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THE
RURAL CANADIAN.

AND FARM JOURNAL. With which is Incorporated **THE CANADIAN FARMER & GRANGE RECORD**

Vol. VIII, No. 2
Vol. IV., No. 2—New Series.

Toronto, February, 1885.

\$1.00 per annum, in advance.



THE SHOING-FORGE.

(See article, page 23.)

DISEASE BANISHED

Health Gained, Long Life Secured, BY USING

KIDNEY-WORT

It Purifies the Blood, It Cleanses the Liver, It Strengthens the Kidneys, It Regulates the Bowels.

TRUTHFUL TESTIMONY.

KIDNEY DISEASES.

"I suffered day and night with kidney trouble, my water was bloody and bloody, I could get no relief from doctors. Kidney-Wort cured me. I am as well as ever."

LIVER COMPLAINT.

"I would not be without Kidney-Wort if it cost \$10. It cured my liver and kidney troubles after I had lost all hope."

PILES! PILES!!

"I am cured for 12 years from Piles, on some but those that have been afflicted can realize. Kidney-Wort quickly cured me."

CONSTIPATION.

"I was a great sufferer from diseased kidneys and was terribly constipated for years. I am now all around as well as ever. I was in my life and it is due to Kidney-Wort."

RHEUMATISM.

"I am suffering for thirty years from Rheumatism and kidney trouble. Kidney-Wort has entirely cured me."

FEMALE COMPLAINTS.

"Kidney-Wort has cured my wife after two years suffering and weakness, brought on by use of a Sewing Machine."

FOR THE BLOOD.

"The past year I have used Kidney-Wort more than ever, and with the best results. Take it all in all, it is the most successful remedy I have ever used."

MALARIA.

"Chronic Malaria for years, with three diseases made me weak for death. A European trip, doctors and medicine did no good, until I used Kidney-Wort. That cured me."

It acts at the same time on the KIDNEYS, LIVER and BOWELS stimulating them to healthy action and keeping them in perfect order.

Wells, Richardson & Co., Burlington, Vermont, U.S.A.

KIDNEY-WORT

A CHANCE TO MAKE \$1,000 ON A ONE DOLLAR INVESTMENT.

No Subscriber Will Receive Less Than 25 Cents in Cash.

The following list of Prizes will be awarded to the persons who subscribe for our paper between this date and the 30th day of March.

FOR ONE DOLLAR We will enter your name on our subscription books, and mail you regularly twice a month for One Year the Farm, Field and Stockman (24 issues) and send you immediately, by express mail three numbered receipts good for three of the following presents:

The List of Presents to Be Given Our Subscribers

Table listing various prizes such as U.S. Government Bonds, Gold and Silver Spoon, Silver Forks, etc., with their respective values.

Every subscriber who does not get one of the above valuable prizes will receive a present of Twenty-Five Cents in cash. Remember everyone who subscribes for one year will receive our twenty-four issue elegant Farm, Field and Stockman for one year and Three Receipts good for three of the above presents...

SEND TEN SUBSCRIBERS WITH \$10 and we will send 12 papers one year and 30 numbered receipts good for thirty-one presents, and in addition we will send you all once in a while a hearing card and a Remittance Watch face. This watch is a fine time keeper and cannot be sold from a pawnshop.

FARM, FIELD AND STOCKMAN is one of the oldest and best edited Family and Agricultural papers. It contains twenty four large pages. The paper is magazine form, bound, colored and so on. Its circulation is now 150,000.

ONE DOLLAR secures the FARM, FIELD AND STOCKMAN for one year, and three numbered receipts which will entitle you to three of the presents in the award.

REMEMBER these are presents to our subscribers given to them absolutely free. Cut it out and show to friends, acquaintances and neighbors, as it will not appear again. This is a great opportunity and you should take advantage of this extraordinary offer.

Many Agents are Making \$5 to \$10 per Day "HOW THE FARM PAYS."

SELLING OUR NEW WORK ON FARMING. Single Copies mailed for 25 Cts. Table of Contents and Terms in German. FARM, FIELD AND STOCKMAN & CO., 25 & 27 Cortlandt Street, New York.

100,000 PRESENTS THIS OFFER GOOD TILL FEB'Y 22nd.

Everybody who sends as directed gets a Present worth from 25 cents to \$500.

