farmer has not as much education as his position calls for.

Now, the problem to solve is, How can the farmer command greater respect and at the same time manage his farm more intelligently? The latter is of more consequence than what any person may think of him. The problem would be solved, I think, by the better education of farmers' sons and daughters. But what kind of education would be best suited to the wants of the farmer? I would answer, in the first place, a good public school education.

A great many farmers make their children stop going to school as soon as the busy season commences, in order that they may get a little more work done. They think the children can get plenty of schooling during the winter months, and as they intend to remain on the farm, they do not require much education. It is a mistake to think so, and it is a mistake to keep them out of school through all the summer months; for by so doing the child forgets almost as much during the summer as he learns during the winter.

After the boy has a good public school education, it is important that he should know something about the business he is to follow. A carpenter or a blacksmith has to learn his trade before he can practice it; a teacher or a lawyer has to learn his profession before he can practice it; and how can we expect a man to begin farming before he knows anything about it? It is too often done and as a consequence we find so many farmers who are so deeply in debt.

Now, the farmers' sons are to be our future farmers, and it is as necessary for them to know something about agriculture as it is for the lawyer to know something about law, or the politician to understand politics. The farmer should study agricultural chemistry, so that he will be able to tell just what kind of food his different crops require. He should understand something about the rotation of crops, so that he will not sow the same classes of crops on the same field till the farm becomes barren and almost dies from exhaustion.

He should understand the best method of restoring such a farm to fertility, or he will lose a great deal of time waiting for it to recover its strength. He should know something about manures and fertilizers, so that he can apply such as will most benefit any particular soil or crop. Many farmers do not take the care of their farmyard manure that they should. If they would read some good work on the treatment and application of manures, they would be benefited a great deal more than they imagine.

If the farmer understands the rudiments of agriculture, he will be far more likely to be successful than if he knows nothing about it, and in these days of cheap literature, there is no excuse for not being posted in that direc-

tion. There are many books written on the subject, and they are truly the farmers' best friends if they only use them correctly. Agriculture, then, should be the most important part of the young farmer's education, although there are other branches of almost equal importance.

Business correspondence is something that a great many farmers greatly neglect. True, the most of them can make a person understand what they want, but the appearance of his letter very often gives rise to a great deal of mirth (sometimes profanity) among business men. If a business letter be neatly written, and put in good form, it is a guarantee to the dealer that his customer is a man of business, and such a letter is more likely to receive prompt attention than one that is written in a slovenly way.

Then again, it is important that a farmer should keep an account of all his money affairs. He has just as much need to know how his business is prospering as the merchant has, and he can not tell how it is going unless he knows how to keep a simple set of accounts. It is not necessary that he should know all the ins and outs of double entry book-keeping, but it is necessary that he should know how to keep trace of his money.

A farmer should understand farm arithmetic pretty well; that is, he should know how to compute simple interest, to measure a field, to measure lumber, to measure fences, and any little problem that may come up concerning his business. Because a farmer has not a great deal of business to do, that is no reason why he should be cheated out of what little money he has.

There are many little jobs of carpentering about the farm to be done, and many farmers send for the carpenter to come and do them instead of doing them themselves. The farmer should know how to use a saw and plane, so that he can do his own "tinkering," because there are many times when he can not get a carpenter just when he wants him; and if he doesn't do it himself he will probably have to wait a week or so before he can get anyone else to do it.

But I have so far spoken about the education of the farmers' sons; and now how about the daughters?

I think it is important that the daughters have a good education as well as the boys, although their education will not be in just the same direction. Girls should have a good public school education in the first place. If they intend to remain on a farm, it is necessary that they know all the details of butter-making, and, whether they remain on the farm or not, it is necessary that they know a good deal about baking, laundry work, &c., for no matter where they go to these things will have to be attended to.

It is also well for the girls to understand something about simple accounts, so that if the boys are very busy, they may take charge of the accounts. The daughter might take full charge of the books, and keep them for the men, who might give her a nice little sum of money for doing so. I know of men who do this, and they say that it saves them considerable work, besides pleasing the daughter, who is thus able to get a little pocket money.

Music is something that every farmer's daughter should know something about, for during the long winter evenings one has ample time to practice this art, and it will do a great deal towards keeping the boys at home during the evenings.

A great many argue that the farmer's daughter is not expected to be so well educated or so refined as her city cousins, but I think that she has just as much right to be refined and educated as any person who lives in the city.

If farmers' sons and daughters would only take the pains with themselves that they ought, they might improve themselves a great deal. Now I don't say that they are not a good class of people, but if they would only take the interest in books and music that they should, I do not doubt but that they would enjoy themselves a great deal better, besides being able to do their work more intelligently and profitably.

The Apiary.

The Medicinal Properties of Honey.

The physiological effects of honey are singularly effective, though mild and passive in their character, says an M. D. in the American Bee Journal. It occupies a broad line between alimentation and therapeutics, being both food and medicine; therefore it belongs to that class of medicinal remedies that cure indirectly, that is, by putting the vital forces in such a condition as to enable them to overcome diseased action. Mineral waters, cod-liver oil, glycerine, malt, etc., all belong to this class of remedies.

Before speaking of the curative properties of honey we will note its physical properties.

In the first place, where is honey from? Some assert that it is a secretion of the bee, others that it is a natural product in plants. If it is a natural vegetable product, the laboratory would have furnished us, long ago, with genuine honey. It must be remembered that the sugar and glucose in the flowers and fruit that bees resort to, is never honey until it has passed through the stomach of the bee, and please do not call this organ a bladder, as some do. It is virtually a stomach and performs the functions of that organ. The bee gathers into it a saccharine material. After its reception, a gastric element is mixed with it for two purposes, one to give it the character of honey, and the other to make it assimilative for the formation of an oil, that is, perfect wax.

It is generally supposed that after a bee returns to its hive with its treasure, that it hurriedly dumps it into a cell and goes out for another, and so on. This is not the case; when the bee returns, from fatigue and under the stupefying influence of digestion, it has to abide its time, both to recuperate, and to get rid of its burden of honey and wax. We have reason to believe that even after the honey is deposited into the cells, it has yet to receive the finishing touch of perfection by the bees, in all probability by the young bees of the hive. The young bees are active house keepers in the hive; they live on the honey imported, and this rich, concentrated food demands an excess of gastric secretion; when coming to a certain point, it creates a regurgitation something akin to vomiting. This the young bee economically puts back into the cells, thus completing the process of honey making. Another point as to the character of the bee's stomach: As soon as it is unloaded, an insatiable sense of hunger and restlessness ensues, which at once forces the old bee to work abroad and the young at home. We all know how to respect the buzz of the hungry bee, and admire the sweet disposition of the one that has just finished a sumptuous repast. And how rare are family jars when the pantry is ever full. It is Nature's law, in all the same.

We go more especially into these details, to point out the medical properties of honey. It has two physical elements that make it particularly a medicine, viz.: 1. An aromatic irritant imported to it by the stomach of the bee. 2. Its ready transformation into fat, without those complicated physiological operations necessary to transfer other saccharine elements into this material.

These make it at once both a local and con-

stitutional remedy. Locally, it is an irritant, sedative, emollient, detergent, antiseptic, resolvent, rubefacient and a parasiticide. Constitutionally it is nutrient, demulcent, laxative, deobstruent, alterative, tonic, expectorant, restorative, febrifuge, diuretic, diaphoretic, vermifuge and antaphrodisiac, as well as containing certain poisonous properties manifested under peculiar circumstances.

When we say that honey is both an irritant and a sedative, we mean that its first effects may irritate, followed with a sedative effect. All liniments work beneficially on this principle, the same with the most of eye-waters, etc. The solution of honey as an eye-water, proves particularly beneficial on account of its antiseptic, absorbent or resolvent properties. It cures inflammation of the eye, in the way a solution of borac acid does, that is, mainly by reason of its antiseptic and sedative properties.

The irritant properties of honey are, in a great measure, destroyed by dilution. Therefore as a topical irritant, where we wish to favor resolution, by counteraction, it is used in pure state or in conjunction with other more active irritants. It is its irritant or rubefacient effect, joined with its emollient nature, that precipitate local inflammation into suppuration, and is, therefore, a suitable remedy for abscesses, boils, whitlows, carbuncles, etc. Therefore, woe to the one that applies a honey-plaster over an inflamed eye, in place of the solution! As a rubefacient and absorbent it makes an excellent local application in glandular swelling, and in chronic tumefaction, in particular when joined with iodine, iodoform or mercury.

On account of the temperature of the body, it is difficult to keep pure, undiluted honey on the surface; this can in a measure be remedied by saturating layers of Canton flannel, and apply them, changing frequently.

I speak of it as a parasiticide not only in connection with the theory of the pathogenesis of diseases as advocated by Pasteur, Cohn, Koch, Klebs, and others who have investigated the bacteria, but even those who created several skin diseases, well known by almost every one. Take honey for the destruction of the bacteria, because of its antiseptic, tonic and laxative effects, its daily use would disarm every dire and malignant disease of its destructive force. Cholera, yellow fever, small-pox, scarlatina and diphtheria may run their course as before, but comparatively in such a mild form as to afford but little anxiety. I only speak of honey as a preventive of malignancy in these diseases, and not as a curative agent.

I have reason to think that it may even serve as a prophylaxis in epidemic diseases. Last year, Austin and vicinity were afflicted with an epidemic of dengue, prostrating nine-tenths of its inhabitants! My residence and apiary is two miles south from the city; and I suppose almost every one in our neighborhood had the disease; however my family and servants never took it, although we kept a daily communication with the city, and with persons having the disease. I cannot account for this exemption, which created a great surprise among our friends, unless it was the honey we ate almost at every meal.

The constitutional effects of honey cannot be fully understood and appreciated, except to study it from its medical properties, as represented above. All scientific investigations of

remedies are made in like manner. It is the text to a long and complicated sermon. Every physician will read in it such a multiplicity of applications that would astonish the uninitiated.

As a nutrient I will not speak of it as food, but in connection with its properties that serve to arrest the waste of certain diseases, in particular in consumption. The important features of the medical properties of honey lie in the nutrient, expectorant, deobstruent and restorative effects in the management of consumption, and its allied diseases. Now let us go back to a fact that exists in the process of making honey. No honey could be had if it were not for its ready metamorphosis into oil, or in other words, in the making of wax, as stated. The great object in the treatment of consumption is to arrest waste. Therefore we resort to the use of oils or remedies that will readily make fat in the system. But the great difficulty in the way is to get the system to accept these remedies and effect their assimilation. Under Leibig's authority we give sugar freely to make fat, but the system often refuses it, as it does the oil, for before it can be assimilated it has to be changed into a glucose, or really into pretty much what honey itself is. This alone gives us a great advantage in giving honey to stay the waste caused by disease, that we have in no other remedy.

Honey in being assimilated is disposed of in three ways: what is not deposited in the cellular tissue as fat, is consumed by the liver, and its volatile principle is eliminated by the lungs. This elimination is a matter of the greatest importance as a remedy in all pulmonary disorders. But the most remarkable feature of honey as a pulmonary sedative is its administration by atomization and inhalation. The spray arising in extracting has been proved to exert a very beneficial effect upon cough and dyspnea, thus revealing its curative tendency.

Young trees need protection the first summer, says W. D. Boynton, in *Indiana Farmer*. It is, in fact, the most critical time with them. The winters are bad enough, but the summers are often worse. The sun and drying winds are fully as fatal in summer as the alternate freezing and thawing of winter. Mulching is a great thing for the roots, but the tops and the trunks of young trees taken from the thickly planted nursery are in no way protected, and they miss such protection very much. The greatly reduced root can not supply the top with the requisite moisture or sap, while the sun and wind make constant and heavy drafts upon it. I find that planting corn among young newly-set trees is a great help to them the first summer. Trees four or five feet high will be well shaded by corn growth during the dryest, hottest weather of summer. Growing corn also breaks the force of the wind. It prevents the stems from being wrenched about in the usual way of exposed trees.

A number of careful experiments were made by Prof. S. T. Maynard, of the Massachusetts Agricultural College, to test the vitality of seeds as affected by age. Ten seeds of each kind were taken, with the following results: At one year, white, red, Alsike, crimson, yellow, and Bokhara clovers, all fully germinated in two days; of the true grasses and grains, nearly all germinated in nine or ten days. Of seeds five years old, most of the clovers germinated in four or five days, but wheat, oats and barley did not germinate at all. Among seeds from eleven to sixteen years, one-half of the Hubbard squash and Early Turnip beet started, the first in ten days, the latter in sixteen days; one-third of the muskmelon seed germinated, and a small portion of the pepper and flat turnip seed, but out of about thirty other sorts none grew. There is no doubt that the result is largely affected by the condition of the seed as to ripeness, and by the degree of moisture and the variations of temperature to which they are subjected during the period through which they are kept.

The Dairy.

Mr. Moyer Defends his Deep Setting System.

Just as we were going to the press we received Mr. Moyer's contribution on milk setting, which appears in our correspondence columns. We gladly give him space for his defence, and hope the discussion may be productive of some good. We have always been very partial to Mr. Moyer, knowing him to be one of our most enterprising dairymen, and it is our policy to encourage such men, even at the expense of giving them free advertising.

It must be borne in mind, however, that Mr. Moyer has devoted his attention exclusively to the creamery business, and is personally interested in fixtures belonging to the deep setting system, but we do not believe that he would *consciously* attempt to benefit himself at the expense of our creamery industry. It is our duty to see that dairying does not receive undue prominence over other agricultural branches, thereby creating a boom, which must sooner or later collapse. Our course in the dairying interest is to promote it just enough and not too much.

We fail to see the inconsistency of our course in quoting Danish experiments and refusing to publish the records of the boomed up dairy breeds; the former have been made by authorities in whom the world has placed implicit confidence, while the latter are the offspring of men whose interest consists in subverting the truth. We do not depend on the Danes alone for evidence of the superiority of the centrifugal separator, or other methods of skimming milk or making butter; when all the leading disinterested authorities agree, we certainly cannot accept the evidence of Mr. Moyer's few experiments, knowing that he has not the necessary apparatuses for making accurate tests, and knowing that he is personally interested in the success of his system. His doctrine is that the dairymen can make their own experiments. Of course they can, if they know how, but as he says that milk and cream are affected by hundreds of influences, we know from observation and experience that it takes years of study to understand these influences—more years in fact than Mr. Moyer or any other dairyman has to devote to the subject. We shall not commit ourselves to the *principle* which Mr. Moyer advocates, viz., that knowledge comes to a man without study and practice, so that we cannot yet dispense with real experts or professors. The difficulty is that we have too many bogus ones who are personally interested in some schemes or pet theories.

As a rule, we object to importing experiments, for there is usually something in our conditions to vary the results; but with reference to the Danish experiments we were dealing almost exclusively with temperatures, and a degree of temperature is just the same here as in Denmark.

As a practical dairyman, Mr. Moyer should know that the system must accommodate itself to the farmers until the farmers see fit to accommodate themselves to the system. The general practice is to use no ice; if ice were in common use, we would boom up Mr. Moyer's system for all it is worth. What the farmer wants to know is whether or not any change in his present system will pay, and this is the

kind of instruction we wish to impart, the benefit or injury we do to Mr. Moyer's or any other man's system being a secondary consideration. The farmer should stick to his old methods until there is incontestible proof that they can be profitably changed.

We never said that perfectly pure air can be obtained. In raising this issue, Mr. Moyer begs the question. The ordinary air as found at considerable distances from stagnant water and decomposing vegetable matter, which can be obtained on most farms, is sufficiently pure, and does not require to be excluded from the cream. The farmer who cannot obtain this should unhesitatingly build an ice-house and buy a few of Mr. Moyer's submerged process cans. Practically, we have yet to deal with summer conditions, with comparatively high temperatures, and experiments which do not embody this condition are worthless at the present time. If the pure air always contains "myriads of germs," surely there will be a few hundred millions in the quantity of air which comes into contact with the cream in the submerged, low temperature system. Mr. Moyer wants to exclude the air entirely on the ground that milk is intended by nature to go into the stomach from the cows' udder. If he can give us butter from the udder without passing it through the air, his doctrine is quite sound, but we are dealing with artificial conditions all through, and it does not always follow that the milk in the udder is in a fit condition for food; it is often purified by aeration. He does not seem to understand the effects of heavy milk in the creaming process. The milk of old calved cows is always heavy, more so when the cows are in calf, and it has been proved that not over 25 percent of the butter fat can be obtained sometimes, although it can be almost completely separated by the centrifuge. At the same time there is actually a greater percentage of fat in the milk than there was shortly after the cows dropped their calves—even on the same feed.

Mr. Moyer says: "Milk cannot get too cold to raise the cream." If he goes into the science of the thing, he should be scientific. It is a fixed law that water attains its greatest density at 39° Fahr., and if specific gravity means anything, this is the best temperature for raising the cream, for the water in the milk is then in its densest condition. This has been abundantly proved by practice, for a can of milk set in ice water will give about this temperature to the milk, and the best results have therefore been obtained.

Nothing can be gained in defending the deep-setting system until it can be proved to be superior to the ordinary shallow-pan method.

The great reduction in the amount of oil in linseed and other cakes, due to improved machinery or chemical processes, has brought out considerable differences of opinion in regard to the influence of such reduction in the value of the cake as a food. A reduction of oil necessarily increases the amount of the albuminous compounds, and—according to the views of some—the feeding value of the cake is increased, or at all events not diminished. In one circular from a manufacturer I noticed that, in his opinion, linseed oil was not a food at all, but a purgative! I should certainly myself be disposed to place a considerably higher value upon oil than upon albumen, and when I purchase cake for my own use I select that which contains the most oil.—[Sir J. B. Lawes.]

A Cheap Farm Creamery.

We have often pointed out in our columns the respective merits of co-operative and farm creameries. We expressed the fact that better butter can be made on the farm than at the co-operative creamery establishments, although the uniform quality of the latter placed the butter far ahead of the average product of the farm. No farmer can make good butter, which always commands a high price, unless he makes a specialty of butter-making; he must study the subject and have the requisite facilities. It is not necessary to have a large number of cows, although the more the better, for then the cost of production will be less. Any farmer who commences on a small scale will soon see the advantage of enlarging his operations.

The farm creamery represented in the accompanying out has been erected by Messrs. Cornish, Curtis & Green, Fort Atkinson, Wis., and is admirably suited to a dairy of 20 to 30 cows. The size is 12 x 22 feet and 10 feet high. The following are the complete bills of cost:

LUMBER BILL.

Two pieces 6 x 8, 22 feet long, for sills; 3 pieces 6x8, 12 feet long, for sills; 16 pieces, 2 x 8, 12 feet long, for lower joist; 17 pieces, 2 x 6, 12 feet long, for upper joists; 40 pieces, 2 x 4, 10 feet long, for side studding; 9 pieces, 2 x 4, 12 feet long, end studding; 9 pieces, 2 x 4, 14 feet long, end studding; 6 pieces 2 x 4, 16 feet long, for plates; 12 pieces, 2 x 4, 18 feet long, for rafters, to be cut in two; 10 pieces, 2 x 4, 14 feet long, for girts; 950 feet dressed stock boards for sides and cornice; 180 feet O. G. battings; 425 feet roof boards; 1,600 feet flooring and inside ceiling; 165 lbs. building paper for sheeting outside and inside; 7 window and door stools, 3 ft. 6 in.; 400 shingles; 48 feet in length, or 6 inch ridge boards; 4 windows glazed, 9 x 14, 12 lights; 1 window glazed, 8 x 10, 12 lights, for gable; 1 door, 3 x 7, 1 1/2 feet thick; 2 doors, 2 ft. 8 in. x 6 ft. 8 in., 1 1/2 thick; 2 locks and knobs; 2 knob latches; 3 pair butts, 3 x 3; 12 window springs; 25 lbs. 20 penny nails; 100 lbs. 10 penny nails; 50 lbs. 8 penny nails; 25 lbs. 3 penny nails; 20 lbs. 10 penny nails. Drop siding may be used in place of dimension boards and battings, if preferred.

The above bill, counting lumber at \$14 per thousand, the price in London of the quality required, would amount to about \$120, and the building could be put up for \$25 or \$30.

BILL FOR DAIRY OUTFIT.

One horse power, with tumbling rod and pulley, \$31; 1 Curtis improved factory churn, 100-gallon, \$24; 1 No. 3 lever butter worker, \$12; 1 dairy scale, with butter salting attachment, 1/2 oz. to 240 lbs., \$10; 1 Lakin's butter-milk strainer, \$2.25; 1 Lee's perfect thermometer, 60c.; 1 8-oz. graduating glass, for butter

color, 60c.; 1 cream tester, with six glasses, \$1; 1 ladle, 25c.; 1 butter packer, 75c.; 1 stencil brush and box, 50c.; 1 stencil, with name of creamery, 75c.; 15 Cooley cans, \$2 each, \$30.

The above bill gives the United States prices, but most of the outfit can be had from our Canadian dealers for about the same price. The factory churn, however, would have to be imported, or made here to order, at a higher price than \$24. It could be made for about \$30, or imported for about \$35, including a duty of 25 percent. This item would be balanced, however, by the lower prices of horse-powers in this country. Altogether the concern should not cost over \$230. The sales of butter from 20 cows for one season would bring more than double the cost of the building.

A small engine could be used instead of a horse-power; a centrifugal separator could be advantageously used at any time, and could be run by the same horse-power or engine.

Milking Competitions.

At a milking competition of the British Dairy Farmers' Association, prizes were given to

Abnormal Conditions of Milk.

[From the German: Translated by W. A. MacDonald, for the FARMER'S ADVOCATE.]

I. DEFECTIVE MILK SECRETION.

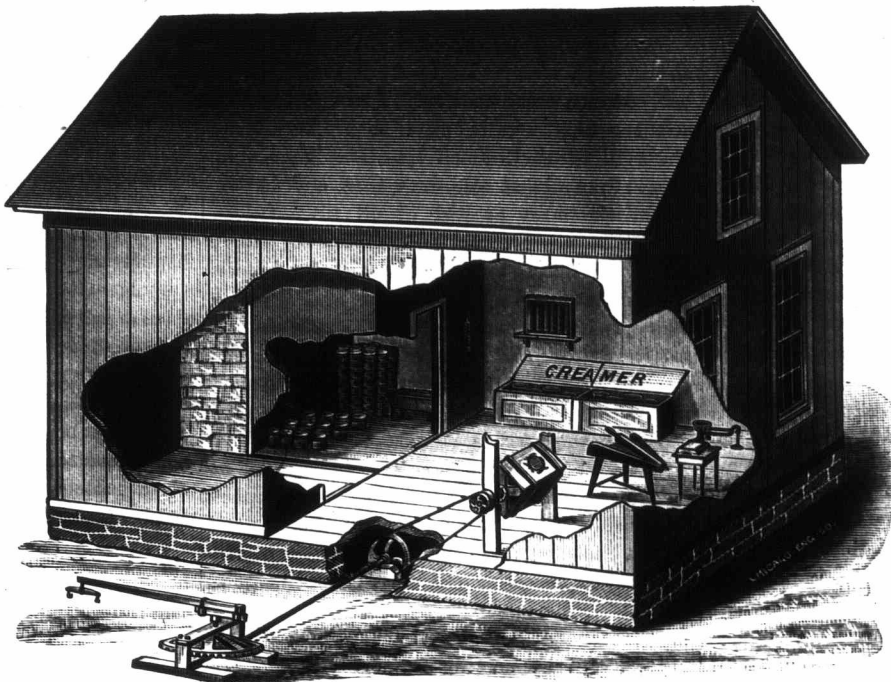
Under this head is included the falling off in the yield of milk before the proper time, there being no disease of the udder or feverish state of the system, and the animal appears quite lively and healthy. This condition often arises from an injurious change of food during the period of lactation, in which case the malady continues until the cow becomes accustomed to her new diet, and even longer if the food contains insufficient quantities of nutriment, in which case a remedy can only be effected by feeding proper rations. The same malady may be brought about by a slight disturbance in the digestive process, and may be removed by feeding more easily digested food, or the following dose may, with good results, be given three times a day and continued several days: Powdered antimony, 15 grammes; powdered calamus root, 10 grammes; caraway, 10 grammes, given in a litre of fennel tea.

II. WATERY, FAT-POOR MILK.

This milk has a bluish-white color. When set, it yields only a thin layer of yellowish cream, the under-lying milk being bluish. Nothing particularly abnormal is observable in the condition of the cow, and she consumes her food with full appetite. This state of the milk often arises when the cow is coming into heat, and then vanishes as soon as she regains her normal condition. In many instances, however, it is attributable to derangement of the digestive organs, caused by eating ill-conditioned fodder, diseased potatoes, decaying roots, bad hay, etc. There is no remedy except doing away with the bad food and feeding proper rations.

III. PREMATURE CURDLING OF THE MILK.

The milk curdles prematurely by heating and when it is set for creaming. The cream is but partially separated, and does not churn readily. Very often the fault lies in the warm, sultry weather, which acts upon the cows, impairing the production of normal milk. Frequent access to fresh, cool water during the day, is recommended, and sometimes it may be desirable to add a small quantity of hydro-chloric acid. In other instances the curdling is caused by warm, damp stables or milk rooms. In this case the remedy consists in keeping these places cool and airy, but often these objects can hardly be attained. It is also recommended to set the vessels containing milk in cold water. Where the named causes do not exist, it may be taken for granted that some of the cows are suffering from a disturbed digestion, which may be remedied by administering, twice a day, 20 grammes (30,86 grains) of bi-carbonate of soda in a litre (1 1/2 pints) of wormwood tea to



A CHEAP FARM CREAMERY.

different breeds and crosses with the following average result:—

	Milk per day lbs.	Fat.	Total Solids.	Total Points.
SHORTHORNS (pure-bred).....	40	3.3	12.38	80.15
SHORTHORNS not eligible for registration.....	54	3.54	13.14	98.2
JERSEY.....	48	4.0	13.68	102.31
GUERNSEY.....	24	5.94	15.78	88.3
AYRSHIRE.....	53	4.92	14.58	97.72
SHORTHORN & AYRSHIRE CROSS.....	48	3.52	13.16	85.38

The average ages of the different cows were about the same—between six and seven years. The "total points" were computed on the following basis: One point was allowed for each pound of milk, two points for a percentage unit of solids, three points for each unit of fat, and one point for each ten after the first twenty days since calving.

The following table gives a summary of averages, extending over seven years, 1879 to 1885 inclusive:—

	LBS. MILK.	ANALYSIS.
Of 55 Shorthorns.....	42.89	12.69 solids 3.62 fat
Of 42 Jerseys.....	27.34	13.70 " 4.17 "
Of 23 Guernseys.....	27.43	13.87 " 4.52 "
Of 9 Cross-bred.....	43.53	12.71 " 3.57 "

each cow. Until the different causes are removed, it would be well to mix a small quantity of bi-carbonate of soda with the milk, which will prevent premature coagulation.

IV. SLIMY, STRINGY MILK.

The milk is either slimy, tough, stringy, when drawn from the udder, or it becomes so shortly afterwards. It has a slimy, stringy taste, produces a small quantity of bad cream, which churns with difficulty, and produces a quality of butter unpleasant to the taste. If a small quantity of such milk is mixed with normal milk, the latter becomes affected, and partakes of the same stringy character. This condition is caused either by bad hay, straw containing fungi, meal from damp grain, or other spoiled foods. In such cases the whole herd produces such milk, and the remedy consists in a change to a liberal supply of nutritious, wholesome food, such as oil-cake and bran, mainly. The same quality of milk is also produced by cows suffering from indigestion. In order to ascertain which cow is suffering, a small quantity of each cow's milk should be set by itself if it does not appear slimy when drawn from the udder, and when the affected cow is found out, she should undergo treatment, and none of her milk should be mixed with that from the rest of the herd. The treatment consists in administering a mixture, in equal parts, of salt, chalk and gentian-root powder, given three times a day in quantities of a good tablespoonful at a time in a litre of wormwood tea, or a half a tablespoonful of hydro-chloric acid in a wine bottle full of linseed gruel may be given twice a day. Such treatment for 5 or 6 days will usually effect a cure.

V. BLUE (YELLOW AND RED) MILK.

This milk, which appears to be perfectly normal when drawn from the udder, assumes indigo-blue spots on the cream after being set for 12 to 24 hours. These spots enlarge rapidly, first on the surface, so that sometimes after 24 hours the whole cream appears to be blue colored, then also below the surface, so that the whole contents of the vessel assume a blue color. Sometimes minute islands of a yellowish color are seen between the blue spots on the cream, less often also small red spots, which, however, enlarge very slowly, and are always confined to the cream. Sometimes the cream turns quite yellow, but the milk under it blue. The blue patches of the layer of cream consist mostly of masses of fungi, between which globules of fat are found enclosed. If any portion of this blue mass of fungi be placed into normal milk, the latter then also partakes of the same character. The cause of this blueness in milk cannot be safely asserted. It is, however, believed that two concurrent circumstances must operate; a lack of formed casein in the milk caused by imperfect digestion of the cow, and the presence of fungi spores in the milk. The latter are said to cause a division of the casein, the product of which is the blue coloring matter. Before the malady can be remedied, the cow or cows must first be picked out whose milk is wanting in formed casein. This is easily done by setting a small portion of each cow's milk by itself, in order to see which turns blue and which does not; but all the vessels used must be new, because blue particles may adhere to vessels already used. When the cows whose milk is affected are ascertained,

they must undergo a change of food, and their milk must not be mixed with normal milk, but must be kept by itself so long as it has any tendency to turn blue. At the same time all the milk vessels and utensils must be cleansed with hot water and lye, and the floor and walls of the milk rooms must be thoroughly washed with a solution of 1 part chloride of lime in 10 parts water, for the infectious matter may adhere to them. Until these measures are carried out, it would be well to mix some butter-milk—a teaspoonful to 2 litres (3½ pints)—with milk freshly drawn from the udder, and set for creaming, which will prevent the milk from turning blue.

Salting Butter.

There is a great deal of talk about the science of salting butter, and a great deal of time is wasted by our dairymen in getting the salted article just scientifically correct. The latest "science" consists in leaving just so much water in the butter as will dissolve sufficient salt to make it neither too salt nor too fresh, at the same time converting all the salt into brine without waste.

This is undoubtedly a nice piece of science, and it yields rich food for the nourishment of our common-sense faculty. There is another science which asks if butter should be salted, and still another which questions that man should use salt at all, except as a drug: in truth, the most exalted of all the sciences teaches us how we can live without the use of drugs. We have too much respect for science—for it has done a great deal for agriculture—to apply it to a business which ought not to exist. Science and art have proved that salt is a cheap drug, but it remains to be proved that people should drug themselves three times a day with this article because it is cheap. In practice we salt our butter and other articles of food because our mothers and grandmothers followed the practice; but this argument proves nothing, and should not be raised against the necessity for experimental investigation. Other arguments in favor of salting butter are: (1) That it adds weight to the butter, thereby making it more profitable to the farmer; (2) that salt flavors the butter; and (3) that it adds to its keeping qualities.

Now let us examine these so-called arguments in their order. If an ounce of salt is added to a pound of butter, the effect is that the butter is an ounce heavier, and the farmer gets paid for 17 ounces of butter. That is surely sound logic—for him who cannot see farther than the apex of his nose. Butter contains 12 to 15 percent of moisture, the extreme variations being from 8 to 18 percent. Has it never occurred to you that salt plays an important part in the regulation of moisture? Ah, you say, this is all theory. Well, let us see what practice has proved. The following table gives the results of accurately conducted experiments on scientifically salted butter:

Chemical Composition.	Unsalted Butter.		Salted Butter.	
	Washed	Unwashed	Washed	Unwashed
Water	15.26	14.22	12.50	12.00
Fat	83.59	84.00	84.50	84.54
Protein	.60	.80	.60	.65
Nitrogen	.40	.80	.40	.61
Free matter	.15	.18	2.00	2.20
Ash				
	100.00	100.00	100.00	100.00

When we associate the name of Prof. Dr. Fleischmann with the above experiments, no dairy authority will dispute their accuracy. You see that the effect has been that moisture has been given off, so that butter kept for a short time becomes lighter.

With regard to salt as a flavoring material, common sense teaches us more than science or practice. If the salt is more delicious than the butter, the salt flavors the butter; but if the butter is more delicious than the salt, then, of course, the butter flavors the salt. Those who have not vitiated their tastes by the use of salt or other condiments, maintain that every article of food possesses a natural, delicious, saline flavor peculiar to itself. Why should the eye be educated to admire harmonious arrangements of colors, while the taste must be educated to one flavor only? It has cost us a good deal of pains and money to solve this part of the problem. We have found that, of all the brands of butter, the lowest consumption was that of bad, unsalted butter, while the highest was that of unsalted butter of the best quality. The plain duty of the farmer, therefore, is to unite and protest against the salting of butter and make it of first-class quality, which will increase the rate of consumption and enhance the price of butter. Let him seek to control those markets which demand no brand but the unsalted article. To hide our sins by the use of condimental flavorings is a moral wrong, and it adds nothing to our prosperity or our happiness.

Does salt keep butter? Yes, if we are sinners in the art of butter making. Science and practice have aided common sense in proving that fats are not preserved by salt. Of course salt is a cheap antiseptic, but it must not be forgotten that it is only nitrogenous matter that is subject to decay. The above table shows that the amount of nitrogenous material in butter is very insignificant, viz.: 0.80 percent for the unsalted unwashed article, and 0.60 for the unsalted and washed, showing the great advantage of thorough washing. Numerous actual experiments have proved that salt has no effect on the keeping qualities of first class butter, so that here again salt must be indicted as a cloak for hiding our sins. Salt "must go"—out of the butter business.

However, we cannot hope to effect any revolutionary change in this respect; our present object is to educate in the true science of living, to awaken discussion, and to inspire a desire for better methods and better things.

The practice of washing butter with brine is an important step in the right direction, and in this way it can be made salty enough for the tastes of most people. In whatever form the salt is used, it should be of the purest and finest quality. But it cannot be had entirely pure, which is another strong argument against its use. The greatest hindrances to our progress in the art of butter-making are the time wasted in studying the so called science of salting butter, and the labor lost in working in the salt, the working being injurious to the quality of the butter.

Mr. J. Gould an able authority on butter-making, whose name is familiar to the readers of the *Advocate*, says: "Butter is exactly half made when the pail of milk is brought into the house."

Stock.

A Chatty Letter from the States.

[From our Chicago Correspondent.]

For the year thus far the amount of stock marketed has not in the aggregate been as large as during the corresponding six months last year. The shortage is largely in cattle, but mostly in sheep. By the end of the year, however, this matter may be reversed.

There was never a better summer demand for hogs. Nearly all of the packers have been buying almost as freely as in winter. Canadian packers continue to use a large number of lean light hogs from Chicago.

The abundance of the corn in the country and the good health of the hogs tend to make farmers fatten their swine too much this year. There is a demand for more lean and less fat in hogs.

The severe drouth in the Southwest, Texas particularly, during May and the first half of June, delayed the shipments of range beeves several weeks, and worse than that, if the most reliable reports were correct, many thousands of cattle perished for want of food and water. The famished animals would linger about the dried-up water holes until they were too emaciated to hunt for grass. Since about the middle of June grateful showers have gladdened the hearts of stockmen and put an end to one of the worst spring drouths ever experienced. Rains have been badly needed in the range country of the Northwest, and the shipping season is almost sure to be a couple of weeks late.

Good solid cattle, that is, good corn-fed or dry-fed cattle, have for many weeks been very scarce and have been selling better than one year ago. On the other hand, store cattle and all kinds below choice fat bullocks, have been selling 25 @ 50c. cheaper than in June, 1885.

For a couple of months past, dealers have seemed to feel convinced that ripe fat beeves were scarce and bound to command a premium.

Chicago has sent forward a great many 1,300 @ 1,500 lb. cattle of late to Great Britain at about \$5.25 @ \$5.50, though exporters have paid as high as \$5.85. As a rule the highest prices have been paid by butchers of Eastern cities, who have regular, high toned customers for the best beef. For instance, when London and Liverpool buyers were paying \$5.50 @ \$5.75, at Chicago, Alleghany and New York buyers were paying as high as \$6.00 for fancy young beeves. The highest priced cattle have been those averaging less than 1,500 lbs. Heavier cattle have been marketed with some freedom, but there are not now many buyers who care to handle beeves averaging 1,600 @ 1,800 lbs.

It is learned upon pretty good authority that dairy calves in the eastern part of the U. S. will be more plentiful than in former years, of poorer quality and are likely to sell lower. It is said that the low prices for butter and cheese have been the cause of dairy farmers in the East raising more calves than usual. As no particular care has been taken of them, they are not as well grown as usual, and are not in very good condition for growing into beef. The chances are that Western buyers will be somewhat more discriminating than in former years. A lot of good Michigan calves lately sold here at \$14 per head.

Among Western ranchmen both North and South, the idea of spaying heifers to check over-stocked ranges from going to ruin, is growing in favor. The Standard Cattle Co., one of the best known in the West, has recently contracted with somebody to spay 2,000 heifers.

In many localities all over the West, the native grasses are being spoiled, perhaps forever, by being grazed too closely. Many sections which in years gone by could be depended upon to grow the best beeves, are now among the poorest ranges. The question of a practical substitute for these native grasses when they are exhausted, is a serious one. The mosquito, bunch and sedge grasses will in time have to be replaced by more durable kinds. What they shall be no one has yet learned.

Hay feeding on Western ranges is becoming very popular, and it is very profitable where properly conducted. The time is not so very far distant when leaving cattle to rustle, cow, or die, without stores of food or shelter from the elements, will be too unprofitable to be popular. Slowly but surely the free grass idea must give way to humaner methods. After awhile every stock raiser will own or lease his land, and then the business will be on a more substantial basis.

Thin, grass Texas cattle, the first of the season, sold \$1 per cwt. lower this year than last, as the drouth caused many very thin and utterly unmerchable cattle to be sent to market. Since then the quality of the Southwestern range cattle has improved.

A number of the Western papers have lately been wrangling over the statement made by one of them, that no Shorthorn on earth is worth \$3,250, the price of one of the Duchess cows at the May sales at Dexter Park, Chicago. The paper which made the statement defends it by calling attention to the fact that such prices are never paid except by men who made their money at something else besides Shorthorn raising.

The sheep market during the past month has been on the up-grade. The granting of lower freight rates to Texas sheep men tended to flood the market for awhile, but the demand for good muttons has lately more than equaled the supplies.

Brown vs. Brown on the "Baby-Beef" Boom.

Prof. Brown, the distinguished English veterinary surgeon, chief of the agricultural department, and adviser of the Royal Agricultural, has recently written a handbook on the subject of animal life, in which he makes a sweeping indictment against "baby beef" and the modern high pressure system of feeding. It is well known that Prof. Brown, of the Ontario Model Farm, is a pronounced advocate of the system. The question may suggest itself to the minds of our farmers, Which of these Browns is the ablest authority on the subject of animal life? Our professor has many ardent admirers, and it is unlikely that any English or other authority will have sufficient weight to lower him in their estimation. We at once see this distinction, that the English Brown is Professor by education and instinct; our Brown is "Prof." by appointment.

The above named handbook has created quite a commotion in live stock circles. The work

is pregnant with cogent thoughts, but we have only space for a brief review.

The learned Professor asserts the existence of nature's law, "The survival of the fittest," but under domestication, he says, the tendency is towards the survival of the unfittest. By our artificial system, we have produced weakened constitutions and degeneracy in our stock, with a tendency to tubercular deposits. Constitutional diseases have been initiated by breeding from young animals, and by subjecting them to close quarters. Having condemned prize shows and the practice of making such a quality of beef as the people cannot eat, the Professor goes on to say:

"It is not easy, and it is the reverse of satisfactory, to have to admit that in the course of long years of steady effort we have been willfully groping in the dark. But the sooner we get a glimpse of the fact the less difficult it will be to retrace our steps; and there is no escape from the conclusion that, if we mean to cultivate the live stock of the farm, we shall have to proceed in a direction as nearly as possible, in some respects at least, opposite to the one which we have taken for many years. * * * If it were not the case that the system has become fashionable, and animals of favorite strains command a high but utterly fictitious price in the market, it would not stand for a day. Does any man with the average share of common sense entertain a doubt that the whole scheme of breeding for early maturity would undergo a radical change if breeders were suddenly to become impressed with the necessity of producing a hardy, healthy race of animals which would afford healthy and substantial food for man."

The book is written in this strain, but we think this paragraph is as much as our Prof. Brown and his admirers can stomach for the present. The author then proceeds to say that baby-flesh is not flesh at all; he thinks that mankind should have something worth biting at, and he regards "baby-beef" as the reverse of something to bite at. The objection, he says, that the breeder cannot afford to wait long enough to get mature beef, has nothing to do with the physiologist's view of the matter, and if the breeder decides that he cannot afford to do what is right, he must suffer the consequences. The writer regards the completion of permanent dentition as a fair test of maturity, which is three years of age for cattle and sheep, and eighteen months for swine.

Contemporary with these sweeping charges, we find Prof. Sanborn, of the Missouri Agricultural College, demonstrating to the farmers of his State how he can feed hogs for lean meat; that is, by a change in the system of feeding, giving more nitrogenous and less carbonaceous foods, he can change diseased blubber into wholesome and healthy muscle. There is no doubt that the existing American system of breeding and feeding swine for a tendency to the rapid accumulation of fat has been the cause of so much disease amongst this class of domestic animals. In cows the irrational system of feeding has brought on milk-fever and abortion, as well as tuberculosis, although the latter disease has been more prevalent amongst fattening animals—all for the promotion of veterinary science.

The policy of the ADVOCATE on the "baby-beef" boom is well known to our readers. When we first raised our voice against the craze, we were denounced as being crazy. We stood entirely alone in our efforts to cure the fat-stock show mania, but the speculators and

boomers held the Government and its treasury so tightly in their grasp that all our efforts were in vain. But no boom can go far till nature cries loud for a rest. We have not yet made a false estimate of any of those booms which have threatened our agricultural interests with destruction; it is our part to measure a boom just as much as it is a carpenter's to measure a board, or an astronomer's to measure the moon. We make no secret of our method of investigation. As a practical farmer of over twenty years' experience, and after twenty years of walks and talks amongst our farmers, we take a practical view of every agricultural question; and as a close student of agricultural science, we compare the scientific with the practical, and at the same time we introduce common-sense and sound business principles. These are the corner-stones upon which we have built the *ADVOCATE*, and every gust and gale makes the structure firmer and firmer. It defies all the elements, and does not quake amidst those agricultural concerns built on foundations of "airy nothingness."

Feeding Horses.

Horses doing full work should be fed three times daily; if they can be fed four times, so much the better. Little, given frequently, is preferable to large feeds given at long intervals. Farm horses, as a rule, are watered immediately before they are fed; otherwise, immediately afterwards. Some experiments tried on worthless horses at Alfort, in France, seem to show that the latter of these systems is not the right one. The horses in question were killed for dissection after being fed. They were first fed and then given water, and afterwards killed and examined. Some of the grain which they had eaten was found undigested in the intestines, twenty feet beyond the stomach. And the waste of food in such cases is not all, for a portion of the material that is carried along undigested is likely to have an inflammatory effect upon the mucous membrane. Nor is the plan of giving a horse its fill of cold water just before eating, altogether free from objection.

The London Agricultural Gazette says that in Dublin the daily ration for horses of the Tramways Company is ten pounds of maize, seven of oats, and twelve of hay, with half a pound of bran. It adds that there is a power for work in the well-fed horse which is usually wanting in the under-fed one, as was well illustrated by Col. Kingscote in a paper on "Horse Labor in Farming," which showed that "where the horses were liberally fed, the plowing cost 6s. 8d. per acre; whereas, with the teams in poor heart, the plowing cost 10s. 6d. per acre," or nearly half a dollar more.

Nor must we forget that horses vary a good deal in their capacity for food; and appetite, which depends on health and temperament, has as much influence as weight in determining how much a horse will eat. We have heard it said that a horse will eat two per cent of its weight in dry food daily, and at this rate a horse weighing 1,200 pounds would require 24 pounds daily of dry provender.

The late Professor Dick found that a horse not working could be kept in fair condition on 12 pounds hay and 5 pounds oats; but, where a good amount of work had to be done, it required 14 pounds of hay and 14 pounds of grain. Horses used for very fast work are fed considerably more grain,—as much as 18 pounds or even 20 pounds where they are continuously employed, and have to be kept in prime condition.

Crushed or bruised corn is more nutritious, and therefore more economical in horse-feeding, than grain fed whole. The most conclusive experiment on this subject is that conducted

some years ago by the London Omnibus Company, who are the owners of some 6,000 horses. One-half the horses were confined to bruised oats and cut hay and straw, while the other half were fed on whole oats and long hay. The ration allowed per day to each horse, on the first system, was: bruised oats, 16 pounds; cut hay, 7½ pounds; cut straw, 2½ pounds. The allowance on the old system was: unbruised oats, 19 pounds; uncut hay, 13 pounds. The money advantage in favor of bruised oats and cut hay was fully 5 cents per day for each horse, equal to \$300 per day on the 6,000 horses. And this saving was accomplished without any sacrifice of efficiency, for all the drivers and those having charge of the horses agreed that the difference in the condition of the horses was decidedly in favor of those fed on bruised oats and cut hay and straw.

Soiling Hogs.

There is a growing tendency to give hogs more green feed than formerly. We have recommended pasturing in clover; but some object to this because the hogs will root up the ground more or less. Ringing is considered a preventive, although it is not always completely so; besides it is some trouble to ring hogs, to say nothing of the cruelty of the practice, which violates the nature of the hog by depriving it of the privilege of indulging one of its strongest instincts, which the peculiar construction of its snout was designed to gratify.

But because hogs are kept in the pen, or not given a wide range, is no reason why they should not have plenty of green feed. They can be soiled as well as cattle, and will relish all kinds of green feed that may be thrown to them. Peas and oats, put in early, make an excellent soiling crop for hogs, and are of the right kind to put on muscle and promote growth. Corn properly grown may follow these. But do not "drill it in or plant it thickly," as we see an exchange recommends. You want all the substance in the stalks that can be got into them, and the most is obtained by planting in the usual way for a field crop. Not only more nutriment, but about as much weight of feed can be obtained in this way as by drilling in or planting thicker. If drilled in, the kernels should be dropped not closer than three or four inches in a row, with the rows three and a half to four feet apart. The corn should reach the milk stage before being fed to the hogs, as it then has accumulated all the gums, sugars, and starches for the production of a full crop of grain.

By a succession of crops, or planting at different dates in patches corresponding to the number of hogs to be fed, they may be kept in a full supply of green corn from the middle of July or first of August until frost comes. The same is true of peas and oats; and it would work excellently well to grow the two crops—corn and peas and oats—so that they may be fed together, first a meal of the one and then of the other. This would make a better balanced ration, and give the hogs a greater variety, which they relish, as well as the human animal, exceedingly well. And in conjunction with these, we would not omit a patch of clover to be mown and thrown to them if they can not be allowed to help themselves. Should it happen that any of the patches are larger than needed to feed to the swine, the fodder would be relished by other animals; or, if not needed at all for soiling, they could be permitted to ripen, or be cut green and cured, as might be the most preferred.

Farmers must study economy in hog raising and everything else, and look for their profit in reduced cost rather than in high prices; and there is no cheaper or better way of raising pork than by making free use of green feed. —[National Live Stock Journal, Chicago.

Methods of Cattle Feeding—Profits in Feeding Steers.

At a recent meeting of the Arva Farmer's Institute, Mr. J. H. McRoberts, Lucan, Ont., gave a bit of his experience on the above subject. It is substantially as follows:

I run all my hay and straw through the cutter, and mix the meal with it in a dampened condition. I clip off the long hair and rub the body over with a mixture of coal oil and fish oil, in proportion of one part of the former to two parts of the latter, for the purpose of killing the vermin and softening the skin. Of all the foods I like bran best, but I also like shorts; I like turnips better than mangels, and clover better than timothy. Bran makes muscle, which suits the English market better than fat. I grind wheat and flax seed together, and mix them in proportion of one part of the former to two of the latter, but if the animal is hide bound I give more flax-seed. I put a teaspoonful of sulphur in each beast's feed twice a week, with a small quantity of salt; otherwise I use no condimental foods. It takes 13 to 15 lbs. of meal per day to fatten a bullock, in addition to hay, bran, and roots; but with this ration I have found that straw is as good as hay, as it gives belly to the bullock. I have fed ground corn and bran with excellent results; but I like peas and wheat better than oats or corn. I can't get steers well enough bred. The "scrub" bull is a pest and ought to be taxed to death or exterminated in some other way. I prefer a heifer to a steer; she takes on flesh better. I give a quarter of a cent more per pound live weight for heifers than for steers, and I can make this difference in my selling price. It doesn't pay to feed old cows. I let my fattening cattle out two hours every day for exercise, except on stormy days. They ship far better when they get plenty of exercise, and improve on the voyage, instead of going back like cattle which get no exercise. Cattle fed on cooked or sloppy foods never stand the journey well; they decrease in weight while being shipped. From the 1st to the 20th of May is the best time for shipping. I never fed oil cake; I use bran and flax-seed instead. I get second grade flax seed for \$1.25 per bushel. I have fed as much as 10 lbs. of bran per head per day. I can fatten bullocks on straw and bran alone. I rub brine over the back of my stock in order to kill the warbles. Summer feeding pays best. I keep the steers on the pasture, and feed four to five pounds of meal per day to each head, chiefly oats and barley. I feed it only once a day, in the cool of the morning. I have boxes arranged in such a manner that the steers do not disturb one another while eating their meal. I have shade trees in the pastures to protect them from the heat. Meal and grass fed steers do not scour; they stand shipping well, they readily eat meal on the voyage, and bring as good prices as stall-fed steers. I keep accurate accounts of my profits. Here is a statement of the profits of 70 head of Shorthorn grades which I fed in the winter of 1883-4, the ages ranging between two and three years:

STATEMENT OF PROFITS IN FEEDING 70 STEERS.