FOR FIFTY CENTS LIST OF PRESENTS TO BE GIVEN AWAY.

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40 DAYS ONLY! In the best and most edited Family Paper in the country and already has a circulation of 150,000 copies.

500 STEM-WINDING WATCHES FREE. In order to get our 500 stem-winding watches we will give away to the first 500 people who send us...

THE POULTRY KEEPER. It is the best and most edited Family Paper in the country and already has a circulation of 150,000 copies.

ONLY 50 CENTS. Our new Poultry Keeper is worth 50 cents and we will give it to you for only 50 cents.

REMEMBER these are presents to our subscribers given to them absolutely free. Cut it out and show to friends, acquaintances and neighbors, as it will not appear again.

SEND TEN SUBSCRIBERS WITH \$10 and we will send 12 papers one year and 30 numbered receipts good for thirty-one presents, and in addition we will send you all once in a while a hearing card and a Remittance Watch face.

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An Old Soldier's EXPERIENCE.

"I wish to express my appreciation of the valuable qualities of Ayer's Cherry Pectoral."

Ayer's Cherry Pectoral

As a cough remedy. While with Churchill's army, just before the battle of Vicksburg, I contracted a severe cold, which terminated in a dangerous cough. I found no relief till on our march we came to a country store, where, on asking for some remedy, I was urged to try Ayer's Cherry Pectoral.

Thousands of testimonials testify to the prompt cure of all bronchial and lung affections, by the use of AYER'S CHERRY PECTORAL. Being very palatable, the youngest children take it readily.

Dr. J. C. Ayer & Co., Lowell, Mass., Sold by all Druggists.



CURE SICK HEAD

Rick headache and rickers all the troubles incident to a bilious state of the system, such as Dizziness, Nausea, Drowsiness, Distress after eating, Pains in the Side, &c. While their most remarkable success has been shown in curing

SICK HEAD

Headache, yet Carter's Little Liver Pills are equally valuable in Constipation, curing and preventing this annoying complaint, while they also correct all disorders of the stomach, stimulate the liver and regulate the bowels. Even if they only cured

ACHE

Is the base of so many lives that here is where we make our great boast. Our pills cure it while others fail.

CHEAP FARMS

The State of Michigan has more than 4,000 tracts of railroad and 1,500 miles of lake frontage, schools and churches in every town...

FOR NETTLE RASH, itching Piles, Ringworm, Scabies, and all skin diseases, use Fred Law's Sulphur Soap.

A MILLION A MONTH THE DIAMOND DYE.

Here before so popular that a million packages a month are being sent to re-color dirty or faded DRESSES, COATS, SUITS, CLOTHING, RIBBONS, and many other articles. Also used for coloring Flowers, Grass, &c. Send stamp for colored samples, and book of directions.

IT LEADS ALL

No other blood-purifying medicine is made, or has ever been prepared, which so completely meets the wishes of physicians and the general public as

Ayer's Sarsaparilla.

It leads the list as a truly scientific preparation for all blood diseases. If there is a lurking taint of Scrofula about you, SCROFULA AYER'S SARSAPARILLA will dissolve it and expel it from your system.

For constitutional or hereditary Catarrh of the bladder, AYER'S SARSAPARILLA is the surest remedy. It has cured numerous cases. It will stop the most obstinate catarrhal discharges, and remove the sickening odor of the breath, which are indications of scrofulous origin.

Prepared at Lowell, Mass., Sept. 2, 1882.

ULCEROUS SORES

At the age of two years one of my children was terribly afflicted with ulcerous sores on the face and neck. At the same time his eyes were swollen, and he became very nervous.

SOFTENING EYES. They united in recommending AYER'S SARSAPARILLA. A few doses produced a permanent improvement, which by an adherence to your directions was continued to a complete and permanent cure.

Prepared at Lowell, Mass., Sept. 2, 1882.

Dr. J. C. Ayer & Co., Lowell, Mass., Sold by all Druggists, \$1, six bottles for \$5.

DEFEND THE WOMAN. If any woman is ever tempted by the children, or by the women's work powder, they expect all kinds of

Rural Canadian and Farm Journal,

WITH WHICH IS INCORPORATED

THE CANADIAN FARMER AND GRANGE RECORD.

Vol. VIII., No. 2.
Vol. IV., No. 2 - New Series.