Dr.	
To 70 head @ \$45	\$3,150
Cost of feeding (Oct. 1 to July 20)	1,750
	\$4,900
Cr.	
By 70 head @ \$102	7,140
Total gain	\$2,240
Gain per head	\$32

The average weight when bought was 1,120 lbs., so that the average price I paid live weight was almost exactly four cents per pound. On the date of shipment the average weight was 1,630 lbs., being a gain of 1.75 lbs. per day. I have included all my disbursements in the above estimate, the labor costing me \$20 per man per month without board, and I calculate two hands for each 100 head of cattle. Of course I have the manure in addition to the above profits, but I have not counted interest or risk on the money invested for the ten months.

How would it do to try Mr. McRoberts as

professor of cattle feeding at the Model Farm, where all the profits are sunk in the manure heap, the manure then being wasted? After all, there is a cry throughout the country that stock-raising doesn't pay. We have now presented the stockman's view of the argument: How about the profits, or rather the losses of the poor farmer? Such statements as these are being puffed up by the live stock organs as a proof that the country is prospering in the live stock business. Such stockmen and their organs neither know nor care anything about our dairying interests, and it is therefore no wonder that the "scrub" must go in order to build up their industry. The "scrub" is a dairying animal, and of course it must therefore go out of the beefing business—except so far as the pedigreed animal can be proved to be superior to the grade in the production of beef, taking into the calculation the original cost of the animals, the rate of gain of flesh per day, and the cost of production, including risks, etc. Many grade steers have produced better results than the thoroughbreds, for which the "scrub" part must receive credit; for like produces like, you know, amongst pedigreed animals, and therefore no thoroughbred can produce the superior of itself. Did it ever occur to those organs that if the "scrub" goes, the grade must go too? When this time comes, how can we produce cheap beef, and compete in the world's markets, with high-blooded, high priced animals?

Let us now bear in mind that Mr. McRoberts bought those 70 steers from the farmers. How much profit did these farmers make? The steers designated as two years old would be about two years and five months old, for they would be dropped in April or May and sold say in September—say 880 days old. His mixture of two and three year olds averaged 1,120 lbs., so that it would be a liberal allowance to say that the two year olds would weigh an average of about 1,000 lbs. That is, they gained an average of about four-fifths of a pound per day, making due allowance for the weight at birth. It is evident that steers which make this average gain have had something more luxurious than straw stack accommodation, for the "runts" only weigh about 700 or 800 lbs. at this age. The average price paid for Mr. McRoberts' steers was \$45, or say \$40 for the two year olds; that is to say, the farmer gets exactly five cents a day for raising a steer from calthood till it is two years and five months old, granting that it is worth nothing at birth. Now, when it is considered that such steers when well fed in winter consume from 18 to 24 cents per day, it will surely be under the mark to say that it would require 10 cents per day to keep them in fair growing condition, which would be \$18 for six months' feeding. But the farmer gets 5 cents per day or \$18.25 for a year's operation, so that practically he gets nothing for his pasturing. Taking average circumstances and conditions into consideration, we think it would be a fair statement to say that the \$32 per head gained by Mr. McRoberts represents the sum lost by the farmer; in other words, if the farmer fed his own stock, even if he understood his business as well as Mr. McRoberts, he would gain during the period of liberal feeding just what he lost during the two years and five months of low feeding, or he has just the manure left to represent his profit.

All these circumstances point out the necessity for a more liberal system of feeding, a

more economical method of saving the manure, and the breeding of the best class of animals. Select large, roomy, native or grade cows, and put them to the best thoroughbred bulls of the best beefing breed, not the best according to the evidence of pedigrees alone, but the best in the eye of an experienced, impartial judge. Bear the following facts in mind: Any beef animal is a "scrub" for dairy purposes, and any dairy animal is a "scrub" for beef. The Jersey, for instance—one of the most valuable of breeds, is a beefing "scrub," while the Hereford, or the Polled Angus, also many of the Shorthorns, are the veriest "scrubs" in the eyes of all sharp-sighted dairymen.

Mr. McRoberts says he never read a work on cattle feeding in his life, and yet he is one of the most scientific cattle feeders we have ever met. We commend his system to all intelligent farmers. He says he worked out his system by repeated experiments, but he might have saved himself all this cost and trouble by spending a few winters' evenings in the study of the nutritive values of the different products of the farm. He should not stigmatize other investigators in the same field, the only difference being that their experiments and accounts are more thorough and accurate than his, and therefore deserve the appellation of "scientific." He is a special friend of the clovers, not caring much about the grasses, which conclusion also rests on a scientific basis, and we therefore recommend his permanent pasture mixture to the careful attention of our farmers, viz.: Two parts timothy; 1 part white clover, 1 part alsike, and 1 part red clover. This formula makes a very nutritious pasture, but does not give as long a pasturage season as the ordinary permanent pasture mixtures, and, besides, variety is quite an element as well as nutriment. He finds a great advantage in harrowing the pastures, which spreads the droppings of the animals and equalizes the growth of the plants.

Raising Calves—Value and Uses of Skim Milk.

The fly and sultry season has already set in, and great care should be exercised in the management of young stock. The beneficent effects of sunlight notwithstanding, the calves should now have shade to protect them from the scorching heat, and if the flies display their usual viciousness, young stock should be sheltered in dark stables during the fly portion of the day; for there is no profit in converting milk into flies through the medium of the calf's blood.

The artificial method of calf-raising is the outgrowth of our dairying system, and various sorts of disorders are now the rule, not the exception, scouring being one of the most troublesome of these disorders. Many farmers regard skim milk as having little nutritive value, and they have therefore adopted the practice of feeding it in larger quantities than whole milk. This is one of the main causes of scouring. The other leading causes are irregularity in feeding, not feeding often enough, and giving cold milk, in place of warming it to 98°—the temperature of the blood. Removing the causes is the best remedy, but severe attacks may be removed by putting a tablespoonful of lime-water into each feed of milk. This liquid is prepared by placing a lump of lime about the size of a hen's egg into a gallon jar of water and shaking thoroughly. An egg stirred in the milk is also an excellent remedy; so is parched flour. Over-feeding is more injurious than under-feeding, and far more cruel. If you can't strike the mark, aim under rather than above.

There are other evil practices in calf raising, chief amongst which is the feeding of grain.

Many an excellent cow is ruined in her calthood by not being taught to masticate her food thoroughly. The grain is fed ground or boiled until the animal finds out that its teeth and jaws are more for ornament than use. The calf should be taught to chew unground oats when it is three or four months old. The teaching of this practice may be found a little troublesome at the very outstart, but all your pains will be amply rewarded. The simple neglect of this duty is the cause of so many disorders of the digestive organs, and the effects upon the quantity and quality of the milk will be seen in another article under the title of "Abnormal Conditions of Milk." Oats are the best grain to feed with skim milk, for they contain a large percentage of fat which is missing in the milk; they are apt to be masticated more thoroughly than other grains, and they furnish bulk, which is of great importance in young animals—especially those intended for the dairy. In feeding for prizes, however, the case is different; for the more you ruin your calf the greater will be the certainty of your getting prizes and free advertising.

The existing low prices for cheese, and the great value to be attached to skim milk, as has been proved by numerous experiments recently conducted in feeding calves and pigs, should tend to revolutionize our live stock and dairying systems. Farmers cannot afford to ignore the value of chemistry in its bearing upon cattle foods and rations. This science has pointed out the relative values of farm products and has taught us how to combine these products into properly balanced rations. Accurately conducted experiments, combined with sound judgments, have corroborated the facts established by the chemist, and the results have been that many products which have formerly been regarded as waste have been proved to be the most nutritive. If science had led the van of civilization, instead of fashion, we should now have more stalwart men and scrubber looking, though healthier and more valuable stock.

The most nutritious stock-foods raised by the ordinary farmer are bran, shorts, and skim milk. These are all by-products, and their values are not yet well enough known. Where the value of skim milk is fully appreciated, farmers are changing from cheese to butter-making. But there is still a general lack of knowledge in the economical utilization of skim milk. Prof. Henry, of the Wisconsin Experiment Station, has been conducting some very interesting and practical experiments in the feeding of milk thoroughly skimmed by the use of Cooley cans. In one experiment with 16 calves, he found that the skim milk brought him 35 cents per 100 lbs. He lays it down as a rule that 25 to 30 cents per 100 lbs. can be realized for skim milk, counting oats at 1c a lb., hay at \$8 per ton, and bran at \$12 per ton, providing you can get \$4 per 100 lbs. of growth in the calf. Now, whole milk at the cheese factories only brings about 80 cents per 100 lbs. One hundred pounds of milk ought to make at least 3½ pounds of butter, which, if of good quality, will bring 18 cents per pound, or 63 cents in all, so that the butter and skim milk will bring nearly a dollar in place of 80 cents, besides, the farm is enriched by 95 percent of the nutritive value of all the food consumed by the calves; in other words, instead of exhausting your farm by disposing of all the raw products, you only dispose of five percent of the fertility taken from the soil by marketing your productions on all fours. If this business does not pay, your only alternative is the use of commercial fertilizers, if you wish to keep up the fertility of your farm.

Garden and Orchard.

Papers for Amateur Fruit Growers.

X.

[By L. Woolverton, Grimsby, Ont.]

CURRANTS.

Dame Nature has wisely arranged the succession of fruits. With a little care in the planting of his garden and orchard, the farmer may have fresh fruit for his table the whole year round. Only yesterday (6th June) we used the last of our Spy apples, and to-day we pick our first strawberries. And then when the mild acid of the strawberry and the delicious sweet of the cherry are beginning to weary the palate, we have a decided change in the pure tart of the currant, just in the very hottest part of the summer, when its cooling juices are most appreciated.

Last season we finished with our strawberries on the 14th of July, and on the same day shipped our first currants; in 1884 it was the seventh, and in 1883 on the twelfth of the same month; thus closely does the one fruit follow the other.

I have already in these pages treated of the most desirable kinds of currants, and recommend the *Red Cherry* as an old and very valuable one; but if neglected and allowed to run to wood, if it is not well pruned and well cultivated, and if it is grown on very light, dry soil, it will produce very little fruit. Give it good cultivation on rather heavy soil; cut back all but five or six shoots every spring, in March, and shorten in those left to bear; scatter plenty of wood ashes about them, and stop the growth of new wood on bearing canes in June or about first of July, that all the strength may go to the fruit; and I venture to guarantee in consequence not only monstrous currants that will astonish the neighbors, but also an abundant crop. But if such attention cannot be given, it is safer to plant such sure bearers as *Victoria*, *La Versailles* or *White Grape*.

The two new rivals of the *Cherry Currant*, viz., *Fay's Prolific* and *Moore's Ruby*, are commended as being better bearers, but in size they are both its inferior.

By the way, let no one be deceived into supposing he is getting some new variety when he buys the *Ruby Castle*. We notice it mentioned of late in some fruit reports, and in the catalogues of several nurserymen, as if it were something different from the old and well known *Victoria*, for which it is but another name.

The gathering of currants is easier than that of strawberries or cherries; indeed, it is quite a treat to be able to sit down on a stool, instead of breaking one's back stooping over strawberry vines, or risking one's neck climbing for cherries. If intended for market, the same care needs to be taken with currants as with cherries. Red and white currants need to be picked with their stems on, and every picker needs to be cautioned to handle them by the stems only, and thus avoid bruising the fruit. The twelve quart peach basket makes a very convenient package for use in shipping currants by express, using red leno as a covering.

White currants are not much in demand in the city markets, but the *Black Currants* usu-

ally sell at least one-third higher than the red. Indeed, if they did not, it would not pay to grow them for market, because the yield is much less, and from their scattered habit of fruit bearing the gathering is more expensive.

By reference to the *FARMER'S ADVOCATE* of last October, the reader will observe two kinds of black currants recommended, viz., *Black Naples* and *Lee's Prolific*. Connoisseurs assure us that the difference between these two kinds is best seen with the eyes shut, as it consists in point of flavor, respecting which the latter is quite the superior.

RASPBERRIES

ripen almost as early as currants. Our *Highland Hardy's* were ready last season on the 15th July, only one day later than the *Cherry Currant*; but the season of raspberries is longer, lasting at least a month, with a judicious selection of varieties. Thus the last of our *Cuthberts* were not shipped until the 15th of August, while the intervening season was filled with such kinds as *Clarke*, *Philadelphia*, *Naomi* and *Turner*; and such black as *Mammoth Cluster* and *Gregg*.

We still read a good deal in some horticultural works and papers about staking raspberry bushes, and in accordance with this advice, I have seen a great deal of money and time thrown away putting up posts and wire, or stakes, and tying up the bushes. A far better and more economical plan is cutting back the young growing stalks in July, for it not only saves expense, but it increases the yield of fruit. With a pair of hedge shears, or a sharp sickle, the work may be easily and quickly done.

Three or four shoots are as many as should be allowed to grow from each stool, and these should be topped at a height of three feet at most. As a result side branches will be produced in abundance, and the plants will grow stocky enough to stand alone.

These remarks are applicable alike to raspberry and blackberry plants.

THE STRAWBERRY PLANTATION

should not be neglected during the summer season, because upon its treatment this summer largely depends the crop of next season. As soon as the plant has perfected one crop of fruit, it sets to work to prepare for another by the formation of new fruit buds.

While therefore this work of storing up the elements of fruit production is in progress, the grower should use every means to make it most effective. The matted rows should be mercilessly narrowed down, and have a good top dressing of well rotted manure; the runners should be kept cut off that the strength of the plant may go into the fruit or buds; and the spaces between the rows should receive thorough cultivation. With such care as this bestowed upon such productive kinds as the *Wilson* and *Crescent*, the best of results may be expected.

A great compliment has recently been paid to the ladies of the United States. The rage for birds for ornaments in hats has caused the destruction of many millions of these innocent creatures to supply the demands of fashion, and entomologists and ornithologists have pointed out the fact that this has been the cause of the rapid increase of those insects destructive to vegetation. It is said that the demand for bird ornamentation has so rapidly fallen off that those milliners who have paid no attention to newspaper reports are about being ruined on account of having purchased an over-supply. Common sense has thus won a victory over the Czar of fashion.

Ripening and Preservation of Fruits.

A paper on the above subject was recently read by Hon. Marshall P. Wilder, President of the American Pomological Society, before the Massachusetts Horticultural Society, from which we make the following extracts:

The ripening of fruit depends on saccharine fermentation. This is followed by the vinous and acetous fermentation. To prevent these and preserve fruit in all its beauty, freshness and flavor, the temperature must be uniform and kept below the degree at which the fermentation or ripening process commences.

Late fruits may remain on the trees until severe frosts are feared, but should be gathered with great care. Summer pears should be picked some days before the ripening process commences. A summer pear ripened upon the trees is generally inferior. The process of ripening on the tree, which is the natural one, seems to act upon the fruit for the benefit of the seed, as it tends to a formation of woody fibre and farina. Pears which become mealy and rot at the core if left on the tree to ripen, are juicy, melting and delicious when ripened in the house.

The most common method for the preservation and long keeping of fruits for small establishments and private use is the construction of houses with walls of non-conducting materials and with well-drained and thoroughly cemented cellars. Fruit houses may be thus constructed at a moderate expense, in which fruits may be kept in good flavor during the entire season. The *Anjou pear* has been exhibited as late as the month of May from a retarding house.

A fruit merchant of this city says there is no perceptible difference between a cold storage house controlled by chemicals and one where ice is used. Each has its advocates. One great secret of success begins in the state in which the fruit goes to the cooler. It should be before any sound specimen begins to show ripeness. No single fruit should be stored that has fallen to the ground, for, however perfect it may seem, sooner or later that dropped fruit will tell its own story and often cause the decay of the whole package. Fruits intended for cold storage houses should go directly from the orchard.

The cause of so many failures in storing pears, for instance, is that the fruit is often bought of different parties, much of it so imperfectly packed that it is never fit to go to the cooler. Perhaps it has been gathered weeks previous, or carried long distances, and becomes more or less bruised and rendered unfit for keeping in this way.

The fruit house of Ellwanger & Barry, at Rochester, N. Y., is a building where walls and floor are lined with straw and boards, with cellars underneath for storing fruit. When the mercury goes 10° or 12° below zero, 3° or 4° of frost get in, but the boxes and barrels are all covered with straw mats and are never reached by the frost. When the late fall and winter pears are gathered they are put in bushel or half-bushel boxes, and placed on the north side of a building outside of the fruit house and protected. They are kept there as long as the weather will permit. By that time the room has got thoroughly cooled and ready to receive the fruit. They have both pears and apples there now in perfection.

A Michigan fruit grower has a fruit house constructed on the cold air system without the use of ice. He is able to keep his house within 3° of freezing for five months, and when the thermometer outside changed 60° in twenty-four hours the change in the fruit room was imperceptible. Such results are effected by building a house with triple walls, fifteen inches in thickness, ten inches of which is filled with sawdust.

D. B. Flint said that he once had a crop of very fine *Easter Beurre* pears which were frozen hard on the tree, but he sprinkled them with water, so as to thaw them slowly, after which they hung on the tree for two weeks. They were then packed carefully in a box and

put on a table in the cellar. On Christmas day he went away and shut up his house, and the pears were not looked at until May 10, when they were found in perfect condition and finely ripened. He thought they must have been frozen in the cellar. His partner put a bushel box of pears in an out-building and forgot them, but when taken out in the spring they were in perfect condition.

William H. Hills, of Plastow, N. H., could not understand why apples should keep on the ground when they should be frozen on a shelf. He has kept apples sound in tight barrels, when those in more open casks decayed. He built a dry cellar, where the thermometer sometimes falls to 28°, and then if more warmth is desired he puts in a lighted lamp, which raises it to 32° or more. Here apples keep well, though the thermometer is as low as 27° or 28° half the time. He had known an instance where water got into a cellar, yet the apples kept well. Freezing apples once might not injure them, but repeated freezing and thawing would, and handling while frozen injures the fruit.

Mr. Wilder said that the preservation of apples on the ground arises from the moisture in the ground extracting the frost, as plants are syringed when frozen in the green house. Fruit must be handled as carefully as are eggs. Fruit placed in the storehouse bruised and in uneven condition as to ripeness will never keep.

Mr. Hadwen said that fruit designed to be kept should be picked before too ripe. He has kept green Bousack pears for four weeks. It is especially desirable in gathering Winter apples, such as Baldwins or Greenings, that they should not be too ripe. Shippers begin gathering apples two or three weeks before it is generally done.

Mr. Flint said that he once kept nine or ten barrels of apples on the trees till the ninth of November, when his neighbors thought they were spoiled, but he piled them up on the north side of a building until Christmas, and then put them in the stable and covered with straw, and they kept finely.

Mr. Wood said that Mr. Flint's apples probably kept cool on the trees. He once picked some Roxbury Russet apples very carefully and laid them out on the ground until they were covered with a foot of snow; they were afterwards packed in barrels in coal ashes and opened the middle of June, when they were very nearly perfect—plump, with the flesh crisp and juicy, and of fine flavor, when others have lost their flavor. The air was excluded from them and the temperature was even. Fruit-rooms in dwelling-houses, even though separated from the furnace cellar, do not compare with farmers' cellars for keeping fruit.

The learned horticulturist concluded his paper with the following remarks:

The conditions of success may be briefly stated as follows: The perfect control and temperature, light and moisture. All experience shows that these conditions must be complied with or success cannot be attained; hence these apartments must be cool and constructed so as to exclude at pleasure the external atmosphere, which starts fermentation. After many years of experience, both with and without ice, I have adopted a house built in a cool, shady aspect, with the door on the north, and with a thoroughly drained and cemented cellar, with small double windows, which may be opened or closed at pleasure. In this way I am enabled to keep my late fall and winter pears until February or March in good condition. Apples may be kept at a lower temperature than pears—say 34 to 40 degrees.

In a fruit room of this kind, Mr. John J. Thomas writes me, that by admitting air on cold nights, and closing the entrances when the air is warm, he has had sound Lawrence pears in March, and Josephine of Malines in April, and Baldwin apples in June.

My late fall and winter fruits, intended for long keeping, are allowed to remain on the trees until frost is apprehended. They are then gathered with great care, into bushel boxes, and placed on the north side of my fruit house in tiers of boxes six or seven feet high, and

covered with boards, where they are kept until the ground begins to freeze. They are then removed to the cellar, piled up in the same manner, with thin strips of boards or shingles between the boxes, until wanted for use, when the boxes are looked over and the most mature are from time to time taken out. In this way I keep pears until March or April in perfect condition.

In regard to the use of ice I would say that where fruits are kept for some months under its influence at a low temperature, they seem to lose much of their flavor; the cellular tissue also seems to have become dry, and to have lost its vitality or power to resume the ripening process. Experience proves that, for the common varieties of the pear, about forty degrees Fahrenheit is the temperature best suited to hold this process in equilibrium. The proper maturing of fruit thus preserved demands skill and science. Different varieties require different degrees of moisture and heat, according to the firmness of the skin and the texture of the flesh. Thus some varieties of the pear will ripen at a low temperature and in a comparative dry atmosphere, while others are improved by a warm and humid air. Some varieties of the pear ripening with difficulty, and formerly esteemed only second rate, are now pronounced of excellent quality because the art of maturing them is better understood. Great improvement has been made in the handling, packing and preservation of fruits, so that they are delivered in perfect condition from distant places, every class of fruit having its suitable style of package. So well is the art of keeping grapes now understood that we have them in our markets in such fine order as to command from fifteen to twenty cents per pound until the month of May.

Various Notes on Forestry.

The methods of re-foresting large areas of our land is a question which must soon be impressed upon our attention with greater intensity. Some years ago, when the slaughtering of our forests was in full blast, the farmer was compelled to take a dollar-and-cents view of the business, reasoning thus: "I can clear the land for \$15 or \$16 per acre, and a crop of wheat at the rate of 40 bushels per acre will bring double the cost the first year." This was a simple method of reasoning and it served its generation well. Those were the days when extensive farming paid; for the land was in the virgin state of its fertility; there were few weeds or insect enemies, and all the cultivation required was to tickle the land with the plow and the harrow. "The more acres the more profits" was then a good motto.

But now all is changed. Closer calculation is now required, and too few farmers have educated themselves up to the close calculating standard. Those were the days of oxen and muscle; these are the days of machinery and mind. The question now is, How can the farmer re-forest 10, or 20 percent of his land without decreasing the value of the crops raised? That is to say, he should bring the cultivated areas up to the old standard of fertility, lessening the acreage under cultivation without diminishing the quantity or value of the total products, and forestry is a very significant factor in the calculation. We do not insinuate that he did wrong in reducing the forests then; for the excess of cultivated area can be replanted with more useful timber, and nature demands rotation in our forests as well as in our fields. Our great beech and maple regions will grow other timber now.

The forestry question has been well ventilated by the American Forestry Congress at its meeting held in Boston last September, the

proceedings of which have recently been published in pamphlet form. The object of this Congress is to draw public attention to the necessity for studying forestry questions, the dissemination of forestry literature, and the encouragement of tree-planting.

The President, Hon. Warren Higley, New York, in his annual address, amongst many other interesting illustrations, referred to the case of China, saying that this empire "would have escaped those horrible famines which have attacked some of the most densely populated districts and caused the destruction of millions of people and imposed untold sufferings upon millions more, as well as the loss of a vast amount of treasure to the State," if it had a system of timber culture like that of Prussia—perhaps the best in the world. He also referred to the recent floods in China, the most serious in 30 years, in which more than 10,000 lives were lost, a far greater number being left in a condition of starvation. He attributed these floods to the destruction of forests on the mountain slopes and the headwaters of streams.

The President also instanced the case of Central New York, where streams which "30 or 40 years kept the ponds well filled for the saw and grist mills, and furnished a never-failing supply of running water for the farm, were now dry in summer, with the exception of here and there a stagnant pool." And yet, he said, the spring rains melting the snows caused the streams to overflow their banks, the swift waters carrying away fences, bridges, and embankments. The springs were later, young cattle previously turned out into the wood-sheltered pastures about the first of April, now being kept shut up until the middle of May. Peach orchards had almost disappeared. The extremes of heat and cold were greater, and summer droughts were more destructive. Not only were the smaller streams dried up, but the Mississippi, the Missouri, and the Hudson and the Ohio rivers were becoming more difficult of navigation, caused by the cutting down of the timber from the head waters. He also instanced the case of the Schuylkill river which supplied Philadelphia with water, stating that the once abundant water supply was rapidly becoming scarce owing to the same cause.

In referring to the French Alps—a district once densely populated and prosperous in agriculture and grazing, he said: "The Alps of Provence present a terrible aspect. In the most equable climate of northern France, one can form no conception of those parched mountain gorges, where not even a brush can be found to shelter a bird, where, at most, the wanderer sees in summer here and there a withered lavender, where all the springs were dried up, and where a dead silence, hardly broken by the hum of an insect, prevails. But if a storm bursts forth, masses of water suddenly shoot from the mountain heights into the shattered gulfs, waste without irrigating, deluge without refreshing the soil they overflow in their swift descent, and leave it even more parched than it was for want of moisture. Man at least retires from the fearful desert, and I have the present season found not a living soul in districts where I remember to have enjoyed hospitality 30 years ago."

(To be continued.)

Poultry

Wyandottes.

We take pleasure in presenting to our readers a beautiful and life-like illustration of the latest acquisition in farm poultry, the Wyandottes. This breed is said to have been produced from the Dark Brahma and Silver-spangled Hamburg. It is of about the same size as the well known Plymouth Rock, and in fact has nearly the same practical qualities of this very popular breed. This bird makes a very plump 2-lb. broiler at eight weeks old, and a tender roaster at four months. The legs and skin are a rich golden yellow, which are very desirable qualities for a market fowl. It has a very small rose comb, and is very hardy, in winter laying well through the coldest weather,

mandible, the compact body, and full fluff of the Brahma, but when the sire was Leghorn and the dam Brahma, the beak was yellow, the form that of a Leghorn, and in every respect the characteristics of the sire predominated. In crossing with the Langshan (a black fowl) some curious results followed. When mating a Langshan cock with Plymouth Rock hens, some of the chicks were black on one side of the body, while the other side had the bars of the Plymouth Rock, and where the Langshan was used with Leghorn hens, the white of the hens predominated, only a few black spots appearing to show the Langshan blood. The Leghorn asserts itself on all its offspring, no matter what the cross may be. When Plymouth Rock cocks were crossed with Langshan hens, the color was similar to that of the

Preserving Eggs.

The awards in the class for preserved eggs at Birmingham were made this year, in the first instance, quite irrespective of the methods adopted by the exhibitors to preserve them, no information whatever being given to the judges, who had to select the eggs on their own merits, says W. B. Tegetmeier, in Agricultural Gazette. One or two specimens from each dozen were broken into saucers, when the consistence, color, taste and smell of the contents were carefully noted. Eight of the thirty samples exhibited were in this manner selected by the judges as being so nearly equal in merit, that Mr. Lesser and myself both determined that the prizes ought to be awarded to the least troublesome and most practical of the processes adopted; we therefore requested Mr.



ROBIN HOOD AND MATES—FIRST PRIZE BREEDING PEN OF WYANDOTTES, AT MADISON SQ. GARDEN, NEW YORK CITY, FEB., 1886. BRED AND OWNED BY A. C. HAWKINS, LANCASTER, MASS.

their eggs being the favorite color in the market. In fact, this breed combines such qualities as will make it a great favorite among the farmers. With its black and white color, it makes one of the most attractive varieties in the farm yard. Mr. Hawkins is one of the most extensive breeders of this variety and also of the Plymouth Rock, and his fowls have taken the leading prizes at the largest exhibitions for several years; he does a very extensive business in shipping fine fowls and eggs for breeding purposes to all parts of the world.

Experiments with Crosses.

Last season we tried a few crosses by way of experiment, and found that the best mode was to endeavor to secure the objects desired through the influence of the male. When Leghorn hens were used with a Brahma cock, the chicks had the dark stripe down the upper

Plymouth Rock, except that the shade of color was darker, with a few black feathers in the tail. When the Blackbreasted Red Game cock was crossed on Plymouth Rock hens, the cockerels had the game shape with the Plymouth Rock plumage, but the pullets from the cross, though game in all other respects, were black in color, but how the black color came to them cannot be accounted for. As a rule, however, the sire seemed to impress his characteristics on the pullets from crosses and the dam on the cockerels, though in some cases the sire predominated entirely. It is an interesting occupation to experiment with crosses, and those who have the time to do so can gain much valuable information therefrom.—[Farm and Garden.

While the hens may not protect an orchard from insects, it has been demonstrated that when poultry are confined around the trees, they will prove very serviceable in preventing the attack of insects.

Lythall to furnish us with the details of the methods employed by the exhibitors whose eggs we had selected as the best. This was at once done, and the information was as follows: Two of the exhibits were preserved in lime-water, or in lime-water and salt, and three had been packed in dry salt. One set was greased with beeswax and oil, another with melted suet, and another with shellac dissolved in methylated spirit.

As recipients of the prizes we selected number 2553, which had been packed in dried salt, and number 2540, that had been preserved in lime-water and salt.

These two plans of preserving in lime-water, and packing in dry salt, have been previously successful, and appear to yield the best results with the least trouble. The eggs which had been delivered to the Society on August 15, must have been laid nearly four months since.

Salt Frauds.—Observing your readiness at all times to protect the farming community, by exposure in your columns of all fraudulent practices, permit me to warn your readers of certain brands of salt that are now being exposed for sale. A barrel of salt ought to weigh 280 lbs. net, or 300 gross. Unfortunately as yet there is no law on the subject fixing the standard of a salt barrel: but a movement is being made in that direction and the Government will doubtless ere long legalize the standard of 280 lbs. net. But in the meantime a good deal of salt weighing from 200 lbs. gross per barrel and upwards, is being placed on the market. When it is thus packed light the maker generally omits to brand any weight on the barrel, thus clearing himself of any imputation of supposed fraud. Freight being charged at the rate of so much per 100 lbs., the dealer who orders for example 120 barrels of 200 lbs. salt, which constitutes an ordinary carload, equivalent to 30 barrels of full weight salt, 300 lbs. each, gets these 120 light barrels conveyed for the same amount of money that an honest dealer pays to convey 80 barrels. He pays the maker a lower price for the light salt, gets it carried *per barrel* for less money, and then frequently sells it to the farmer for "a barrel of salt": whereas in point of fact it is only two-thirds, or perhaps a little more, of a proper barrel. Until the Government fixes a standard by law and orders every barrel to be plainly branded with the maker's name and weight, and a penalty is enforced for the infringement of the same, the farmer is at a disadvantage. But he has still a powerful remedy in his hands. Few people like to be detected in questionable, not to say dishonest practices. Let each and every farmer weigh his barrel of salt before loading it in his wagon, and if it does not average say 280 lbs. gross, refuse to pay for it except at the proportionate rate. Few store keepers will be disposed to make any trouble; but the result will be they will in their turn see that the maker sells them honest weight.—JOHN RANSFORD, Clinton.

In-Breeding.—Kindly inform me through your next ADVOCATE whether I can put a grade Jersey back to her sire, as he is the only one convenient, as I learn Jerseys are in-bred animals.—SUBSCRIBER, Bradford, Ont.

[The effect of in-breeding is not yet a settled question, but the injurious tendencies have been greatly over-rated. We think you would be safe in putting your cow to her sire, providing there are no inherent defects in the sire or the dam. If both have the same defects, they are sure to be perpetuated, especially if they are prominent ones. However, it is a wise plan to introduce fresh blood into the herd occasionally, but be sure that the bull you take is not inferior to the one you give.]

Knights of Agriculture.—I have been waiting for some time in hopes of seeing some words in the FARMER'S ADVOCATE in the interests of the Knights of Agriculture, in relation to the labor question, but have thus far waited in vain. We read of strikes among the mechanics for eight hours of labor, with ten hours of pay. We see some of our leading papers advocating the same. We hear of municipalities giving their laborers ten hours pay for eight or nine hours work. We also read and hear much in condemnation of the tyranny and greed of capital in literally compelling (by their necessities) men, and women too, to perform ten hours of labor for ten hours of pay. We also learn from the same sources that some of the less favored mechanics are compelled to labor for their masters, as they allege, for the paltry consideration of from 15 to 20 cents per hour, while others are demanding shorter hours and from 25 to 40 cents per hour, or if longer hours, 50 percent more pay for each extra hour worked. Now, Mr. Editor, while we sympathize most deeply with the hard worked, and (as they allege) poorly paid, and much abused mechanic, and while we might all desire a more equal distribution of this world's goods, and labor for all, would it not be well for us to consider a little what position we, the farmers of Ontario, are to hold in this matter? I believe it to be a conceded fact that farmers, also their wives and families (all who are old enough and able) work during six or eight months of the year from 12 to 16 hours a day, and for able bodied men's labor, do not receive per year over from seven to ten cents per hour. Now I want to ask you, as one of the trusted leaders of the noble army of the "Knights of Agriculture," to raise your voice in advocacy of better pay and shorter hours. Suppose we organize to resist such oppression, from or against whom shall we strike? Whom can we compel to give us twelve or sixteen hours pay for eight or ten hours work? Can we coerce any beings, divine or human, to give us, as a rule, long pay for short hours work? Should all working men succeed in accomplishing the change, would it necessarily increase the cost of our living, our implements or machinery? Can you demonstrate to us how we can pay for our farms as quickly, and have as many comforts and luxuries to enjoy, and to be released from work so early in life on shortened hours of labor? It has been said that he who increases a blade of grass by one, is a benefactor. How much greater would be the benefactor who agricultural Moses or Powderly, if you please, who shall lead us to the millennium of short hours and long pay? Now I beg you to break silence in this matter, and trust you will be able to answer in a satisfactory manner the foregoing questions, and that you may be able to explain to us clearly how we may be relieved from the incessant toil of the farmer's life, and still retain the advantages derived from hard

work and long hours, and when you do that we shall gladly hail you as our benefactor, and our Moses.—A KNIGHT OF AGRICULTURE, Brantford Tp.

What Out-door Work Should Farmers' Wives and Daughters Perform?—It has become a deplorable fact in our prosperous Dominion that farmers' wives and daughters are over-worked. I am glad that you have presented this opportunity for the women of Canada to assert their rights through the press. We have heard of "Women's Rights" for years past—tableaux present the men milking, churning, scrubbing, etc.; but where have we an instance in real life? It is not the "inside" work that saps the life energies of our women; it is bearing the burden of work for which they are not adapted by nature. The intentions of an all-wise Providence have been perverted. For instance, our shoulders were not constructed to bear the weight of a heavy pail of milk suspended from each arm; man's broad shoulders and strong, muscular arms show that that was the work intended for him. No; the "outside" work is undoubtedly man's work. I hold that it is no more women's work to milk than it is men's work to wash the breakfast dishes. Yet each farmer in a prosperous community keeps at least six or eight cows, and plenty of them have ten, fifteen, twenty—yes, thirty cows, and that is the women's work. If it be convenient, perhaps on a very rare occasion the farmer himself or one of his boys might milk a cow or two, but by so doing they are lowering their dignity greatly, and they give the women to understand what an everlasting obligation they have brought them under, for which you must clean their boots, brush their clothes, go to the store for tobacco, etc. Then the women must feed the hogs, carry four or six heavy pails of milk three times a day to them. Whenever the men have any rush of work—and they rush on purpose sometimes—the women have to feed the cows, calves, hogs, clean the stables, and attend to the barn work generally. Men never think of carrying in the wood; if they passed the wood pile twenty times a day, they would never think of picking up a stick; if they would split an armful occasionally they seem to think they have amply done their share. Now this is all wrong. Men should not only split the wood, but they should carry in every stick of it. Our American sisters would let their husbands and brothers go without their dinner if they did not provide them with wood and water. But to continue: Milking over, calves fed, barn-work done, wood and water in, what other outside work have the women to do? Oh, it is spring, they must clean up about the doors, gather rubbish into heaps, lug heavy boards, etc., that the men have found it convenient to leave there; and then in the meantime they must keep a sharp look-out on the cattle, for the fences are not yet repaired, and they might get into the fall wheat. Perhaps they do run and put them out, sinking at every step in the soft ground, to sink into a chair for a few minutes. But the busy housewife cannot sit there long, dishes to wash, beds to make, floors to sweep, stoves to clean, dusting, sewing, mending, darning, and many other things "too numerous to mention." And then you know there is house-cleaning, and last year apples were not a good price, and the farmer brought them into the cellar to wait for a rise; but now they are all rotten—two or three hundred calls of them, and the women must carry them out for the men have no time; besides, it belongs to the "women's work." The poor woman heaves a heavy sigh, but she might as well submit to the inevitable. And then she knows she must hurry up, for there is all the garden to hoe, and scrape, and dig, and delve. Poor, poor woman! When we think of all she has to do, we are lost in wonder that there are not more farmers' wives and daughters inmates of insane asylums, and indeed we know a large percentage of the inmates do belong to this class. Fathers and brothers, did you ever see the work of your wives and sisters enumerated before? Did you ever think of it in that light? Surely you could not, or you would go and hide your faces with shame to think you had stood by and seen your mothers and sisters go down to premature graves with overwork. But we are not through yet. Potatoes to plant: Few men can do even that without the help of the women. There is weeding to be done. Mary and Susan, come out and help us to weed to day, and the poor girls have to go, leaving mountains of work for their mother to do alone in the house. Again, harvest approaches. We have seeders, mowers, reapers, self-binders, to make work easy for the men, still they must have the women out to help move away the grain, and actually one young girl in our neighborhood pitched on all the leads last summer; and it is no uncommon occurrence to see girls building the loads and reaping the grain. Now we have finished harvesting, we must bring in apples and potatoes; of course the women must help. If the men shake the trees, load the bags and dump them into the cellar, they do admirably well. As like as not they will call, "Mother, give us a lift with this bag." What a crying shame! Go to any of our country churches; look over the congregation, and what do you see? Tired, pale, broken-down looking women, too wearied to pay any attention to the sermon. Nature must have her due, and when their energies are relaxed, nothing is more natural than that they should succumb to that sweet restorer of nature, sleep. What time have they for reading or music? None. Do not blame farmers' wives and daughters if they are ignorant. Young men of Canada, give heed! Lift off the heavy burden under which they have been struggling for the past years, and let the next century issue in a brighter era for our women. Canada needs re-

forming in this respect, and I sincerely trust our young Canadian hopefuls will respond unanimously to the call, and that in the next generation, if not sooner, we will find the men doing the "outside" work, and the women attending to their own particular department, the house, or rather, the home.—J. E. A.

Killing Wild Oats.—I changed seed oats (two bushels) with a neighbor, and found some wild oats in them when we had them nearly all sown. What means would you advise to prevent them from polluting the land? My land is free from any such dirt, and I would not have exchanged seed only the neighbor declared his seed was pure, and that he had no wild oats on his land.—J. W., West Essa.

[If the wild oats ripen and fall on the ground, keep the surface stirred with cultivator and harrow, or if the soil is too stiff for the cultivator, plow it first very lightly with the gang plow. By so doing, the seeds will germinate and may be destroyed by cultivating and harrowing say once a week, if the weather is warm so that the oats will sprout quickly. But you should not plow deep, else some of the seeds will be covered too deeply, and will be troublesome in succeeding years. If the wild oats find their way into the barn, keep them from mixing with other grains, and the manure from the stock fed on the oats and the oat straw should be thoroughly fermented. Probably it would be safer to grind the oats, and then there will be no danger in their getting back to the field through the manure heap, but in all cases the straw should be burnt or fermented, especially if the grain is not thoroughly threshed out. If only part of your crop is mixed with wild oats, you could probably use it for green fodder, or cut it green and cure it like hay. This would be the most effectual remedy.]

Spark Arresters.—Our fire policies read, "The use of standard steam threshers permitted." Would you explain in your column what is a standard steam thresher?—FARMER, Frontenac, Ont.

[The spark arresters of every portable agricultural engine manufactured is inspected by the inspectors of the insurance companies, and if they are held to be safe for running threshing separators, insurance policies are granted, and the engine is then known as "standard."]

SIR.—In referring to this part of the world, you have several times expressed a wish to receive truthful statements respecting this much boomed up country. In my previous letters I have sent you the simple truth, but in your last issue your correspondent, C. G. C., Treherne, very kindly tells your readers that my statements are wrong. I on the other hand beg respectfully to inform C. G. C. that no such prices as he mentions have been paid in this neighborhood during the past season. I don't quote Winnipeg prices any more than they in Winnipeg would quote prices paid in Liverpool. Your correspondent was right in his statement that Stodderville is within five miles of a railroad, but unfortunately that does not prevent my living fifteen or even thirty miles from a market; we are not blessed with a P. B. adjoining every farm here, however it may be in Treherne. Whether C. G. C. thinks I am a right thinking man or not, matters but little to me; the fact remains the same that not only I, but hundreds of others, do grumble, and I think justly too, at having to pay this tax of 35 percent upon our tools, but I thank him very much for informing me that this goes into the pockets of the C. P. R. for the purpose of building branch roads. I was entirely ignorant of it previously. I hope that in future before he accuses another of publishing false statements, he will take the trouble to ascertain that they are so. If there was good news to tell it would give no one greater pleasure than myself to publish it, but to publish the absurd statements—such for instance as that contained in your May issue, where it is stated on the authority of Mr. —, that potatoes fetch 75 cents per bushel. Why, sir, in this part potatoes, good ones too, have been selling at 25 and 25 cents, the sack containing close upon two bushels of potatoes,—that are common in the columns of the press here, is 70 cents, say the least of it very reprehensible. Every farmer, if he corresponds at all with friends in other parts of the world, is a far more effective immigration agent for good or ill than the salaried officials who seem to think it their duty to seduce settlers into the country upon utterly false statements, the result being often disappointment and disgust on the part of the dupes so seduced. Now for a little respecting our prospects for a bountiful harvest this year. We had a beautiful spring, and the seed, as a rule, went in in first rate condition, but unfortunately up to the present time in this locality we have had scarcely any rain; I don't think we have had equal to two days rain during the past nine months. The consequence is that the later sown wheat is thin and weakly; present appearances seem to indicate unless we get plenty rain very soon, that we shall have an early, and I am afraid a very light harvest. There are large areas of oats and barley that have never come up. Of course I don't blame the country for this perverseness on the part of the clerk of the weather, every country is liable to these periods of drought, or else the other extreme; rain is very badly needed and for the sake of the whole province I trust we may soon get enough to set the crops moving in good style. The Bronze King potatoes came safely to hand, and I am very much obliged for them, I will let you know how they do here in due course.—R. C. B., Stodderville, Man.

The Household.

Vital Force.

There seems to be an active and enduring energy in man that is not pure physical strength, and yet aids in the indefinite prolongation of life. It is not the mysterious vital principle, though closely related to it. It is not firmness of muscle nor suppleness of limb, though these are useful attributes of the body. Neither is it the will, though this may sometimes help to keep the vital spark for a time within the mortal frame. It is sometimes called nervous force because it is more observable in persons of nervous constitution. Whatever it may be, it is quite as valuable as mere strength, and by judicious management it may be made to keep the possessor in health and to extend his life far beyond the allotted term of man's usefulness. Young men reared in the country are large, muscular and healthy. Beside them, young men reared in the city seem pale and sickly. But this difference of appearance need lead no one to suppose that the city youth has not equal or greater powers of endurance than those who have grown up among green fields and breathed the purest mountain air. When the war of the Rebellion broke out in the U. S. it called the young men of the country alike from farms, counters and counting rooms. The city regiments and country regiments encamped side by side, enjoying at first the same degree of health. It often happened that the last died like sheep, because they were unable to endure the hardships and simple complaints incidental to camp life, while their neighbors from the city grew strong and lived to do duty afterward on a score of battle fields.

It follows, then, that the length of human life depends, first, on the amount of this vital force, and second, on the care with which it is husbanded. It is probable that it is oftener found in persons of medium stature and of no great physical strength, though it may co-exist with the amplest physical development. Let any one run over in his mind a list of all the old men he has ever known. How many of them were six feet in height? How many of them were men of superior muscle when they were young? A small proportion, we presume to say. Why is it that young men six feet tall, or who are athletes, seldom pass much beyond middle age? First, because their physical and nervous forces are not usually in proportion; and second, because, presuming on the superabundance of their strength, they exhaust themselves in over-exertion and intemperate indulgence.

It may be stated as an incontrovertible principle that any amount of exercise more than is necessary to keep the digestion perfect, has a tendency to shorten life. The digestion is the fuel under the engine, the oil which lubricates the points of friction in the machinery of the body. We cannot imagine a person mortally ill while the digestion is good. While it is perfect, the health is perfect. When it happens that any part of the body is diseased, the stomach is invariably in a morbid condition. Therefore, systematic and unnecessary exercise in gymnasiums is likely to prove injurious. Professional athletes are rarely long-lived. Abnormal development of particular muscles is attended or soon followed by weakness or de-

terioration. The fatigue that follows excessive exertion is a sheer waste of vitality, which may not be at once felt, but whose loss is perceptible later in life. Exercise must be regulated by sound direction. The bad results of confinement and sedentary habits must be counteracted, but beyond the point of cultivation of a healthy appetite, no one should ever go. The digestion may be kept good in less troublesome ways than by writhing and wriggling on the trapeze and crossbars. Food should be according to personal habits and the strength of the digestive organs. If a person's diet is coarse and heavy, it may sometimes be necessary to work in a gymnasium, like a blacksmith, or like a horse on a treadmill, to enable the system to dispose of it. The better way would have been to be temperate at table. Even the digestive pill of the gourmet is a more sensible remedy for overfeeding than the barbarous methods of modern athletes and acrobats.

The Chemistry of Food.

A contemporary has the following sensible remarks: There is no reason why every housekeeper and cook should have a knowledge of the chemistry of cooking, and of the healthfulness of different articles of food. At this particular season of the year nature bountifully supplies us with much that is cooling, in the way of fruit and summer vegetables, which are not only delicious articles of food, but are really health preserving, for often a slight indisposition of children, or older persons, can be readily cured by the free use of these culinary remedies. Spinach has a direct effect upon complaints of the kidneys; the common dandelion, used as greens, is excellent for the same trouble; asparagus purifies the blood, celery acts admirably upon the nervous system and is a cure for rheumatism and neuralgia, tomatoes act upon the liver, beets and turnips are excellent appetizers, lettuce and cucumbers are cooling in their effect upon the system, beans are a very nutritious and strengthening vegetable, while onions, garlic, leeks, chives, and shallots, all of which are similar, possess medical virtues of a marked character, stimulating the circulatory system and the consequent increase of the saliva and gastric juices promoting digestion.

Red onions are an excellent diuretic, and the white ones are recommended eaten raw as a remedy for insomnia. They are tonic and nutritious. A soup made from onions is regarded by the French as an excellent restorative in debility of the digestive organs. We might go through the entire list, and find each vegetable possessing its especial mission of cure, and it will be plain to every housekeeper that a vegetable diet should be partly adopted at this period of the year, and will prove of great advantage to the health of the family. With vegetables, as with everything else, much depends upon the cooking and the care and preparation beforehand. Washing in several waters is necessary to prepare all kinds of green vegetables for the table, and great care must be given in examining spinach, lettuce, greens and cauliflower, as often very minute insects are lurking in or under the leaves of these. It will be found a good plan to wash them in weak salt and water, after which they should be put in ice water for a few minutes, to prevent their becoming tough and wilted.

Fruits as Food and Medicine.

Of all the fruits with which we are blessed, the peach is the most delicious and digestible. There is nothing more palatable, wholesome and medicinal than good, ripe peaches. They should be ripe, but not over ripe and half rotten; and of this kind they may make a part of either meal, or be eaten between meals; but it is better to make them part of the regular meals. It is a mistaken idea that no fruit should be eaten at breakfast. It would be far better if our people would eat less bacon and grease at breakfast and more fruit. In the morning there is an acid state of the secretions, and nothing is so well calculated to correct this as cooling sub-acid fruits, such as peaches, apples, etc. Still, most of us have been taught that eating fruit before breakfast is highly dangerous. How the idea originated I do not know, but it is certainly a great error, contrary to both reason and facts.

The apple is one of the best of fruits. Baked or stewed apples will generally agree with the most delicate stomach, and are an excellent medicine in many cases of sickness. Green or half-ripe apples stewed and sweetened are pleasant to the taste, cooling, nourishing and laxative, far superior, in many cases, to the abominable doses of salts and oil usually given in fever and other diseases. Raw apples and dried apples stewed are better for constipation than liver pills.

Oranges are very acceptable to most stomachs, having all the advantages of the acid alluded to; but the orange juice alone should be taken, rejecting the pulp.

The same may be said of lemons, pomegranates, and all that class. Lemonade is the best drink in fevers, and when thickened with sugar is better than syrup of squills and other nauseous things in many cases of cough.

Tomatoes act on the liver and bowels, and are much more pleasant and safe than blue mass and "liver regulators." The juice should be used alone, rejecting the skins.

The small seeded fruits, such as blackberries, figs, raspberries, currants and strawberries, may be classed among the best foods and medicines. The sugar in them is nutritious, the acid is cooling and purifying, and the seeds are laxative.