Toronto, February, 1885.

\$1 per annum in advance.

RURAL NOTES.

THE exports of breadstuffs from the United States for the past year are valued at \$146,319,755, being \$26,415,839 less than for the previous year.

WHEN the farmer thoroughly understands the influence of agricultural wealth and product on the world's affairs, he will feel that he is a member of the ruling class of the world.

THE New York State law which makes it an offence punishable by fine to sell spurious butter has been in operation about a year, and the commissioner appointed to enforce it reports that the reduction of sales as compared with the previous year amounts to 50,000 pounds daily.

ONE of the best fertilizers for an orchard is wood ashes. It contains nearly all the elements required for nourishing a tree, and it may be applied to the extent of 100 bushels per acre. A clover crop ploughed under now and then will furnish everything else that is required.

If hilly land be retained in forest the effect is to keep moisture in the soil and so store it that it may escape slowly to the lower ground in springs. For this reason it pays to re-forest the bare hills, especially if, as is usually the case, the soil of the hills be of little value for growing crops.

At this time of winter the vegetables in cellars should be carefully looked over and all decaying specimens removed. This is necessary not only for the preservation of the vegetables, but more important still for the health of the farmer's family. A little fresh lime scattered around in cellars will absorb moisture, and make the air dry and pure.

It costs now as little to transport a barrel of flour from say Chicago to Montreal by rail or water, as it does to carry it by horses and waggon a distance of fifty miles over an ordinary country road. The reduced cost of transportation is thus a very great boon to farmers, for where good service is provided it enables them to get the advantage of the best markets.

In milking a cow never attempt to strip the milk out by pulling the teat down with thumb and fingers, for this works great injury to the bag and milk-veins. See that the hands are clean, grasp the teats with the whole hand, gently squeeze the milk out with a firm pressure, and continue the process quickly until the cow has been milked dry. Slow milking will injure any cow in a short time.

THE barn itself should be on the windward side of the yards where stock is allowed to run. But on other less-exposed sides a row of deciduous trees interspersed with evergreens will make a very desirable shelter. There is some warmth from trees in winter, and the fierce winds will not whistle around a mass of them as it will around a bare barn, blowing away straw and manure, besides making the barnyard uncomfortably cold.

THE scattered droppings of cattle in winter are difficult to manage profitably. In their frozen

state they will not decompose, nor can they be spread evenly. If piled in heaps and not trampled, then enough heat will be evolved to prevent freezing in cold weather, and during warm spells it will make rapidly. It will pay to do this, for manure in its fresh state does much less good to crops than it should or would if fermented.

THE corn crop of the United States for 1884 was the largest which that country had yet grown, being 1,795 millions of bushels. The average is estimated at 69,680,000 acres, the average yield at 25.6 bushels of shelled corn per acre, and the farm value at \$640,000,000. The crop of oats was also the largest aggregate ever grown in that country, the area being 21,300,000 acres, the yield 571,800,000 bushels, the yield per acre 27.4 bushels, and the estimated value of the crop, \$161,528,000.

Most of the sugar bushes are the natural growth and so scattered that not more than twenty to forty maple trees can be found on a single acre. If planted six feet one way by twelve the other, there will be sixty-seven trees per acre, and they may profitably be grown even closer than this. Wide rows should be made one way for convenience in gathering sap with team and wagons. A sugar bush well managed is a profitable part of the farm, and there is no reason why its productiveness may not be increased as well as that of the cultivated fields which adjoin it.

THE Stratford *Beacon* alludes to this journal in terms following: THE RURAL CANADIAN, Toronto, has absorbed the *Canadian Farmer and Grange Record*, becoming thereby the official organ of the Patrons of Husbandry. THE RURAL is already one of the best agricultural papers on the continent, and is constantly improving. No one who cultivates the soil can afford to keep the dollar in his pocket that will pay for a year's subscription. We value these kind words very much, because the *Beacon* is second to no country paper in the Dominion, and gives from month to month a valuable lot of information on agricultural topics.

How much it costs to grow a bushel of wheat depends very much on how many bushels an acre of it will yield. The Detroit Board of Trade estimates it at about seventy-nine cents per bushel, but this apparently is on the Michigan average yield of seventeen bushels per acre. Had the yield been twenty-three bushels per acre, which is about the average in Ontario, the cost of production per acre would be very little more (if any) and the margin of profit would be very considerably increased. Say that the cost of production is \$13.40 per acre and that wheat sells at eighty cents per bushel. In Michigan the profit to the farmer would be seventeen cents per acre, and in Ontario it would be \$5.