We would be much the gainers if we would look more to our orchards and gardens for our medicines, and less to our drug stores. To cure fever or act on the kidneys, no febrifuge or diuretic is superior to watermelon, which may, with very few exceptions, be taken in sickness and health in almost unlimited quantities, not only without injury, but with positive benefit. But in using them, the water or juice should be taken, excluding the pulp; the melon should be fresh and ripe, but not over ripe and stale.—[Hall's Journal of Health.

Have the courage to wear your old clothes until you pay for your new ones.

Have the courage to obey your Maker at the risk of being ridiculed by men.

Have the courage to prefer comfort and prosperity to fashion in all things.

Have the courage to show that you respect honesty in whatever guise it appears, and your contempt for dishonest duplicity, by whomsoever exhibited.

Family Circle.

"WANTED, A PRIVATE TUTOR."

MY name is Mellow. I am not a young man. I used to think, a long while ago, that I had arrived at years of discretion; but recent events have led me to entertain some doubts upon that subject. I am a widower. Mrs. Mellow was undoubtedly my better half in every way; or, say three-quarters; I always felt that; and I am now more convinced of it than ever. When I lost her I thought I could not do better than receive her sister Miss Griddle, into my house, to take the management of my home and family. Miss Griddle thought so too. Indeed, now I consider about it, she settled the question herself by giving up her preparatory establishment for young gentlemen, and sending a van-load of personal property, including a pair of globes, a cat, and a vase of gold fish, to my house almost before I knew where I was, or, rather, where she was. Miss Griddle is an excellent woman; but singular in her opinions, and angular, all corners (speaking metaphorically, of course), and fond of having her own way, which I am bound to admit is a very straight-forward one. I have reason to be grateful to her, on the whole, for the kind interest she takes in my affairs generally, and especially for her care of my three children—George, aged twelve; Tom, aged eleven; and the baby, as everybody calls him still, aged four.

I don't think Miss Griddle acted with her usual prudence and foresight in the matter which I am about to relate, and I am sure I did not; so I cannot find fault with her; and she agrees with me that a statement of the facts, if given to the public, may be the means of preserving some other heads of families situated as I was from such inconveniences as we suffered. The two elder boys above named had been for about two years at a boarding-school; a pretty good one I always thought it; but Miss Griddle was of a different opinion. She would have it that they were too young to profit by the system, or, rather, want of system, which prevails, according to her judgment, in all large schools. She had always held that every young gentleman ought to be thoroughly grounded in a preparatory school under feminine auspices before being admitted to a larger establishment; and she regarded it as grasping and unprincipled on the part of the directors and headmasters of our public schools that they did not insist on such a preparatory course, instead of "taking children of all ages just as they come." It had always been a grievance with Miss Griddle that this first and most important step in the education of her nephews—they are nice boys, and she is very fond of them—had been passed over. Whenever they came home for their holidays, she made it her business to examine them; and each time the report she gave of their "progress backwards" was most unsatisfactory—to me, at all events. "But what can you expect?" she would say. "The poor boys have never been properly grounded; they have been set to run before they knew how to walk; they must begin again, and be grounded; they will never do any good till they are grounded."

The two boys returned home last Christmas for their holidays as usual, and the very next day Miss Griddle began with me, after dinner, upon her usual theme.

"Really, my dear John," she said—I always anticipate something unpleasant when she calls me "John," instead of Mr. Mellow; and "My dear John" is even more portentous—really, my dear John," she said, "it is time something was done about those poor dear boys. I have been examining them this morning, and find they know nothing—absolutely nothing."

"Examining them already?" I exclaimed. "Why, the poor lads only came home yesterday. I would have given them a few days' holiday first, I think."

"They know nothing," she continued, without heeding my remonstrance. "I did not expect a great deal, but I confess I was astonished. Their progress backwards is more marked than I could have supposed possible after the pains I took with them last holidays. They have forgotten all I taught them, and learnt nothing at school. Now don't be impatient. I'll just give you an example or two, and then you will be satisfied. I was questioning Tom in the rudiments of history—only the rudiments. I asked him what he knew about King Richard III. All he could say was that he was a hunchback, and very fond of horses; he had seen a picture of him offering to 'swap' his kingdom (such an expression!) with anybody for a horse. When I urged him for some further particulars of his history, he added, with a great deal of hesitation and shyness, that he was killed by a fish-bone sticking in his throat, and brought back to life again by a barber who extracted it; 'pulled it out,' he said."

"Very good," I exclaimed, laughing. "I suppose he thought one hunchback was as good as another."

"My dear John," said Miss Griddle, sternly, "it's not a laughing matter. I wish you could see things as I do. And George is not a bit better. He went so far as to deny that Richard III. was a hunchback at all; it was a vulgar error, he said, to suppose so. On the contrary, he was rather a good-looking man, of a kind and forgiving disposition, and had made some excellent laws for the country. He displayed total ignorance about the history of Rome; he absolutely denied that Romulus and Remus were suckled by a wolf! 'A vulgar error,' indeed! Truths which I have been inculcating for years past, until I gave up my preparatory establishment for young

gentlemen to come and take charge of your house. How you can smile at such a state of things I can't conceive. The boys require grounding, and it is quite time some measures were adopted for their education, which, as I have often told you, has yet to be begun."

"We must see about it," I replied.

"That's what you always say; and then nothing is done."

"What do you propose, then?" I asked.

"Keep the boys at home a year or two, and have them thoroughly grounded."

"I could not remove them from school without a quarter's notice, you know."

"There need be no difficulty about that. I wrote to Mrs. Mill three months ago, and told her I should most likely have the boys at home to ground after Christmas, and begged her to mention it to Mr. Mill in the way of notice."

"You did?" I exclaimed, very much annoyed, as I dare say she could see.

"Why, yes; the fact is, that when I gave up my own establishment to come here it was with a view to being of service to my poor sister's children. I do not think I could have been induced to sacrifice my own professional engagements and—usefulness, by any other motive. They have always wanted grounding, those dear children; it was not fair to send them to a large school without previous grounding; and I should have had a better opinion of that Mr. Mill if he had told you so when you first applied to him."

I could not help wishing that Miss Griddle would not say quite so much about the sacrifices she had made on my account. I could see, however, that she would give me no peace until she had her own way about the boys; and perhaps, after all, I thought, it might be as well for them, as they are still so young.

"Who is to teach them at home?" I asked, after a pause.

"Why not have a governess?"

"A governess! No, that won't do; neither for them nor for me!"

"Well, perhaps not," said Miss Griddle, reflectively.

"A tutor, then."

"You could not get a tutor out here, we are too far from town; unless you mean him to live in the house."

"Yes, of course, a resident tutor; some young man of good abilities, who has been at the university, and who would teach them under my direction, as Mr. Meek, the curate, used to do in my establishment."

"I could not agree to that. I am a business man, and my boys will go into business. I don't want them to learn nothing but Latin and Greek."

"Well, then," said Miss Griddle, "let them have a foreigner. Modern languages will be useful in business. Some of those foreigners are very clever, and can teach almost anything. The dear boys will pick up continental languages almost without knowing it, and I will take charge of the English myself. I have, as you know, instructed boys of fifteen by sixteen years of age, and with the help of a tutor could conduct my nephews' education to a finish."

I had often seen and pitied Miss Griddle's senior pupils taking a walk hand-in-hand, with comforters round their necks, and a string of little children following them; reedy, pale-faced youths they were, of weak health apparently, and not very strong minds; that would account for their having uniformly failed to justify Miss Griddle's expectations when they left her fostering care for the rougher climate of a public school. I consented, however, for the sake of peace, to put an advertisement in the "Times" for a tutor, hoping that there would be no reply to it, or none that would be worth noticing. I drew one up as follows:

"Tutor wanted to teach two boys. A German preferred. Fair stipend, with board and lodging. Apply, etc., etc."

Miss Griddle made a fair copy of it in the following terms:

A private tutor is required to instruct two young gentlemen in continental languages and other branches. A foreigner, with some knowledge of English, would be preferred. An adequate stipend is offered, with board and residence. Address, etc., etc."

On the evening of that same day which "gave our advertisement to the world through the medium of the 'Times,'" as Miss Griddle expressed it, the postman, after knocking at the door, "rang also," having more letters to deliver than he could by any means thrust into the letter-box. Some of them were very large, containing pamphlets or books; others were stuffed with testimonials, *cartes-de-visite*, etc., which it was requested might be returned as quickly as possible, the applicants hoping, I suppose, by that means to secure an answer of some sort or other to their letters. I saw at once that there was an evening's work before me, and my sister-in-law began at once to open the letters and to "peruse" them with much apparent gusto; but my heart failed me as I thought of what to-morrow, and to-morrow, and to-morrow would bring forth; these twenty-three letters spread out upon the sideboard were probably but as the first drops of a thunder-shower; and I foresaw that there was a bad time coming, and that my Christmas holiday was likely to be spoilt.

"Be very careful," I said to Miss Griddle, "not to get the letters mixed together; keep all the testimonials separate, and in their proper envelopes."

"Of course," she replied; and when, after a short absence from the room, I returned, I found that she had literally followed my directions, which, alas! had not been sufficiently precise for the occasion. The testimonials in their envelopes were laid in one row, the letters and pamphlets in a second, and the *cartes-de-visite* in a third. How these last were ever to be identified and returned to their originals was

to me a puzzle; but Miss Griddle maintained that she knew where they belonged, and I could only leave it to her to manage. Meantime we set to work upon the letters.

The first taken in hand was from a native of Ireland, probably a Home Ruler; he "considered himself a foreigner," he said; "and perceiving from our advertisement that some knowledge of English was required, he begged, etc." We sorted his testimonials at once. The second was from a Frenchman. He "had spent some time lately in Germany, and could speak the language, he could also teach drilling." Peace had lately been signed at Paris, and the writer of this letter had no doubt spent his time in Germany under a painful necessity, and not in intellectual pursuits. The third gave no direct information on the question of nationality, and was mysteriously signed E. G. Taking his letter as a specimen of his qualifications, as the initials seemed to suggest, we could only conclude that he knew very little of English, though that was evidently his vernacular. He was partial to the letter "e," and wrote "tewter," and "pewpels," etc.

To make a long story short, there were only three applications that called for any serious consideration; and in reply to the likeliest of these I wrote a letter the same evening, addressing it to Dr. Krauss, care of N. Bibo, Esq., Mile End Road. Dr. Krauss's testimonials were looked over several times, and appeared to be very satisfactory; they were rather old, to be sure, and smelt strongly of tobacco; but all foreigners smoke; and six out of the seven were written in German, and could not quite make them out; but they appeared to be signed by certain professors and doctors of the University of Giessen, which was satisfactory so far; and such a thorough foreigner, Miss Griddle said, must teach the dear boys continental languages; they would become complete polyglots. Then, again, reference was permitted to N. Bibo, Esq., if we should think it worth while to trouble him; and Dr. Krauss's photograph (Miss Griddle said it was his) was decidedly prepossessing. A man of about thirty years of age he seemed to be, with a fine broad forehead and a handsome bushy beard. We placed it on the chimney-piece, and forgot to remove it next day when Dr. Krauss himself entered the room at the appointed hour.

We did not know that it was the doctor, however, until he announced himself a second time, for he was not at all like the portrait. He had no beard, and not much forehead; his cheeks also were quite smooth, and even the eyebrows were imperfectly developed; his hair was long, limp and yellow, and in the respect matched his complexion; he appeared to be about eighteen years of age, but assured us that he was much older; and his spectacles, which he never removed, gave him a certain appearance of earnestness, if not of wisdom; he was a Doctor of Philosophy, he told us; his dialect was pure, the "hochest Deutsch;" he knew French "a great," and could speak it like a foreigner, "but did not price it very." English he had studied "a tall while;" he knew also "Hebrew, Greek, Latin, military tactics—what not?" He could teach them all, and would come "for a week or a moon to prove how we liked."

Miss Griddle asked him a great many questions, which he answered with extreme politeness, and as he was accommodating as to times and terms, it was agreed that he should come on trial at all events, and enter upon his duties at once.

"You must be particular to ground your pupils thoroughly," Miss Griddle said, when all this was settled.

"So!" he answered, looking a little perplexed.

"I shall grind them? How?"

My sister-in-law explained.

"You are not at all like your portrait," she remarked in the next place.

"You not like it? Not like my portrait? I am sorry," he answered, drawing himself up.

"I mean that there is not much resemblance," she said, showing him the photograph.

"But, madam, how you mean? That is not of mine;" and taking out his pocket-book, he produced a fac-simile of himself, spectacles and all. It was evident that we had sent his carte to the wrong person, who would, no doubt, be disgusted at receiving it in exchange for his own grave and bearded physiognomy.

I need not speak at length of the troubles, vexations and expense to which we were subjected for many days and weeks as a result of our advertisement. Testimonials as well as photographs had been mislaid, and I was threatened with legal proceedings and received many unpleasant visits in consequence. Wild-looking men from all parts of Europe forced their way into my study and insisted on being provided with a situation "or an equivalent." One of them, a Pole, had a sword-stick, and wanted to fight me in the back garden; another sent me a copy of a paragraph which he threatened to insert in the daily papers, warning every one to avoid me as an impostor. I was obliged to fee the policemen to keep an eye upon my premises and to protect me from annoyance.

In the meantime Dr. Krauss arrived and entered upon his duties. He seemed to be an amiable but not very strong-minded young man. He had learnt his English without a master, and afforded us some amusement by his misconceptions and misconstruction of our language, but we were obliged to be very careful, as he was sensitive and touchy, and always ready to fancy that we were laughing at him. Miss Griddle had said a great deal to the two boys about politeness, warning them never to indulge in ridicule, etc., which I am sure was quite unnecessary, as their own good feeling would have taught them that; but their aunt never failed to look at them and frown whenever anything absurd was said, and that was almost sufficient to upset their gravity. The following may serve as a specimen of

the little misunderstandings which arose almost daily.

"I do not like sheep's club," Dr. Krauss remarks, at dinner time, eyeing a leg of mutton which I am about to carve; "I like better cow-flesh."

"We call it beef," says Miss Grittle, urbane; "but this is veal before me. May I send you some?"

"VEAL," she repeats, in a much louder key, seeing that he looks perplexed.

"Wheel? Ah, yes, because it is round!"

It was a fillet.

"No!" shouts Miss Grittle; "VEAL is the name of it."

"Weal! I can hear you. I am not taub. But it is odd; the French call it 'woe.' 'Weal' is a better name for it as 'woe,' because it is goat."

All this time Tom, with Miss Grittle's eye upon him, keeps up a constant coughing behind his pocket-handkerchief.

"You have *schnaufen*," says Dr. Krauss, looking at him suspiciously; "you have a great cow in your trout."

Tom can stand it no longer, but bolts out of the room, uttering a little squeak as he slams the door, and George, who has been looking for something under the table, runs after him without having found it.

"We say *cough*," Miss Grittle remarks, "not *cow*. You will excuse my mentioning it, I know."

"C-o-u-g-h. Cuff. Ah! so then b-o-u-g-h is boff; and t-b-o-u-g-h thoff."

Miss Grittle demurs to this, and in her effort to ground the doctor in the principles of English pronunciation, gets into such a state of confusion that he takes it into his head that she is laughing at him.

"You mock yourself of me!" he cries, and leaves the room in a tantrum, and my poor sister-in-law is so vexed at being thought capable of such rudeness that I find it very difficult to pacify her.

Dr. Krauss was stiff and formal with us after such scenes, and the poor boys had rather a bad time. When he had been with us about a fortnight he told me that he had resolved to give his pupils some instruction in the art of poetry; prose, he said, was nothing; everybody "could prose;" they must begin to write verse.

To satisfy me of his own personal ability in this "branch," he showed me a translation into English of one of Schiller's ballads. "I have translated it," he said, "from the originals. Read you it, and fear not to tell me your meaning [opinion] of it."

My knowledge of German is not extensive, but I could see that he had treated the ballad conscientiously; the translation was literal—line for line, and nearly word for word; it must have cost him a great deal of labor with his dictionary, though he had been unfortunate in his choice of equivalents; but that, he would have said, was the fault of our language.

THE HANDSHOE OF SCHILLER

Overset into English, after the spirits and measures of the authentic; by Dr. Heinrich Krauss, Ph.D., and so wider.

Before his Lion-Garden,
The Beast-Fight taking Part in,
Sits good King Frank;
And beside him the Princes of Crown,
And from Balcony high, spying down,
The Dames in a handsome Rank.

And as he winks with his Finger
The Gate is thrown up by a Springer;
And herein, his considerate Foots.
A Lion puts;
And eyes him, proud,
The Crowd.
And, as he stares,
He rattles his Hairs;
Then spreads his Limb,
And lays down him.

And the King winks more.
Then opens him, speedy,
A second Door;
And out runs, greedy,
With savage Hop,
A Tiger before.
As he the Lion at-seeth,
He pauses a Stop,
Wags his End,
In threatening Bend,
And mills his Teeth;
Then sticks his Eye on
The gruesome Lion,
Unfar off comes,
Fiercely hums,
And lays down him.

And the King winks more;
And from another out-done Door
Two Leopards are spitted forth.
They rush, with fight-eager Haste
On the Tiger Beast.
He strokes them with his grim-rude Pats;
And the Lion, with Roar,
Elevates him up, and waits for War.
And round, in Loop,
A blood-eager Group,
Sit waiting all those grim-faced Cats.

Then falls, from the Balcony Stand,
A Handshoe, from lady-like Hand;
And comes, both the Tiger and Lion,
Pretty nigh on.

And to brave Sir Delorges, in mocking Way,
The fair Miss Kunigunde turns her Eye;
"Mr. Sir, if you love me so warm," she say,
"And are of the meaning to win me or die,
So heave me the Handshoe up."

And the Sir, who knows not Fear,
Jumps down without any Linger—
A graceful Bound!
And, from the perilous Ground,
Heaves up the Handshoe with valiant Finger.

And high astout, and sore afraid is
Every Sir, and all the Ladies.
But coolly he brings her the Handshoe-Glove,
(While his Praise is applauded from every neck)
And with tenderish Look of Love,
To fill him with blissful Expect.
Receives him fair Miss Kunigunde.
And he throws her the Handshoe in at her Face;
And "Miss!" he cries, "I want none of your Grace;"
And, in that Hour, quits her asunder.

"What you mean of that?" the doctor asked, after I had read his poem.
"It is a fine ballad," I replied, referring to the original rather than to the over-setting; "but I do not like the conclusion. It is contrary to our ideas of chivalry, or even of gentlemanly behaviour, for a knight to throw his glove in a lady's face."

"Ah!" he said, "our Schiller also, perhaps, thought so. In his first utterance of the poem he wrote,
"Und der Ritter sich tief verbeugend, spricht;"
but afterwards he altered it. I, too, can alter my upsetting, if you will." Then, after a moment's pause, he said,—

"And the knight bowed low before her face.
How like you that?"

I told him it was a great improvement.
"Then you will take the mess (Ms.) to your 'Times,' and say the editor shall print it. Your 'Times' is the pigsticker paper in the world; I will send him a mess every week. See you the editor face to face and tell him so."

I could not persuade Dr. Krauss that there was no "Poet's Corner" in the "Times," and he was again very much offended with me because I declined to execute his commission. He kept us at a distance for several days, and took solitary walks, coming in late for meals, and causing us all a great deal of annoyance. At length my sister-in-law came to me one morning with an air of great concern, and said, "Oh, Mr. Mellow, my dear John! We must put an end to this."

"Certainly," I said, "the sooner the better. It was very foolish of us."
"You don't know what I mean," she answered, sharply. "You don't know what has happened."

I waited meekly for an explanation.
"Dr. Krauss carries a loaded pistol about with him. I have often seen the knob of it in his waistcoat pocket, and thought it was his pipe, but Jane has just found it under his pillow. She almost fainted at the sight of it, and sent for me, very properly, because she dared not touch it."

"Oh, but you must be very careful," she exclaimed, "it might go off. Had you not better speak to Dr. Krauss? And yet I am almost afraid of him. He has been acting so strange lately, and does such odd things."

"All the more reason for speaking to him; but I will secure the pistol first."
Just at that moment I heard the doctor's footstep, and opening the door, saw him ascending the stairs, evidently going to his room to fetch his pistol. I called to him, and told him rather warmly of the impropriety of having such a weapon, and of the alarm which his carelessness in leaving it about had occasioned.

"Is it loaded?" I asked.
"Quite certainly," he replied. "What would be the use of it if it were not?"

"What use, then, do you intend to make of it?" I inquired, with some trepidation.
"That hangs upon conditions," he said; "it is for my protection here in this outer land."

I told him at once that I could not and would not allow him to keep such a weapon loaded in my house, and Miss Grittle exclaimed no less decidedly that it was "out of the question, and contrary to the rules of the establishment."

"You not allow!" he said, angrily. "How you not allow?"
"I must request you to draw the charge immediately," I said.

"Draw! That is *tirer*, pull, fire? Yes!" and setting his teeth together in great anger, he rushed up the stairs, while I followed him as quickly as I could. The next moment there was a loud report, and the room when I reached it was full of smoke, and the room when I reached it was full of smoke, and there was a hole in the ceiling. And—ah! what was that? A bump! A bump! cried my poor sister-in-law. "He has shot somebody!"

We rushed upstairs breathless. Sarah, the nurse, was prostrate on the floor in one corner of the room. The baby was alive, but holding its breath, and almost black in the face. I caught up but could not discover any wound. It had been sitting on the floor exactly over the spot which the bullet struck; if the board had been only a little thinner the consequences must have been fatal: as it was, there was a red place visible from the concussion, and a slight scratch, which might have been caused by a splinter. Of course the poor darling was terribly frightened. So was Sarah, who gave up warning immediately, and vowed she would go away "directly minute, while she could go alive."

By the time we had quieted the baby and recovered a little from the shock, a loud ringing was heard at the door-bell, and "two gentlemen" were announced. They were strangers, Jane said, and would not give their names. I went down to them with an anxious heart, expecting some fresh complication or annoyance about the missing testimonials. One of the strangers did not seem to be

altogether strange to me. I fancied I had seen his face before, but could not tell where. He was apparently about thirty years of age, with a broad forehead and a handsome bushy beard.

"I received from you, by post, some short time ago," he said, in tolerable English, though he was evidently a foreigner, "a *carte de-visite*; it was sent to me by mistake, instead of my own."

By this time I had recognized in my visitor the original of the portrait which we had erroneously supposed to be Dr. Krauss.

"I am very sorry," I said.
"Pray don't apologise," he answered; "it is of no consequence. This is the *carte* you sent me. Do you know anything of the original Dr. Krauss?"

I told him the doctor was an inmate of my house, devoutly hoping he was come to take him out of it.
"How fortunate," he replied.

I could not agree with him, and asked him why.
"We are in search of him," he said. "His friends are anxious about him. He left them and came over to England without their knowledge, being a little affected in his mind. The *carte* which you sent me happened to be seen by an agent who had been employed to trace him, and I was able to give him your address."

Poor Dr. Krauss was soon secured, and went away arm-in-arm with one of the strangers. The other, whose *carte* was still upon my chimney-piece, then turned to me, and said, "Now you will want a tutor for your sons. I am the gentleman whom you intended to engage; that is evident. I can stay with you now."

"No, I thank you," I exclaimed. "I have changed my plans. If I had met with you at first it might have been otherwise; but no—no, thank you!"

He took his leave quietly and sadly. I was sorry to dismiss him so, but I would have no more of private tutors. The boys went back to their school the very next morning, and though fond of their home, seemed very glad to go.

Miss Grittle shook her head about it. "It is a pity," she said; "I should have been glad of the opportunity of grounding them."
"There's the baby," I said; "you can ground him."

"Yes," she answered, brightening up; "I will." And she took him in hand immediately.
"He is a very clever child," she remarked to me, not long ago. "Would you believe it? he has never been known to sit upon the floor since that day; and if nurse puts him down for a moment, he jumps again as if he had been—"

"Shot! I don't wonder at it in the least," I answered.

Dish Washing and Other Things.
BY KESIAH SKELTON.

To keep clean, is the key to success. First the glass and then the silver. Into warm water put five drops of ammonia, twirl the glass in this and then polish dry with a crash glass-wiper. A stiff bristle brush and flannel wiping cloth are needed for the silver; brush the engraved parts briskly and polish dry with the flannel. The butter-dish cover, castor, and cake-basket need not go through this ammonia bath more than twice a week.

If the silver is brushed in this way daily, the engraved lines will not look as if done in India ink, and it will not need each week a forenoon's hard, dirty labor with silver soap, whitening and chamois polishing.

Ammonia is a standard kitchen necessity. Habit makes all things easy, and this plan once adopted will never be abandoned. Work well done each day makes the whole easier, than to slight daily and then devote hours to one of Dinah's "clarify" rubs.

After the silver is put away, add more warm water to that already in the pan, and wash and wipe on a dry cotton cloth or a crash towel, the cups, saucers, milk-pitcher, and the cleanest of the various odd dishes; next take the plates and if greasy add some fine soap, rinse well and dry quickly. One should have plenty of wiping cloths or tea towels.

Where one keeps servants the cooking vessels and iron-ware are usually done by themselves; but working house-keepers may take another dish cloth and use this same water to clean their kettles. The towels and cloths used about the table dishes should not be used for these. Dish cloths and towels should be washed out in a good suds, rinsed and hung to dry after use.

If one has a dining-room and yet has no servants, the tablecloth should be carefully brushed and the proper dishes for the next meal should be placed thereon, soon as washed and dried. A cover should be thrown over the table after it is laid, to protect it from dust in all seasons, and from flies in their season. Two breadths of thin cotton cloth madelike a sheet is the best; mosquito netting is no protection from the good house-wife's enemy—dust.—[Cottage Hearth.]

Minnie May's Department.

MY DEAR NIECES.—A beautiful behavior is the finest of the fine arts. It is better than a fine form and beautiful features. Rudeness and gruffness will bar doors and shut hearts against us, while kindness and gentle behavior are acceptable everywhere.

A person's manner is indicative of his tastes and temper, as well as the society to which he is accustomed, and must come from the heart or it will make no lasting impression, for no amount of polish will disguise the truth.

The cheapest of all commodities is politeness, but it goes a long way. Dr. Johnson says: "A man has no more right to say an uncivil thing than to act one; no more right to say a rude thing to another, than to knock him down."

It is needful, then, for parents and the older members of every household to set a good example to the children, to whom *example* is much better than *precept*, which fact is too easily forgotten, or we would order our actions and our lives as we would have them order theirs. The eyes of the child "are ever on the parents, not to criticise, not to censure or blame, but to try and imitate."

Purity and excellence of character are far nobler than great power, intellect or genius. Without sterling goodness, all the grace, elegance and art in the world will fail to save or elevate any individual. Let us look to ourselves, then, for the children are more apt to grow up—acting, not as we have told them to act, but the same as they have seen us act.

MINNIE MAY.

Work Basket.

A SUMMER CLOUD may be crocheted of Shetland floss wool worked in shell pattern. A recent specimen intended for seaside wear was of a light blue, nearly three yards long and about two feet wide, and was edged all round with a plain row of scallops, each containing nine trebles. A chain of 361 stitches was first made. This allowed for sixty shells; each shell formed of six trebles. The second row was begun by a double crochet (D. C.) exactly in the middle of the first shell of the first row. It was ended by fastening the last shell of the second row in the middle of the last shell of first row, and finishing with three chain. The third row was begun by making 3 chains precisely in the same hole in which the second row started, and working in the same spot a shell of six trebles, finishing it with a D. C. on the top of the last shell of the second row. At the end of this row, after making a D. C. on the top of the last shell of the second row, another shell was worked in the opening at the base of the 3rd chain, and was finished with a D. C. on top of this three chain. The second and third rows were repeated throughout. The cloud was worked with a hook, about No. 8, and took twelve ounces of the floss. A fair worker stitching steadily at it should do it readily in two days. Using only odds and ends of time it would take a week or a fortnight.

PLASTER FIGURES IMITATING MARBLE.—There are two methods by which plaster figures may be converted into very excellent imitations of marble, both very simple.

1st. Into a quart of soft water put one ounce

of white soap; let the soap be grated and dissolved, and the water must be at least milk-warm, using also a glazed vessel rather than one of metal. Add to this mixture one ounce of white beeswax cut into very thin scales or slices, and by heating it slightly the whole will become well incorporated. Now take the figure, and having made sure that it is perfectly clean and dry, suspend it by a twine string, and then dip it all over in the compound, which will probably be absorbed immediately. In a few minutes stir the mixture, and dip a second time; this will generally be sufficient to coat it well. Put it away in a clean place where it can dry and harden for a week or longer, and then rub it in every part with a soft rag until it is sufficiently polished.

2nd. Prepare a wash by soaking a small quantity of plaster of Paris in a strong solution of alum; bake this in an oven, and then grind it to a fine powder. When you are ready to use it, mix a little of this with water, and spread it evenly and quickly over the surface of your subject. This should be a thin wash, and will set like a coat of marble, taking a high polish. If one coat is not satisfactory, let another be given in like manner.—[Harper's Bazar.

PARLOR ORNAMENT.—An exchange says: "We saw, in the parlor of a friend, a very beautiful conceit. It is, of course, the fancy of a lady, and consists of the burr of a pine tree placed in a wine glass half full of water, and from between the different layers of the burr are shooting forth green blades—bright, beautiful, refreshing. For a little thing, we have seen nothing that so pleased us, by its beauty and novelty. And the secret is this: The burr was found dried and open; the different circles were sprinkled with grass seed, and it was placed in a wine glass with water in as above. In a few days the moisture and nourishment gave the burr life and health, the different circles closed and buried within themselves the grass seed, and a few days more gave to the seed also life, sprout and growth, and now a pyramid of living green, beautifully relieved by the sombre hue of the burr, is the result—as pretty and novel a parlor ornament as we have for a long while seen. We do not know whether the idea was original with the lady, but we do know that its success is beautiful."

PRETTY HOME-MADE NAPKINS.—Get two and a quarter yards of white drilling, or any kind of white goods preferred, and cut a dozen napkins, making them large enough so that a margin can be raveled for fringe. Hunt a pretty corner braiding pattern from some old magazine, get some tough smooth paper, cut it square, the size you want the napkins, place it on a table with a folded cloth under it, place the braiding pattern in one corner of the square paper, take a pin and punch holes all along the lines of the pattern, through both papers. Do the same at the other three corners. For a center, take a pretty leaf from some shrub, lay it on the center of the paper, and trace all round the edges of it with the pin, and as many of the ribs and veins as you like. You will now have a pattern which I will tell you how to use in the absence of a knowledge of stamping.

If you have no chrome yellow or any kind of powder, take a soft burned brick and pound a piece of it to a fine powder. Place the pattern

on the napkin, take a woolen cloth, dip in the powder, and rub over the pin-holes, having the rough side of them up. After all have been carefully rubbed over, lift the paper, and the pattern will be found on the napkin with the powder. Now take a lead pencil and follow the lines, making a permanent line. Get ten cents' worth of red table linen, ravel the red threads and chain stitch the napkin, using the threads double. When done, ravel the edges of the napkins for fringe. If there is no old magazine available that contains a corner braiding pattern, you can make that of leaves also. Try them and see if they are not pretty. They need not cost more than thirty cents, not counting the time spent upon them, and after you have succeeded with them it will stimulate a desire to ornament many other articles. A vine with leaves and tendrils would be pretty, traced upon a blue flannel skirt of white yarn. Such work will develop a taste for drawing, and cultivate a love for copying from nature.

Light lap robes for babies' carriages are of linen scrim with borders of drawn-work and a scant ruffle of Irish point around the edges, or of Madras muslin, trimmed with a gathered frill to match. The latter is finished with deep scallops button holed with silk corresponding to the darker color in the Madras fabric.

SUMMER CURTAINS.—A very stylish, graceful design for sitting room or bedroom curtains recently originated in the New York Art Rooms, and full directions are given here for making a pair. The curtains are inexpensive, the full cost for two deep windows being about \$3.50. The materials required are two yards of cretonne, ten or twelve yards of cheese cloth and sufficient lace for finishing the front edges of the curtain and making an insertion across the top of each. Be careful in purchasing the cheese cloth to get a piece which is evenly woven, and without black threads. Scrim may be used instead of cheese cloth, if preferred, but it is more expensive. In buying the cretonne get two patterns which harmonize, buying one yard of each. Cut each yard in four pieces, lengthwise. Each curtain has two pieces at the top, with an insertion of lace in between. One curtain will only be described. Of each pattern of cretonne take one piece, stitch the lace insertion between them, turn down the edge, about an inch, of the one intended for the top of the curtain, and stitch the cheese cloth on the other piece with a pudding-bag seam. Make a hem twelve inches deep on the bottom of the curtain. The lace should be four inches wide.

Lay the lace flat on the right side of the curtain, an inch from the edge, with the straight edge of the lace toward the selvedge, and the pointed edge turning backward. Stitch it on, fold down the hem on the wrong side, and catch it fast with long stitches. Cut a V-shaped piece out of the lace at the lower corner of the curtain, seam the lace together, and sew it across the bottom of the curtain.

A pretty and useful rug can be made of a piece of stair carpet. Put fringe on each end. Often when the stair carpet is so much worn that a new one is necessary there will be a yard or more that is good enough to use for the rug. If you choose you can put the fringe all around it.

Answers to Enquirers.

SUSIE W.—1. Naphtha is very good for cleaning gloves of any shade; they may be washed in it and then hung out in the air to dry. 2. A few drops of ammonia in the bathing water softens it and removes any grease from the skin. It does not agree with all skins, which must be proved by personal experience. 3. Make up your silver-gray cashmere with velvet the same color or a shade darker, and outline the zouave jacket with small silvered wood beads.

INNOCENT NELL.—Linen doilies are used especially under finger-boards or any kind of glass dish, but have no other positive use.

W. R. T.—1. Cleanse your willow chair with borax. 2. A flannel bag is the best for straining jellies. In putting away jellies, cut a piece of plain white paper and lay flat upon the jelly; then put on the cover and it will keep for years.

MRS. T. B.—White zinc is said to do stamping on all dark goods more satisfactorily than any other preparation, and blue powder will do all other kinds. Clean off the pattern at once after using with paint, with a cloth wet in gasoline or benzine.

INQUIRER.—Most of the ebony furniture seen at the present time is of common wood stained in imitation of ebony. The real article is the centre part of a palm tree which grows in India, Madagascar, Ceylon and the Mauritius. The outside wood is soft and is eaten off by insects, leaving the inside black part untouched. It is a hard wood, and takes a very fine polish.

SOPHIA.—1. Do not put your pillows or feather beds into the sun to air, but in a shady place with a clear dry wind blowing over them. If it is cloudy, but yet not damp, and the wind is strong, all the better. This will keep well-cured feathers always sweet. Badly-cured feathers cannot be made sweet. A hot sun on the best of feathers, it is said, will turn them rancid. 2. A small lump of charcoal placed in a kettle with boiling onions, cabbage or turnips, is a good deodorizer.

Recipes.

GREEN TOMATO SAUCE.—Two gallons peeled and sliced tomatoes; put 5 tablespoons mustard, 3 gills mustard seed, 3 tablespoons black pepper, 2 tablespoons allspice, 2 tablespoons cloves, 1 gill salt, 1 quart chopped onions, 2 or 3 pints of brown sugar, 3 pints vinegar. Boil all well together to the consistency of marmalade; be careful not to burn.

CHICKEN SALAD.—Boil three chickens until tender, salting to taste; when cold cut in small pieces and add twice the quantity of celery cut up with a knife, but not chopped, and four cold boiled eggs sliced and thoroughly mixed through the other ingredients. For dressing put on the stove a sauce-pan with one pint of vinegar, and butter size of an egg; beat two or three eggs with two tablespoons mustard, one of black pepper, two of sugar, and a teaspoon salt, and when thoroughly beaten together pour slowly into the vinegar until it thickens. Be careful not to cook too long or the egg will curdle. Remove, and when cold pour over salad. This may be prepared the day before, adding the dressing just before

using. Add lemon juice to improve the flavor, and garnish the top with slices of lemon.

BAKED SPRING CHICKEN.—Cut each of four spring chickens into seven or nine pieces, wash thoroughly and quickly, and put in a colander to drain; put a half tablespoon each of lard and butter into a dripping pan, lay in the pieces and add half a pint of hot water; let steam and bake half an hour, turn, taking care that they get only to a light brown, and just before taking up add salt and pepper to taste. When done take out in a dish and keep hot. To make the gravy, add a half pint or more of water, set the dripping pan on the stove, and add one tablespoon flour mixed with half cup of cream or milk, stirring slowly, adding a little of the mixture at a time. Let cook thoroughly, stirring constantly to prevent burning, and to make the gravy nice and smooth; season more if necessary.

STRAWBERRY PICKLES.—Place strawberries in bottom of jar, add a layer of cinnamon and cloves, then berries and so on; pour on it a syrup made of two coffee cups cider vinegar, and three pints sugar, boiled about five minutes; let stand twenty-four hours, pour off syrup, boil, pour over berries, and let stand as before; then boil berries and syrup slowly for twenty-five minutes, put in jars and cover. The above is for six quarts of berries. Pine apples can be made in the same way, allowing six and a half pounds of fruit to above proportions.

RICE SNOW BALLS.—Boil one pint rice until soft in two quarts water with a teaspoon of salt, put in small cups and when perfectly cold place in a dish. Make a boiled custard of the yolks of three eggs, one pint of sweet milk and one teaspoon corn starch; flavor with lemon. When cold pour over the rice balls half an hour before serving. This is a very simple but nice dessert.

RAISED MUFFINS.—One cup of milk; one-fourth cake of compressed yeast dissolved in one half cup of warm water (or one-fourth cupful of home-made yeast), one tablespoon melted butter; three cups of flour; one egg. Mode. Beat egg, add pinch of salt, butter and yeast to the milk. Stir gradually into the flour. Beat until the batter is light and smooth. Mix it up over night. In the morning beat it up. Fill buttered muffin-pans two-thirds to the top with the batter, and let them stand in a warm place until the batter has risen to the brim. Bake half-an-hour.

LEMON ICE.—Take 1 lb. of loaf sugar and rub the lumps upon the rinds of the six lemons to obtain the oil. Squeeze the juice upon the sugar and let stand until pretty well dissolved. Beat it well. Add juice of an orange and 3 pints of water. Beat stiff whites of 2 or 4 eggs and beat in. Put into a freezer or closely covered tin bucket; put chipped ice in the bottom of a wooden bucket or tub, set in the freezer and pack ice around it. Turn the freezer briskly for a while; open, scrape the side, turn again, and leave, covering with a blanket or old carpet.

VEAL LOAF.—Roast 3 lbs. veal; when cold chop fine with ½ lb. fat pork. Add 1 cup cracker crumbs, teaspoonful of pepper, salt to taste, yolks of 2 eggs. Mold into a loaf; bake 1½ hours; haste continually with the gravy made when baking the veal. Let stand in pan until cold. Turn out. Cut in slices.

QUEEN OF PUDDINGS.—One pint of fine bread crumbs, a piece of butter the size of an egg rubbed in, a teaspoonful of fine sifted loaf sugar, the rind of one lemon grated, yolks of four eggs and a pint of milk. Mix these ingredients together in a pie-dish, and bake in a quick oven until well set, but be careful not to let the pudding get leathery; it will take only a short time. When cool, spread a layer of apricot or strawberry jam over the top. Whip the whites of the four eggs with a teaspoonful of sifted sugar, and either the juice of the lemon or a small teaspoonful of essence of lemon into a very stiff froth and throw lightly over, making it as rocky as possible, and piling it up higher in the center. Very slightly brown it by putting it into the oven for a few minutes, or passing a salamander over it.

CLEANING BLACK SILK.—The silk, says a writer in the *Queen*, must be perfectly brushed and wiped with a cloth, then laid flat on a smooth board or table and well sponged with hot coffee, thoroughly freed from sediment by being strained through muslin. The silk is sponged on the side intended to show, it is allowed to become partially dry, and then ironed on the wrong side. The coffee removes grease, and restores the brilliancy of silk, without giving it either the shiny appearance or crackly and papery stiffness obtained by beer or any other liquid.

A CHEAP HAMMOCK.—Take a piece of Manilla matting from two to three yards long and a yard and a half wide, bind or hem the ends firmly, then fasten each end to a piece of timber. These pieces should be five feet long, two inches thick, and should have holes bored about three inches apart the whole length. The matting is fastened by passing heavy twine from matting to hole, back and forth, really sewing the matting to the wood. For each end of the pieces of wood larger holes are bored, through which pass ropes to hang the hammock between two trees. This makes a cheap, comfortable and safe hammock. Being hung from four corners, there is no danger of rolling out, and half-a-dozen children can swing in it at pleasure.

ANTS.—There is one way, and only one, of ridding the house, closets, cake-pails, sugar-barrels, &c., of red ants or black, big or little. When you find them on your premises, get ready tea-kettles of boiling water, plenty of it. Go out of doors, look carefully all over the paths and walks, if in the country; if in the city, look over the flagging in the areas, both front and back. Scald every little hole you see with a mound of little earth pellets around it; it is the home of the ant. On a sunny day these pellets are brought out of the nests to dry. When the weather is damp, or soon will be, you will see nothing but little holes in the ground. The ants are all "at home." Scald them. If your cellar is not cemented, hunt the pest there; very likely you will find lots of them. When the work here recommended has been done, clean out your closets, sugar-pails, everything in the closets; rub fine salt on the shelves, lay clean yellow paper on them, and put back dishes. In the cracks of the floor and around the surface of said closets should be placed ground red pepper. Ants will not come again for a long time. When they again make a raid, as they may in a few months, give them a second scalding.—ONE WHO KNOWS.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—Holidays will soon be commencing, and with them many enjoyments for our hard-working boys and girls—picnics, garden parties, and many other harmless pleasures as a reward for diligent study and patient perseverance, and will be enjoyed with much more zest after having been earned by self-denial and good conduct. I will now give you an amusing story I heard the other day, but hope none of my young nephews will venture to give it a trial:

Once upon a time a little boy observed his sister curling her hair around a hot poker, and when he saw her golden ringlets twist up like Georgia pine shavings, what he considered an over-bright idea struck him.

"The folks next door say their pug is better than our bull-dog, because its tail curls over its back so tight. I'll just curl the bull-dog's tail now, and run him up and down in front of their house, and make them feel mean."

So he called the dog, and heated a poker until it was almost red, in order to get a good curl. Grasping the dog's tail, he quickly wound it around the poker; but it was not wound around the poker half as quickly as the dog was wound around the boy. He picked him up by the small of his back, and shook him out of his clothes, and left nothing on him but his freckles and a look of terror. The boy was then obliged to lie in bed until his father could afford to get him a new suit of clothes, which was a month later.

The moral of this little fable teaches us two things; first, that bright, original ideas are dangerous in the hands of people who don't know how to use them, and, second, that when we experiment with a bull-dog, we should muzzle him before beginning.

You will all remember that prizes were to be given at the end of six months instead as formerly at the end of the year only. I have now summed them all up and find they stand as follows, for best original puzzles. 1st, Edward A. Fairbrother, Copenhagen, Ont.; 2nd, Ada Armand, Pakenham, Ont.; 3rd, Henry Reeve, Highland Creek, Ont.; 4th, Lizzie C. Watt, Kincardine, Ont. Best answers: 1st Henry Reeve; 2nd, E. A. Fairbrother; 3rd, R. J. Risk, Chesterfield, Ont.; 4th, Becca Lowry. I shall again offer prizes to be awarded at the 1st of January for best original puzzles:—1st, \$1.50; 2nd, \$1.00; 3rd, 75c; 4th, 50c, and for the most correct answers to puzzles, 1st, \$1.00; 2nd, 75c; 3rd, 50c; 4th, 25c. All puzzles and answers must be sent in by the 25th of each month.

Now I hope to hear from a great many new members and all the old ones next month. Hoping you will all enjoy the holidays and make the best of your young days.

UNCLE TOM.

Puzzles.

1—NUMERICAL ENIGMA.

My whole is composed of 26 letters, and is being held at 11, 10, 12, 8, 12, 26, and 1, 2, 3, 4, 5, and 9, 6, 7, 15, 8, 5, both have 17, 18, 19, 20, 21, 22, 23, there, and all Canadians are taking an interest in my whole. HENRY REEVE.

2—HALF SQUARE.

1—A wall for defence. 2—A mountain in Turkey in Asia. 3—Furious. 4—Parched up with heat. 5—A soft saddle or bolster. 6—And (FR). 7—A consonant. FAIR BROTHER.

3—TREE PUZZLE.

- 1—A consonant.
2—To strike.
3—To crawl.
4—Common.
5—To place.
6—To bet.
7—Every one.
8—A kind of grain.
9—Likely.
10—For what reason.
11—A morsel.
12—To rot.
13—To disagree.
Centrals read downwards, will name an ancient style of writing. HENRY REEVE.

4—ILLUSTRATED REBUS.



5—DROP VOWEL PUZZLE.

Think t r l - - n d t h - - g h t s h - l t h - w r l d ' s
f - m - n - f - d s p - h t r i - y n d - c h w - r - d - f - t h - n -
Sh - l l b - - f - r - - t - f - l - s - - d
L - v - t r - l - n - d - t h - l - f - s h - l l b -
- g r - - t - n - d - n - b - l - c - r - - d. ADA ARMAND.

6—NUMERICAL ENIGMA.

My 10, 6, 5, 9, is to wither.
My 12, 8, 7, 9, 11, is a chemical fluid.
My 5, 4, 11, 7, is a weapon.
My 16, 11, 13, is regard.
My 8, 2, 7, 9, is to abhor.
Of loyal hearts from far and wide,
Fair total, thou art still the pride. ADA ARMAND.

7—PROPER DIAMOND.

- 1—A consonant.
2—A female deer.
3—An evergreen tree.
4—Fault.
5—A figure having twelve sides.
6—A sort of pain in the head.
7—Without error.
8—A part of the body.
9—A consonant. FAIR BROTHER.

8—DOUBLE LETTER ENIGMA.

In "Beauty," but not in "Looks."
In "Papers," but not in "Books."
In "Sell," but not in "Buy."
In "Laughter," but not in "Cry."
Read down, my first is very mean;
In "Webster" it can be plainly seen;
My last in shape it should be round;
It often falls upon the ground.
My whole is counted very fine,
When played by a "Professional nine,"
And when played by little boys,
They sometimes make a lot of noise. FAIR BROTHER.

9—POETICAL PUZZLE.

"Silently, one by one, in the infinite meadows of heaven,
Blossomed the lovely stars, the forget-me-nots of the angels."
"The orb'd maiden with white fire laden,
Whom mortals call the moon,
Glides glimmering o'er my fleece-like floor,
By the midnight breezes strewn."
"Each purple peak, each flinty spire,
Was bathed in floods of living fire."
These quotations are taken from three popular poets. Who are they? BEATRICE GUNN.

10—ANAGRAM.

Ot nkwo, teseme nda velo, nad hne ot rapt,
Kneas pu sfiel leat ot naym a lefegni rehta.

Answers to June Puzzles.

- 1—Be zealous in a proper cause,
The way thy heart directs thee;
Let not but good thy will perceive,
Crush all that ill affects thee.
2—Advocate.
3—Senselessness.
4—Handsome.
7—

F
MAD
MIRTH
MERMAID
MAGNETISM
MURMURINGLY
MIDDLESTONITE
FARMER'S ADVOCATE
AGGRANDIZABLE
ABBREVIATED
AUTHORITY
ABACIST
ALARM
ATE
E

- 5— V
BET
BONUS
VENISON
TUSSELE
SOLVE
NEED
8—Acrobat.
9—He who fights and runs away,
May live to fight another day.

Names of those who have Sent Correct Answers to June Puzzles.

Chas. E. Smith, Ada Armand, Emma Dennee, Minnie E. Brown, May Monk, Lillie Stovin, Henry Beeve, Robt. J. Risk, Frank L. Milner, Becca Lowry, E. Wilson, Mary Morrison, David A. Moore, Maggie Whiteford, Lizzie C. Watt, Minnie Carpenter, Geo. L. Gustin, Spencer Nightingale, Wm. E. McLean, Fair Brother.

IF.

If men cared less for wealth and fame,
And less for battle-field and glory;
If writ in human hearts, a name
Seemed better than a song and story;
If men, instead of nursing pride,
Would learn to hate it and abhor it;
If more relied on love to guide,
The world would be the better for it.

If men dealt less in stocks and lands,
And more in bonds and deeds fraternal,
If Love's work had more willing hands
To link this world to the supernal;
If men stored up Love's oil and wine,
And on bruised human souls would pour it;
If "yours" and "mine" would once combine,
The world would be the better for it.

If more would act the play of Life,
And fewer spoil it in rehearsal;
If Bigotry would sheath its knife
Till good became more universal;
If Custom, gray with ages grown,
Had fewer blind men to adore it;
If talent shown for Truth alone,
The world would be the better for it.

If men were wise in little things,
Affecting less in all their dealings;
If hearts had fewer rusted strings
To isolate their kindly feelings;
If men, when Wrong beats down the Right,
Would strike together and restore it;
If Right made Might in every fight,
The world would be the better for it.

Courage in Every-day Life.

Have the courage to discharge a debt while you have the money in your pocket.

Have the courage to do without that you do not need, however much your eyes may covet it.

Have the courage to make a will and a just one.

Have the courage to tell a man why you do not lend him your money.

Have the courage to cut the most agreeable acquaintance you have when convinced he lacks principle. "A friend should bear with a friend's infirmities," but not with his vices.

Pearls of Thought.

Plow deep while sluggards sleep.
Take care of your character; your reputation will take care of itself.

Whatever you dislike in another person take care to correct in yourself.

Men love to hear of their power, but have an extreme disrelish to be told of their duty.

Let friendship gently creep to a height; if it rush to it, it may soon run itself out of breath.