THE steady decrease in the acreage of wheat in England is shown by the fact that it was only 2,607,632 acres in 1884, against 3,869,854 acres in 1873, a decrease of 702,032 acres in eleven years. This at twenty-eight bushels per acre represents 25,000,000 fewer bushels than then. In Scotland and Ireland the decrease in wheat acreage is proportionably greater than England.

In 1866 Scotland had 263,328 acres of wheat, which was last year reduced 68,716. Wheat is the staple food in England and always will be. In Scotland even it has largely taken the place of oatmeal, which was formerly the staple food of the poorer classes. More and more of the tillable land of Scotland is being withdrawn from food production and devoted to deer parks for wealthy land owners. The tenantry are being driven by lack of work and food to emigration.

THE tariff on wheat in Turkey is forty-four cents per bushel, in Portugal thirty cents and in Spain twenty-three cents. In Great Britain, Belgium, Holland, Denmark and Sweden there is no tariff on grain, but in France it was raised a few weeks ago from six and three quarter to fourteen cents per bushel. As a consequence of this action the Government of Austria-Hungary has instructed its minister at Paris to protest against the increase and to threaten retaliatory duties on silk and other French manufactures if the French Government should persist in crippling the Austro-Hungarian trade in grain and flour. The French movement is no doubt an outcome of an excellent harvest attended by very low prices, and the farmers are clamouring for more protection.

This is the difference between Jersey and Alderney cows: The former has been kept pure bred on the Channel Island of that name for a long time; no foreign cattle have been permitted to be imported into Jersey for over a hundred years. In the Island of Alderney importations of other cattle have ever been permitted. The Alderneys have not been kept pure, but are made up mainly of a cross of the Jerseys and Guernseys on their original stock. They are not so fine as either of these two latter breeds have now become and are more uneven in their make-up. The term Alderney was applied by mistake by the English to Jersey cows when they first began to import them many years ago, but it is not used now, each breed being distinctly classed by itself.

WHEN properly managed by a man who understands the business, dynamite or giant powder is not so dangerous as common gunpowder. It is much more effective in blasting rocks, and can be used to blow out stumps, which gunpowder can hardly be made to do. The cartridge of dynamite should be placed under the place or places of strongest resistance. If side roots run out on two or more sides the cartridge should be divided, or two should be used so as to lift both at once. It may not pay where land is cheap to clear a field where stumps are very numerous, but there are thousands of acres on the outskirts of woodlands where a few blasts will clear a large area. The cartridges cost in cases twenty cents each, or forty cents per pound. Many half-rotted stumps can be lifted out with a half-cartridge, and, whether the stump be green or rotten, the expense is less than it would cost to dig the stumps out. The dynamite, when put under a stump, should be well covered with earth, water or something that will offer resistance, and turn the force of the dynamite on the object to be shattered or up-lifted.

FARM AND FIELD.

FOR THE RURAL CANADIAN.

WALKS AND TALKS AMONG THE FARMERS.—NO. IX.

An ashery man called at my place the other day. "Have you any ashes?" he asked. "Yes," was the reply. "Well, I'll take them," said he. "I don't think you will," said I. "Why not?" he asked. "Because they are worth far more to me than you are willing to give for them," I replied. "How much are they worth to you?" he enquired. "At least twenty-five cents a bushel," I said. "What for?" he asked. "As manure to my land," I answered. The man stood in mute astonishment, looking very much as though he considered me a lunatic, so I asked him how much he would give me for the ashes, and he replied, "five cents a bushel." He left me with the air of a person greatly wronged. Since this conversation, I have noticed in my drives about the country, several teams laden with ashes on their way to the country town, where there is a large ashery. The behaviour of my visitor, and the sight of these loads of ashes would seem to indicate that it is the usual thing for farmers to sell this valuable fertilizer, instead of keeping it wherewith to eke out the always insufficient manure supply.