When a person has only learned how to read, and not what to read, he is in great peril.

A good word is an easy obligation; but not to speak ill requires only our silence, which costs us nothing.

The wise prove, and the foolish confess, by their conduct, that a life of employment is the only life worth leading.

That which is good to be done cannot be done too soon; and if it is neglected to be done early, it will frequently happen that it will not be done at all.

The Lemurs in the Berlin Zoological Garden.

The Romans used to call the souls of the departed "Lemures," but they respected the good ones as household gods, or "Lares," while they feared the bad ones as restless, malicious ghosts and hobgoblins that wandered about in the night.

Science designates the lemur as the first family of half-monkeys, or that group of animals that can be considered as a connecting

90 cm., of which 35 to 40 is the body, and the rest is the tail.

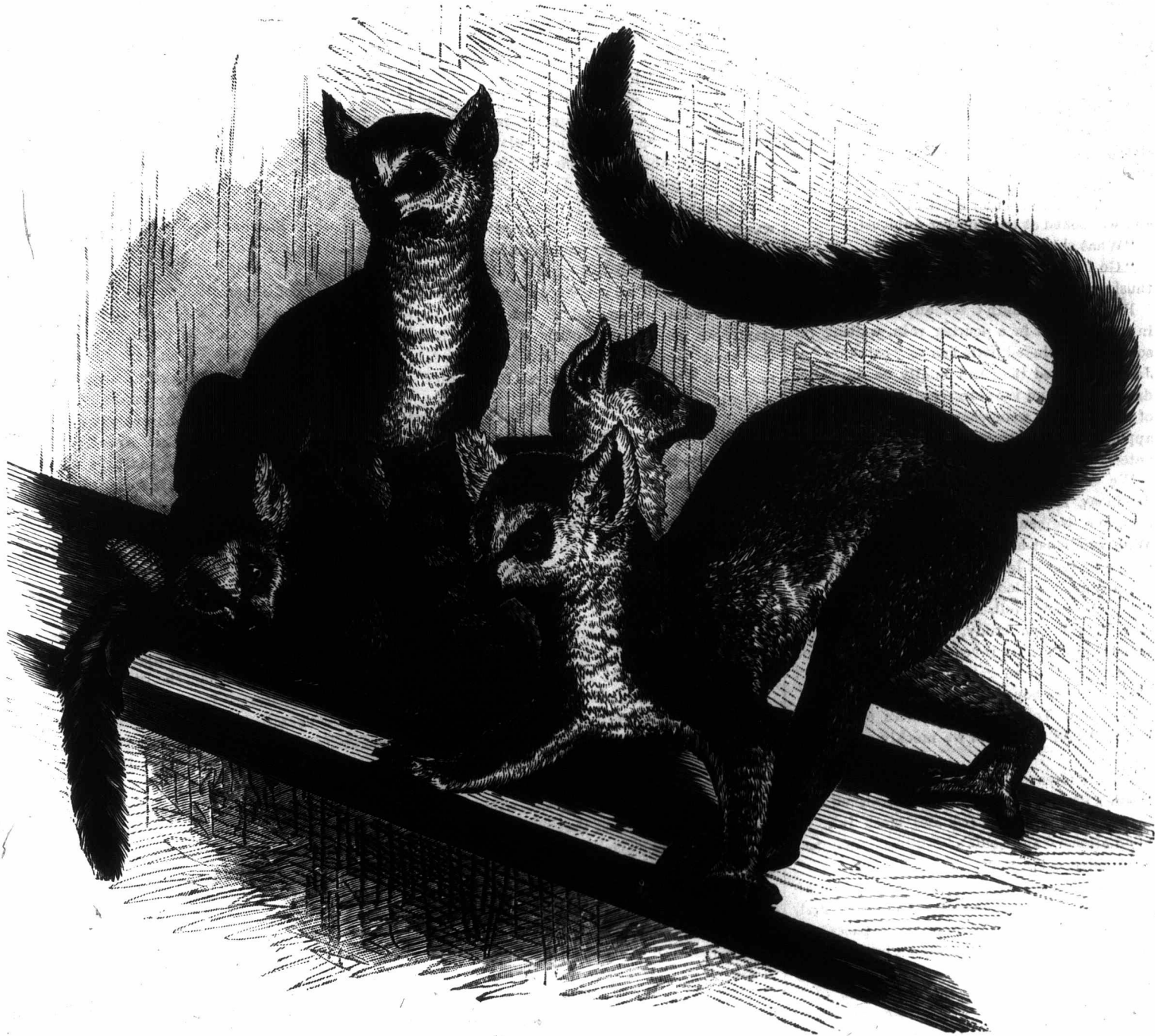
The color of the fine wooly fur on the back is a grayish brown, with a tinge of red here and there, while the face, ears and front part of neck are almost white; the only coal black coloring is seen around the eyes, on the nose, and on the forehead.

The black and white curved tail is quite graceful in its shape, and it is by no means a useless appendage, for in springing and jump-

rapidity, and eat it gracefully, always dropping out the unsavory portions.

Sociableness is a life necessity of our lemurs. Left alone, they become cross and soon die, while company makes different creatures of them. Then they are always merry, and chase each other around in the cage, springing among each other like monkeys, with their roguish tricks.

Most of the varieties of lemurs live in the woods of Madagascar that are the fullest of in



THE LEMURS IN THE BERLIN ZOOLOGICAL GARDENS.

link between quadrumanous animals and gnawers.

The lemurs represented in this drawing from life are supple and bright creatures, and in their manners they remind one somewhat of monkeys, martens, and squirrels, but in certain positions they are very much like a kangaroo. The similarity is based upon the strongly developed extremities of the hind legs, which measure much more in size than the fore legs. The *Lemur catta* has a length of from 85 to

ing it serves as a rudder and balancing pole, while it serves as a stool in sitting.

When the animals huddle together at night, they twist their tails around each other, forming a sort of net about those who are sleeping.

The hands are nicely formed; the inside is deep black, while the outside corresponds to the color of the body; the fingers are exceedingly dexterous, for they pick up the smallest insect or piece of straw with great ease; they turn fruit over on all sides with the greatest

sects and fruits; they are also seen on neighboring islands, and go around nights after prey, screeching like our house cats when they mew very loud.

Have the courage to acknowledge your ignorance rather than to seek credit for knowledge under false pretences.

Have the courage to provide for the entertainment of your friends within your means, not beyond it.

Synonyms: A Game for Rainy Days

BY ONE OF THE GIRLS

There were five of us, all cousins, spending our summer vacation at Uncle Sam's.

The weather had been glorious and we had been having glorious times, boating on the river, picnicing in the woods, helping churn the butter, and Nell and Beth, the two bravest of us, even going so far as to drive the cows home at night. We told Uncle Sam and Aunt Bess every morning that we should like to live on a farm all our lives.

"But life isn't all summer weather," Aunt Bess would say, a little soberly, "and perhaps you would find the old farm house rather dull if you were shut up in it from one week's end to another."

One morning we awoke to find it raining. Not a gentle May-day shower, but a hard, steady pour. Nell came down the stairs singing

"Tis rainy weather, my darling,
Time's waves they heavily run,
and we looked at one another dubiously.

"What shall we do?" asked Grace.

"Go fishing," responds Jack with enthusiasm.

But we girls couldn't see anything amusing in standing out in a pouring rain, waiting for some poor, deluded little fish to "catch on" as Jack expressed it. And finally as day after day went by and the storm continued, the ardor of the boys was somewhat dampened, and they applied to us for something absolutely new and entertaining.

We had played authors and cribbage and dominoes, and finally had written letters to everyone we could think of, including Uncle Will, who must have been surprised to receive such a budget of letters from that little out-of-the-way place called Field's Corner.

"Girls," said Nell, who for some time had been in a brown study, "I have thought of something. I have invented a game and you must all help me to get it ready. We won't show it to the boys until it is finished."

Jack and Tom begged to share our secret, but Nell said "no," and we meekly echoed her decision.

All the forenoon we were closeted in Aunt Bessie's little library, each of us furnished with blank cards, pens and red and black ink. A big dictionary and Soule's "English Synonyms" we divided between us.

Before dinner all was completed, and although the boys laughed at us a little at first, and told Nell she could now get a patent on her invention, it was so plainly an infringement on the old-fashioned game of authors, yet they finally settled down to the enjoyment of it with great zest, and we noticed for several days afterwards a great improvement in their use of the English language. This, Nell affirmed, was all the income she expected to get from her invention, and she was more than satisfied.

We had written on each card some word in common usage, at the top in red ink. Below it were three synonyms of the word in black ink. Four cards bearing the same synonyms with different words at the top in red ink constituted a set or book, just as in authors, the name of a writer and three of his works make up a set.

We shuffled the cards, divided them among

the players until all were used, then began to call from others those cards which we needed to make up our sets, a failure to call upon the one who held the desired card causing the player to lose her turn.

Of course the one who succeeded in collecting the greatest number of sets won the game. Here is a specimen of one of the cards: *Clever, Shrewd, Keen, Sagacious.*

The next card of the set had the word *Shrewd* written in red ink, and the remaining three, *clever, keen, sagacious*, in black ink, and so on.

The complete set must have each word in red ink, and of course we called only for the red lined words when we already held one of the words of which it was a synonym.

You see it was as Jack said, copied from the game of authors, but it was a pleasant change from that time-honored game, and we played it not only on that particular afternoon, but on many rainy days afterward. When we went back to school in the fall we noticed that it was much easier to write our compositions than it had been before, for our familiarity with Nell's game of words had greatly enlarged our vocabulary, and if we could not always think of just the word we wanted to use, almost instantly we recalled some other word that had the same meaning; a pleasant and helpful recollection of our rainy days at Uncle Sam's. —[Cottage Hearth.

Bill Nye on the Photograph.

No doubt the photograph habit, when once formed, is one of the most baneful, and productive of the most intense suffering in after years of any with which we are familiar. Sometimes it seems to me that my whole life has been one long abject apology for photographs that I have shed abroad throughout a distracted country.

Man passes through seven distinct stages of being photographed, each one exceeding all previous efforts in that line.

First, he is photographed as a prattling bald-headed baby, absolutely destitute of eyes, but making up for this deficiency by a wealth of mouth that would make a negro minstrel green with envy. We often wonder what has given the average photographer that wild, hunted look about the eyes and that joyless sag about the knees. The chemicals and the in-door life alone have not done all this. It is the great nerve tension and mental strain used in trying to photograph a squirming and dark red child with white eyes, in such a manner as to please its parents.

An old-fashioned dollar-store album, with cerebro-spinal meningitis, and filled with pictures of half-suffocated children in heavenly-white starched white dresses, is the first thing we seek on entering a home, and the last thing from which we reluctantly part.

The second stage on the downward road is the photograph of the boy with the fresh-cropped hair, and in which the stiff and protuberent thumb takes a leading part.

Then comes the portrait of the lad with strongly marked freckles and a look of hopeless melancholy. With the aid of a detective agency I have succeeded in running down and destroying several of these pictures which were attributed to me.

Next comes the young man 21 years of age,

with his front hair plastered down over his tender throbbing dome of thought. He does not care so much about the expression on the mobile features, so long as his left hand, with the new ring on it, shows distinctly, and the string of jingling, jangling charms on his watch chain, including the cute little basket cut out of a peach stone, stand out well in the foreground. If the young man would stop to think for a moment that some day he may become eminent and ashamed of himself, he would hesitate about doing this. Soon after, he has a tin type taken, in which a young lady sits in the alleged grass, while he stands behind her with his hand lightly touching her shoulder, as though he might be feeling of the thrilling circumference of a buzz-saw. He carries this picture in his pocket for months, and looks at it whenever he may be unobserved.

Then, all at once he discovers that the young lady's hair is not done up that way any more, and that her hat doesn't seem to fit her. He then, in a fickle moment, has another tin-type made in which another young lady, with more recent hat and later coiffure, is discovered holding his hand in her lap.

This thing continues till one day he comes into the studio with his wife and tries to see how many children can be photographed on one negative by holding one on each knee and using the older ones as a background.

The last stage in his eventful career, the old gentleman allows himself to be photographed, because he is afraid he may not live through another long, hard winter, and the boys would like a picture of him while he is able to climb the dark, narrow stair which leads to the artist's room.

Sadly the thought comes back to you in after years, when his grave is green in the quiet valley, and the worn and weary hands that have toiled for you are forever at rest; how patiently he submitted while his daughters pinned the clean, stiff, agonizing, white collar about his neck and brushed the little flakes of "dander" from the velvet collar of his best coat; how he toiled up the long, dark, lonesome stairs, not with the egotism of half a century ago, but with the light of anticipated rest at last in his eye; obediently as he would go to the dingy law office to have his will drawn, he meekly leaves the outlines of his kind old face for those he loved and for whom he so long labored.

It is a picture at which the thoughtless may smile, but it is full of pathos, and eloquent for those who knew him best. His attitude is stiff and his coat hunches up in the back, but his kind old heart asserts itself through the gentle eyes, and when he has gone away at last we do not criticise the picture any more, but beyond the old coat that hunches up in the back, and that lasted him so long, we read the history of a noble life.

Silently the old finger-marked album, lying so unostentatiously on the gouty centre table, points out the mill-stones from infancy to age, and back of the mistakes of the struggling photographer is portrayed the laughter and the tears, the joy and the grief, the dimples and the gray hairs of one man's life-time.

Have the courage to speak your mind when it is necessary you should do so, and to hold your tongue when it is prudent to do so.

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., July 1, 1886.

The month just gone has been, on the whole, a very favorable one for the growing crops, and farmers have no reason to complain and a good deal to be thankful for. While the season has been rather dry for the hay crop and pastures, more particularly the former, it has been all that could be desired for fall wheat and spring crops, not excepting the *market gardener*. It is true that prices are low and likely to rule low for some time to come, possibly for some years. Yet, on the whole, the farmer who has his farm in good shape and has no very extravagant ideas, can get along and save a little money. Farmers must bear in mind that while the prices for their produce is low, the price of all other productions and manufactures are just about as low in the same proportion. There may be some lines that are not as low as they might be, yet they must eventually come lower. This will apply to rates of interest on loans. Six to six and a half percent is all that any farmer should pay. Six percent is quite as good to the money lender as 7½ to 8 percent was three years ago.

WHEAT.

The prices and trade in this article remain in the same unsatisfactory state as regards the owners of stocks of wheat. Crop reports are very favorable and in some cases flattering. The weather in England is cabled by Beerbohm as brilliant. All through the United States the crop reports are very favorable, both for the fall and spring wheats. Harvesting is now quite general in the Southern and Middle States. The general appearance and outlook of the fall wheat crop in Ontario is very fair. While there are many poor fields and some that would have been better plowed up, there are many fine fields and plenty of others that are up to the average. The fact is becoming more and more apparent every year that it is a waste of labor and seed to till and sow land with wheat that is not in the best of condition. The want of better drainage is a most important factor, and a close observer can see that the failures of many fields of wheat are due to this more than anything else. A Chicago wheat circular under date of the 29th of June, says:

"It is generally admitted by the trade that the depression in the wheat markets of the world during the cereal year now about ending was caused more by the accumulated reserves of the previous crops than by the raisings of the year. This is unquestionably true of American markets, and the belief now prevails that the heavy reserves of previous crops have been very largely consumed, and that we will enter on the new cereal year with comparatively light supplies of old wheat and only a moderate yield from the new crops in the aggregate. Hence the present low level of prices is looked upon as a very safe basis upon which to begin the movement of the new crop. There is a growing belief in the west that prices for wheat will improve as the new cereal year progresses, and speculative opinion appears to be hardening in this belief. Our market to-day ruled firmer and closed fractionally higher, notwithstanding the continued depression in foreign markets."

What the outcome will be, or whether we shall see an improvement or a further decline in the price of wheat, is very hard to say. One

dealer expressed the opinion that we would see wheat touch 60c. per bushel this fall. Others again think we have seen the lowest point. This much we think is a fair estimate of the situation: We may look for low and moderate prices for wheat for some years to come, from the fact that the facilities for growing, for handling and for transportation are so complete that any deficiency in any part of the world can be supplied by another. England or any of the wheat importing countries of Europe are no longer dependent upon America for their wheat supply. An item from Minneapolis last week, says:

"While it is undoubtedly true that there is less old wheat to come forward than there was a year ago, and that the mills are turning out nearly twice as much flour, drawing steadily upon stocks in store, wheat keeps on pouring in here and at Duluth, and it seems as though there was no end to the amount yet to come, although elevator owners continue to assert that their bins are nearly or quite empty. Receipts at Minneapolis last week were only 20,000 bushels less than the week before, and were 175,000 bushels more than the corresponding week a year ago. Receipts at Duluth continue quite large for the season, and shipments light."

WOOL.

In April last the London wool sales indicated a want of confidence in the prosperity of the trade, and that was used by wool buyers in this country as a weight to force prices to a still lower level, so as to secure the new clip at nominal value; but the scheme did not work, for in May there was an advance in prices of wool in Antwerp, and this started a move in the upward direction, which was assisted by the export of considerable foreign wool, which had been brought to this country at the low prices which prevailed during the spring; still manufacturers hesitated to buy until it could be seen whether the advance in prices in Europe would be sustained. All doubt on this point was removed when the London wool sales opened on the 16th inst. with offerings of 370,000 bales—an amount which of itself would be depressing if there was not substantial grounds for an improvement. It was quickly seen that the competition was very active and prices showed an advance of 10 @ 25 percent on the various grades, over the April sale. The effect upon the markets in this country was electric, prices advanced 1 @ 2c. per pound in the eastern markets, and the sales were larger than they had been for a long time. In the producing regions buyers had more generally placed confidence in the Antwerp advance and had bought freely at a moderate advance on previous prices, so that the wool growers, from the start, received some benefit from the higher prices, and as there is a large part of the clip still in the hands of producers they will profit by the upward turn of the market, and possibly more than the speculators, who are buying—if reports be true—without much discrimination and paying rather more than the legitimate markets would seem to warrant.

The significance of this upward turn in wool is that it began in Europe where general trade has been so much more depressed than in this country that such a turn in any branch of trade was not expected, and it indicates that there, as well as in this country, the depressive influences have spent their force, so that the dawn of brighter and more prosperous times is

at hand. If the improvement in trade here is assisted by a similar movement across the water, recuperation will be rapid, and an impulse given to commerce to which it has long been a stranger.

We look for a steady, quiet trade in this article, and think that prices have taken a permanent turn for the better.

LIVE STOCK.

The steadiness of the British cattle markets the past two or three weeks has disappeared, and the trade has taken a turn for the worse, with an actual decline of half a cent per pound. The hot weather, together with heavy receipts from Ireland and the continent, has checked the demand. Prime Canadian steers sold on the Liverpool market at 13c., fair to choice, 12½c. The following table shows the prices of prime Canadian steers in Liverpool on the dates mentioned:—

	1886. per lb. cents.	1885. per lb. cents.
June 28	13	15
June 21	13½	14½
June 14	13	13½
June 7	14½	14
May 31	14	14
May 24	13½	14
May 17	13	14
May 10	11½	15
May 3	13	13½
April 26	13	12½
April 19	13	13
April 12	13	13½
February 8	11½	13

The following were the receipts of live stock at Point St. Charles by the Grand Trunk Railway:—

	Cattle.	Sheep.	Calves.	Hogs.
Week ended June 26	3,255	5,449	543	404
Previous week	2,524	1,863	197	313
Cor. week, 1885	2,028	1,084	125	803
Since May 1	21,939	9,650	3,479	4,680
Cor. time, 1885	12,234	3,788	3,586	2,673

There has been considerable activity in the cattle trade, receipts and exports for the past week being heavy. Receipts since May 1 by the Grand Trunk show an increase of 2,700 head over last year, while the export movement is now very close to that of last year. The market for export cattle has been active, and shippers bought freely, as a larger amount of freight space has been available, which resulted in liberal buying. At the market this morning the were large offerings, the quality of which was well up to an excellent standard. A lively business was done under a brisk demand from shippers, who absorbed nearly all the cattle offered at steady prices, large sales being made at 4½c. @ 5½c. per lb., live weight. Butchers' cattle were in good demand and steady at 4c. @ 4½c. per lb. The receipts of sheep have largely increased, for which there has been a good demand. Prices, however, eased off ½c., round lots being taken at 4. @ 4½c. per lb. live weight. Live hogs have been in good request, but values have eased off, sales being made at \$5.40 @ \$5.50 per 100 lbs. Calves sold at from \$2 @ \$3 as to quality.

The following were the exports of live stock from the port of Montreal for the week ended June 26:—

Per	To	Cattle.	Sheep.
Manitoba	Glasgow	375	...
Ocean King	London	337	706
Batavia	Liverpool	522	1,192
Concordia	Glasgow	442	288
Castlehill	London	293	380
Thanemore	Liverpool	636	709
Bayswater	London	100	450
Carmona	London	611	2,019
Lake Nepigon	Liverpool	297	...
Total		3,613	5,814

Previous week	1,956	1,416
Cor. week, 1885	2,495	1,065
Cor. week, 1884	1,877	232
Cor. week, 1883	2,151	170
Cor. week, 1882	999	157
Cor. week, 1881	1,386	220
Cor. week, 1880	2,789	1,456
Cor. week, 1879	530	1,476
Cor. week, 1878	365	127
Total to date	21,002	8,111
To same date, 1885	20,351	2,135
" " 1884	16,063	1,548
" " 1883	16,011	1,533
" " 1882	10,167	3,631
" " 1881	15,217	4,367
" " 1880	15,436	6,949
" " 1879	9,543	3,304
" " 1878	4,093	1,714

BUTTER.

The Montreal Gazette reports the butter market as follows:—

"The butter market has presented nothing new on which to comment. It continues in the same condition as formerly, without prospect of improvement. There has been some business done on lower ports account at 12½c. @13½c. for Western, the latter figure being the best that can be made. It is now claimed that the lower ports outlet is well filled up, and that it will require less butter for some time. The sales made included 150 packages at 13½c., and a carload at 12½c. Other dairy goods are dull and neglected. Good townships have sold at 14c., but in many cases buyers prefer Western, as it shows better value. Exporters have orders for sample lots of creamery, and at 17c. here some business might be done, but factory-men prefer to hold on for 18c. Mail advices dated June 19 quote first Corks 70s., seconds, 61s., thirds, 55s., and fourths 47s.

Creamery, choice	00 @17
Townships, finest	15½ @16
" fair to good	14 @15
Morrisburg, finest	00 @15
" fair to good	13 @14½
Brockville, finest	00 @15
" fair to good	13 @14½
Western, finest	00 @13½
" fair to good	12 @13
Low grades	10 @11

CHEESE.

The past ten days has seen a decided improvement in the cheese market. At London market, Saturday, the 19th of June, the buyers were quite indifferent, and only offered 6½c. to 7c. On the Saturday following some 6,000 boxes changed hands at 7½c. to 7¾c. It will be well for the future of the trade if salesmen will sell freely at these figures and let their cheese go forward and into consumption. If they will do this the chances are they will make 7½c. to 8c. for July make. It is the opinion of some that the present spring in price is only temporary, and that prices will soon come back to 7c., or possibly less.

The Utica Herald commenting on their market on Monday last, says:—

There is also another feature of the market that has hardly been mentioned by the New York city papers, but which Canadian journals speak of as playing an important part in that country. Considerable quantities of June cheese appear to have been sold to deliver at 34s., sold "short," as a Wall street operator would express it, and the sellers find themselves obliged to purchase, whether they want to or not, in order to fill their contracts. This gives not only a market, but an active market also, and there is little doubt that this fact has had its influence here in New York. Those who sold will inevitably be losers, and the dairymen are gainers to a certain extent. But, as we pointed out some time ago, the short make resulting from early shrinkage of milk, the closing of some factories, and the change of many patrons from cheese to butter making, must have their effect sooner or later; and if the receipts continue to run as small as they have done, or even as small as they did last year, an improvement may come to the market somewhat earlier than was anticipated. If

matters are not overdone in the country this week, which is the great danger now, there need be no further relapse or "set-back." The market was well cleaned up last week, while last year, at the same time, there had begun to be some accumulation of stock.

The Mail Advices.

London, June 19.—The demand for new American is by no means of a brisk nature, and prices are slightly easier on the week. The slight advance made last week in New York could not be sustained, and closing rates there now are 37s@38s. c.i. and f., this being a lower point than existed prior to advance. The general bulk of business here has been done at 40s @42s. Fine old is being gradually got rid of at from 46s@50s. Yesterday at Messrs. Cruickshank & Lovell's public sale of provisions, 2,880 boxes American cheese were sold: Skims from 3s@28s, and full creams from 30s@33s; Friesland butter from 56s@59s; Irish at 71s.

PRICES AT ST. LAWRENCE MARKET, TORONTO.

Chickens, per pair	\$0 50	0 65
Ducks do.	0 60	0 75
Butter, pound rolls	13	15
Butter, large rolls	10	11
Butter, inferior	10	00
Lard	9	11
Bacon	75	1 50
Turkeys	70	85
Geese	8	10
Cheese	12	13
Eggs, fresh, per dozen	1 00	1 25
Potatoes, per bag (new)	1 00	1 75
Apples, per bbl	30	40
Cabbage, per doz	30	40
Turnips, per bag	40	45
Carrots, per bag	15	00
Beets, per bag	15	20
Parsnips, per peck	1 00	1 25
Onions, per bag	1 10	2 00
Gooseberries, per bush	1 10	2 00

PRICES AT FARMERS' WAGONS, TORONTO.

Wheat, fall, per bushel	\$0 75	0 76
Wheat, spring, do.	0 70	0 76
Wheat, goose, do.	0 67	0 69
Barley, do.	0 60	0 90
Oats, do.	0 35	0 36
Peas, do.	0 54	0 55
Dressed hogs, per 100 lbs.	7 00	7 25
Beef, forequarters	4 50	6 00
Beef, hindquarters	8 00	9 50
Mutton, carcass	9 00	11 00
Hay, timothy	7 50	8 50
Hay, clover	7 50	8 50

LIVE STOCK MARKETS.

Buffalo, June 29th, 1886.

CATTLE.

Receipts, 10,138, against 9,248 the previous week. The offering of cattle was heavy on Monday, there being 170 car loads on sale. The market opened dull at a decline of 20@30 cents below the rate ruling the Monday previous. There was no enquiry on New York or Boston account. The best steers were quoted at \$5 30@5 60 down to \$4 @4 50 for fair to good butchers' steers. Mixed butchers' stock sold at \$3 25@3 75 and stockers at \$2 75@3 50. The market ruled steady on Tuesday but was a shade lower on Wednesday for common to fair grades. The following were the closing

QUOTATIONS:

Extra Beeves—Graded steers weighing 1,450 lbs and upwards	\$5 30	@5 60
Choice Beeves—Fine, fat, well-formed steers, weighing 1,300 to 1,400 lbs	5 00	@5 30
Good Beeves—Well-fattened steers weighing 1,200 to 1,350 lbs	4 75	@5 10
Medium Grades—Steers in fine flesh, weighing 1,050 to 1,250 lbs	4 50	@4 90
Light Butchers—Steers averaging 850 to 1,100 lbs, of fair to good quality	4 00	@4 50
Butchers' Stock—Inferior to common steers and heifers, for city slaughter, weighing 900 to 1,100 lbs	3 25	@3 75
Michigan stock cattle, common to choice	2 75	@3 50
Michigan feeders, fair to choice	3 50	@3 75
Fat bulls, fair to extra	2 75	@3 25

SHEEP.

Receipts, 25,200, against 25,200 the previous week. The offerings of sheep on Monday consisted of 30 car loads. The demand was fairly active at prices 10@15 cents over the rates of the previous Monday. Nothing was done on Tuesday. The supply was

light on Wednesday, and the market ruled strong at former quotations. Common to fair, \$3 25@4 25; good to choice, \$4 50@4 75; extra quotable at \$5. Common to fair lambs, \$4 25@5 25, good to extra, \$5 50@6 75.

HOGS.

Receipts, 40,365, against 62,498 the previous week. The hog market opened up active on Monday at prices 10@15 cents higher than those of the Monday previous. Another 10@15 cents was added on Tuesday and Wednesday, the yards being cleared. There was no sorting, everything being sold straight. Light weights brought \$4 00@4 65 and medium weights, \$4 70@4 75.

Notices.

We have received a treatise on "The Winter Care of Horses and Cattle—the most Humane and Profitable Treatment," edited by T. B. Terry, published by A. I. Root, Medina, Ohio. Price, 40 cents. The book contains an illustration of a model barn and tool house, and ably written articles on shelter, comfort, feeding, watering, exercise, kindness, the different sorts of feed, saving manure, etc.

The 41st Provincial Exhibition of the Agriculture and Arts Association of Ontario will be held at Guelph from the 20th to the 25th Sept. For prize lists, etc., address Henry Wade, Esq., Secretary, Toronto.

H. C. Farnum, of Savage & Farnum, proprietors of Island Home Stock Farm, Grosse Ile, Wayne Co., Mich, sailed June 5th for France to bring back a large importation of Percheron horses.—*Nature.*

The second annual Exhibition of the Eastern Townships Agricultural Association will be held at Sherbrooke, Que., from Sept. 23rd to Oct. 2nd. Over \$25,000 given in prizes. For copy of prize list, address R. H. Tylee, Esq., Sec. Treas., Sherbrooke, Que.

We have received the 14th Annual Report of the Wisconsin Dairymen's Association, containing a number of interesting addresses, essays and discussions, compiled by D. W. Curtis, Secretary, Fort Atkinson, Wis.

We have received the fourth Annual Report of the Ohio Agricultural Experiment Station for 1885, containing a large number of interesting experiments in the different departments of agriculture.

We have received a hand-book entitled The Book of Ensilage, published by T. R. Carskadon, Keyser, West Virginia. It is illustrated, and contains a full exposition of the subject.

We have received a Report of the first annual meeting of the Holstein-Friesian Association of America, held at Buffalo, N. Y., March 11, '86.

We have received the annual Report of the Secretary for Agriculture of Nova Scotia for the year 1885.

The Herd Book of the Maine State Jersey Cattle Association, compiled from official entries, arranged and edited by M. R. Pike, Esq., Winthrop, Maine, has just been received.

In this issue our readers will notice the advertisement of McPherson & Lindsay, of this city. From its simplicity, convenience of operation, and superior manner of construction, it is meeting with wonderful success.

THE WESTERN FAIR AND INDUSTRIAL & ART EXHIBITION.—This popular institution will hold their next Fair Sept. 27th to Oct. 2nd. In addition to the old grounds, the Association have secured permission from the Dominion Government to use the military grounds and buildings immediately adjacent. Liberal premiums are offered in the live stock and other departments. The Committee on Attractions are preparing a very attractive programme. Parties desiring a copy of the prize list or any information should write or drop postal card to the secretary, Mr. Geo. McBroom, London, Ont.

We would call attention to the advertisement of the Cockshutt Plow Co., which appears in this issue. This implement, we understand, is being pretty extensively used this season, with highly satisfactory results. It may be considered to have entered upon its first season a decided success, and we feel certain, from the reputation of this firm, that no farmer can go wrong by purchasing one of the kind, it being suitable for any kind of soil.

NEW ADVERTISEMENTS.

ADVERTISING RATES.

The regular rate for ordinary advertisements is 25c. per line, nonparal, 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 of 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.

TEACHERS WANTED—during Vacation—to sell "Manual of Correspondence," the best text-book yet published on this subject; exercises in capital letters, abbreviations, punctuation, spelling, English, construction of sentences; sample business letters beautifully engraved; sells at sight; bonanza for agents; fifty cents sample copy. C. O'DEA, Arcade, Toronto. 247-a

SALESMEN WANTED—TO SELL NURSERY STOCK.

Men of good address, and not afraid to work, can earn good salaries selling our stock. Apply for terms to CHASE BROTHERS, Nurserymen, Colborne, Ontario. 247-c

Dominion, Quebec Provincial AND SECOND ANNUAL EXHIBITION

OF THE Eastern Townships Agricultural Association

—WILL BE HELD AT— SHERBROOKE, QUE. 23rd SEPTEMBER to 2nd OCTOBER

\$25,000 in Prizes. Competition open to the world. Reduced rates and cheap excursions from all points. For Prize Lists, apply to E. H. TYLER, Sec.-Treas. Sherbrooke, 22nd June, '86. 247-c

41st PROVINCIAL EXHIBITION

—OF THE— Agriculture and Arts Association of Ontario

TO BE HELD AT GUELPH FROM THE 20th to 25th SEPTEMBER, 1886.

Prize Lists and Blanks 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, TORONTO. HENRY PARKER, President, WOODSTOCK. 247-b

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. ELWANGER & BARRY, Mount Hope Nurseries. 247 ROCHESTER, N. Y.

THE NEW WILLIAMS SEWING MACHINE

Has been honored with HIGHEST AWARDS AT ALL EXHIBITIONS both at home and abroad wherever exhibited.

BRONZE MEDAL

Was given for excellence; at the Dominion Exhibition, London, Ont., a Diploma was awarded, the only prize for sewing machines; at Midland Central Fair, Kingston, Ont., three First Prizes and Silver Medal; at Belleville, Ont., two First Prizes and Diploma.

These celebrated machines may be procured direct from the Head Office, 1733 Notre Dame St., Montreal.

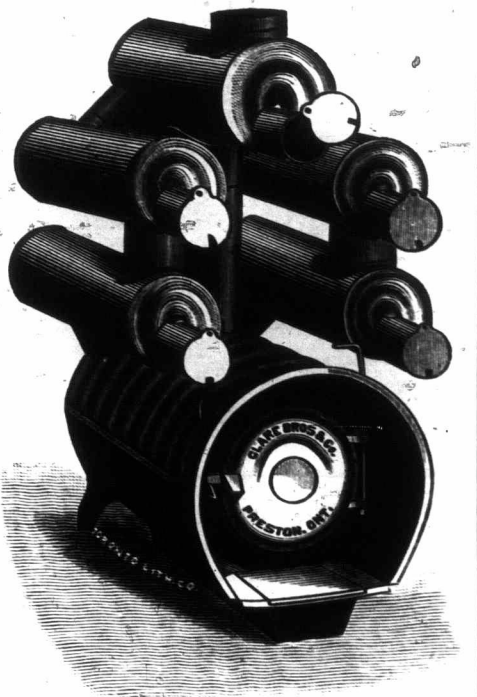
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This Furnace, made in six sizes, is unequalled for Efficiency, Economy, Ease of Management and Durability. Is corrugated and made very heavy. The Drums are of Sheet Steel and easily cleaned. Will save first cost within a few years, as the roughest kind of wood may be utilized. This is the only furnace made that can be cleaned out at any time satisfactorily. No repairs asked for, proving it durable. Its Heating Capacity is Enormous, there being more radiating surface than in any other wood-burning furnace made.

—MADE BY— CLARE BROS. & CO., Preston, Ont. MANUFACTURERS OF FURNACES, STOVES, HOLLOWARE, &C. Descriptive Catalogue and testimonials furnished on application. 247-

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Farm—North half thirteen, first concession, Dalton, County Victoria, fifty acres, thirty-five cleared, remainder well timbered, four acres cedar, house, barn, living spring, twelve miles from Kirkfield Station, Midland Railway. Easy terms.

Farm—Fourteen, second, Dalton, Victoria, hundred acres, thirty cleared, intersected by Black River. Easy terms.

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For terms, etc., address H. MacCORNICK, Principal.

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Best hay presses on trial to compare against all other presses. The customer keeping the one that suits best.

Manufacture at 90 College Street, Montreal, P. Q. Address for circular P. K. DEDERICK & CO., Albany. 247-y

FARM and SCHOOL BELLS

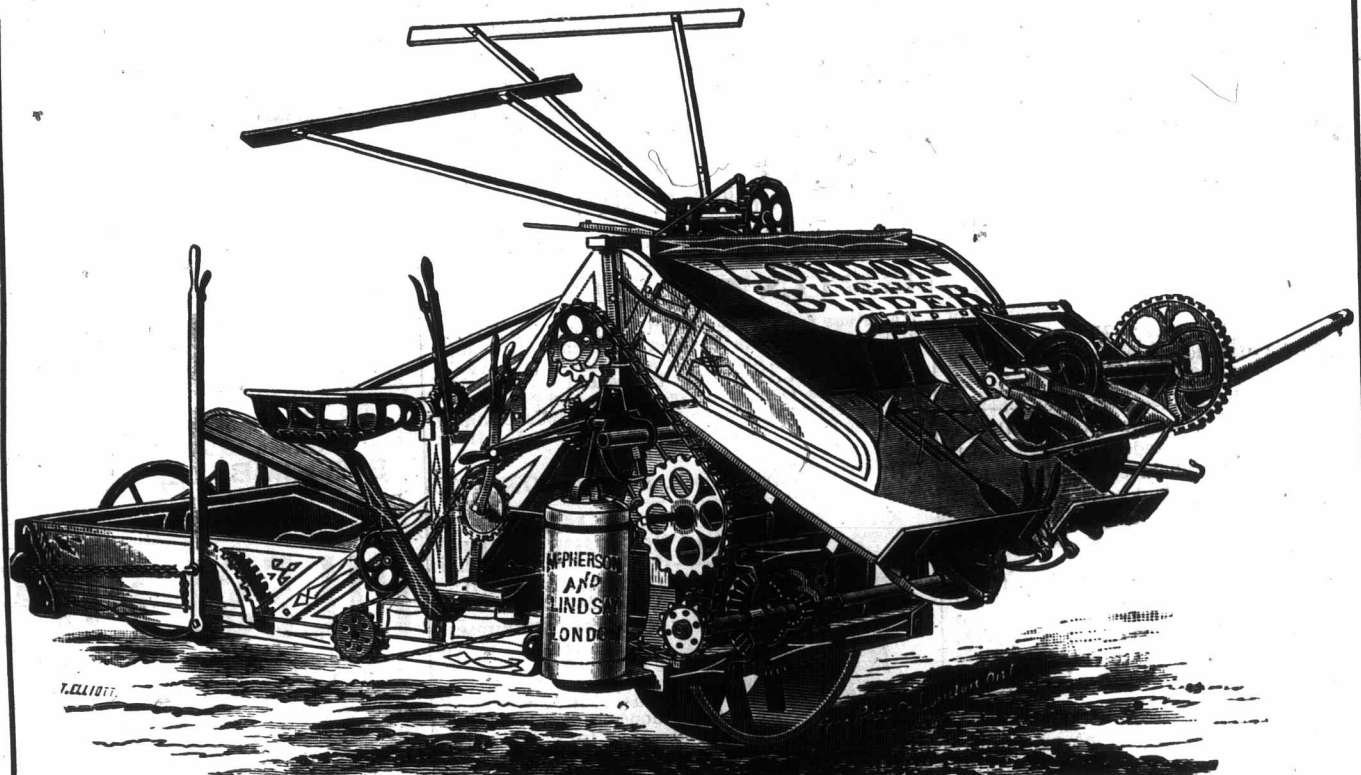


Quality unsurpassed. Prices very moderate. Send for our revised descriptive circular. J. B. ARMSTRONG MFG. CO., (LIMITED) GUELPH, CANADA. 246-c

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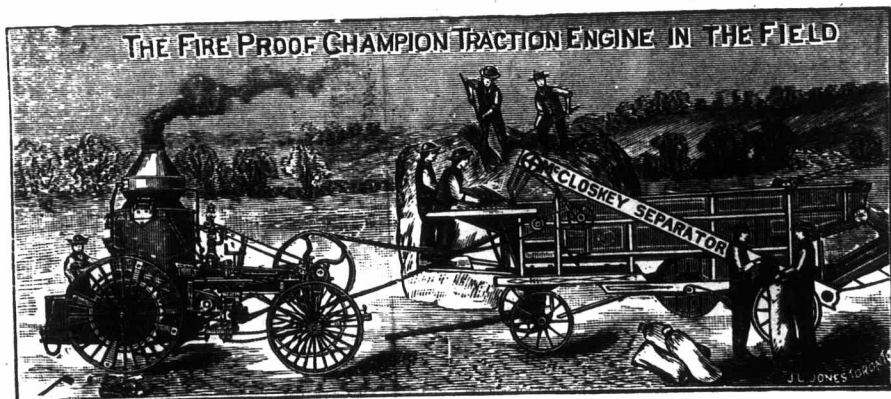
MORE VALUABLE PATENTS, MORE MALLEABLES USED, MORE STEEL USED, BETTER TIMBER, BETTER WORK, BETTER FINISH. NO EQUAL OR NO SALE

Headquarters for Complete Threshing Outfits!

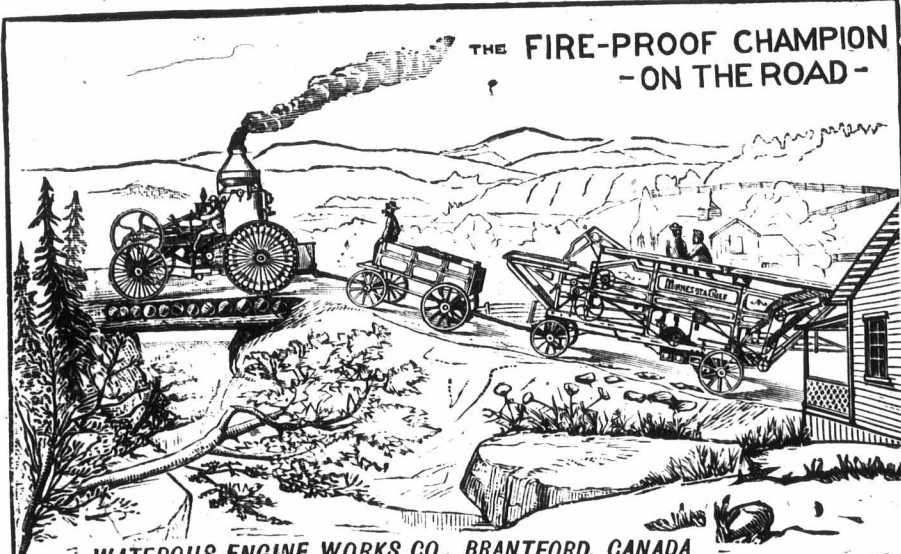
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Guaranteed Endless Threshing Belts Kept in Stock.

Write for Prices.



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THE FIRE-PROOF CHAMPION - ON THE ROAD -

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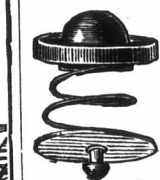
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General Agents for North America.

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Cures every child sure, and 80 out of every 100 of adults; can prove this by testimony of your own neighbors. **Facts the best evidence.** Send stamp for full information. Address **EGAN'S IMPERIAL TRUSS CO.,** 23 Adelaide-St. East, Toronto, Ontario. 243-y

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Land office, Molsons Bank Buildings, Market Square, London, Ont., for list of farms for sale. 236-y

DR. W. E. WAUGH. Office—the late Dr. Anderson's, Ridout-St., LONDON, ONT. 241-y

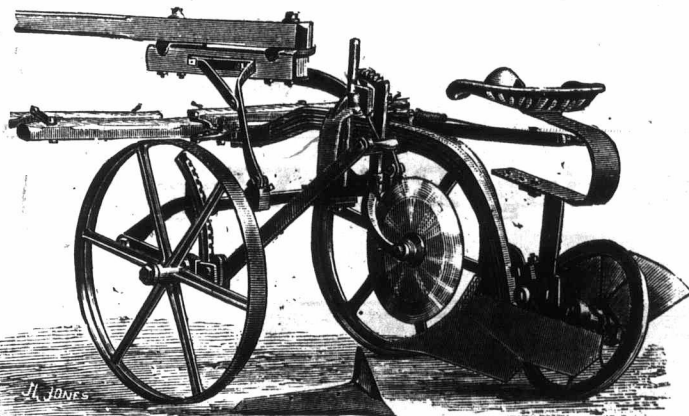
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COVERED BY THREE PATENTS
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This Plow is the result of our past experience in the manufacture of Riding and Sulky Plows, combining the best improvements.

It is now selling rapidly for the first season of its sale, everyone being delighted with its work in the field. The advantages of the "king bolt" principle are being highly appreciated, convincing everyone in actual work that it is the best improvement yet made in Riding Plows.



We manufacture the largest line of both Steel and Chilled Plows made in Canada, of capacity suitable for any style of plowing.

Our Jointer Plows comprise eight patterns of the best working designs for hard summer plowing.

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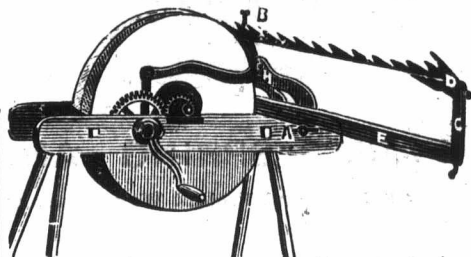
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Young Stock For Sale at Island Home Stock Farm, Grosse Isle, Wayne Co., Mich. A number of Pure-bred Fillies, Weanlings, Yearlings, and Two-year-olds; also some choice Young Mares with Foal. We have some High Grade Young Stock at prices low for quality of stock. Correspondence solicited. Visitors welcome. Address

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246-b

P. STRAITH'S



Reaper and Mower Knife Sharpener

Manufactured at Toronto and Clinton, Canada, and Chicago in United States, and Exhibited at all the Principal Shows both in Canada and United States.

Verdict of all who have used it, the only effective Section Knife Grindstone we have seen. It is not an emery wheel, but the best grit grindstone, with self-adjusting attachments, and so arranged that one boy can grind knife perfectly in ten minutes, at the same time keeping the knife in perfect shape. The reputation of the above machine is now well established throughout the Dominion by farmers who have had them in use for the last three years. By enclosing \$7.00 in registered letter with the order the freight on the machine will be paid to any railway station in Ontario. Special terms to wholesale dealers. Catalogues sent free. Address all communications to

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245-c



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 66 King St. West, TORONTO, ONT.

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L. D. Sawyer & Co. Hamilton, Ont.

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"L. D. S." ENGINES,

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'Pitts' Horse-Powers, for 4, 6, 8, 10 and 12 Horses.
 Tread Powers, for 1, 2 and 3 Horses.
 Light Separators, for Tread and Sweep Powers.

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 A first-class Business Training College, for Ladies and Gentlemen. For full particulars send for Circular.
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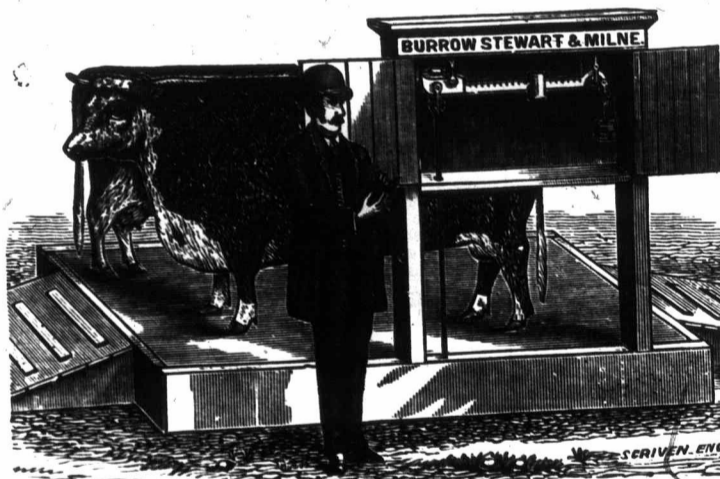


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Team and Freight Wagons are made with Steel Skeins when wanted. Send for Circular and Prices to

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 N. B.—Every Wagon warranted.

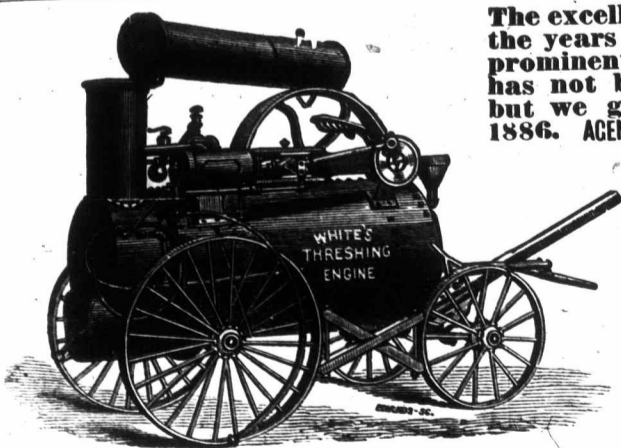
SCALES! SCALES!



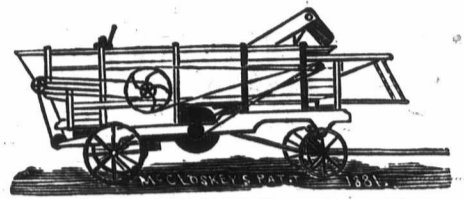
The Platform of this Scale is 6 feet by 4 feet.
 No Farmer, Stock Raiser or Produce Dealer should be without one.
 It weighs Accurately from half pound to 4,000 pounds

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The excellent record of this Engine as the years roll on has brought it so prominently in favor that the supply has not been equal to the demand, but we guarantee a full supply for 1886. AGENTS WANTED IN SOME LOCALITIES



It is licensed by all Insurance Co's and has proved itself to be the most durable.
 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. **GEORGE WHITE, Proprietor and Manager**
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 The engines may be seen at Van Tassal's foot bridge warehouse, Belleville. 243-y



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 Manufacturers of the

Celebrated McCloskey Threshing Machine.

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The Company issues debentures for two or more years in sums of \$100 and upwards, bearing interest at highest current rates, payable half-yearly by coupons.
 Executors and Trustees are authorized by law to invest in debentures of this Company.
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