My estimate of twenty-five cents a bushel as the value of wood ashes for fertilizing purposes, was a very low one. Prof. Kedrie, one of the best agricultural authorities on the continent of America, says:

"Among the most common and most valuable of special manures I place wood ashes. The amount of ash and its relative composition vary with the kind and part of vegetable burned, but we may safely take the ash of the body of a beech tree as representing the average composition of wood ashes. One bushel of ashes represents about two tons and a half of dry body wood. Wood ashes contain all the required elements of plant nutrition except nitrogen. One hundred pounds wood ashes contain sixteen pounds of potash worth eighty cents, three pounds and a half of soda worth two cents, sixty-seven pounds of lime and magnesia worth eight cents, and five pounds and a quarter phosphoric acid worth twenty-six cents. If we had to buy in market in the cheapest form the manurial materials contained in one hundred pounds of ashes the cost would be \$1.16. Can you afford to throw away such valuable materials, or sell them for sixpence a bushel to the soap-boiler? No argument is needed; here is the value and there is the selling price. Draw your own conclusions."

A bushel of common hardwood ashes weighs about fifty pounds; hence Prof. Kendrie values this fertilizer at more than twice the price I named in my talk with the ash-peddler.

SPENT, or leached ashes, though, of course, inferior to unleached, are still of great manurial value, especially under certain conditions of soil exhaustion. In the course of a lecture tour during the winter of 1878-9, I met with a remarkable instance of their efficacy in restoring impoverished land. A farmer named Peter Wright, living near Drummondville, had fifty acres of rented land adjacent to another fifty which he owned. Eight years previously, when his tenancy began, this land was in a beggared state. Mr. Wright was carrying on an ashery, and spread leached ashes over the worn-out place at the rate of twelve loads per acre. He pursued a thorough system of husbandry, and in 1878 harvested 585 bushels of wheat from fourteen acres. This was within a trifle of forty-two bushels per acre. The leached ashes were not the sole means of this amendment, but they were the chief contributor to it. Leached ashes have

great "staying power," and seem to put backbone, as it were, into an impoverished soil.

I REMEMBER that some years ago, a big mound of leached ashes in a certain Ontario town went a-begging. The proprietor of the ashery was willing to give them away to all comers, but hardly any of the neighbouring farmers thought them worth hauling. After awhile, some sharp down-Easters came along, and commenced shipping that pile of ashes all the way to New Jersey, as an application to the market gardens in the vicinity of New York city. When this got wind, the farmers in the neighbourhood of the ash-heap began to find out their mistake, and before very long leached ashes were at a premium, and readily commanded, at first twenty-five cents, and subsequently fifty cents per load.

I HAVE NO DOUBT there are similar mounds of leached ashes in various benighted parts of Ontario that may be had for the hauling. Any reader of THE RURAL CANADIAN who is sighing over the scarcity of manure, and will take the hint here given, will own that his dollar subscription to this journal for 1885 was one of the best investments he ever made in the whole course of his life.

BUT what shall we do for soap, if people will not sell wood ashes to the potash manufacturers? Well, it will take some time before this practical difficulty comes to be felt. If all who subscribe for and read agricultural journals were to stop selling ashes at once and for ever, it would hardly raise the price of soap a cent per pound, for the great bulk of the people in town and country will remain in the dark, and go on as now selling the product at one-tenth of its value. By the time a general revolution is wrought in this direction, some substitute will probably be found for potash or soap, for the world still moves, and before it comes to an end there will be many more discoveries and inventions to meet the wants of society.

THE ground is bare, and I see on many farms the cattle and sheep abroad in the fields picking up a scanty dole on the bare, brown pastures and meadows. Poor policy this, especially in the case of sheep, who bite close and will infallibly nip the crowns of the grass and clover plants, wherein are stored the germs of next year's growth. Farmers think they save a little fodder by this means, but, if they do, it is mainly by their cattle and sheep getting off their appetite in consequence of obtaining a taste of green herbage. Moreover, exposure to the cold blasts makes a further draft on the fodder mow to keep up the animal warmth wasted while wandering in the fields instead of being comfortably housed in stables and barn-yards. This is what John Bunyan would call being "penny wise and pound foolish," or as the Americans would say, "saving at the spigot and wasting at the bung-hole."

I FIND that many farmers in the vicinity of towns and cities are selling off their timber for firewood and other purposes, and taking to coal for fuel. In a financial point of view, I have no doubt it pays not a few to do this. During the brief space of good sleighing we had recently, I knew of three tons of coal being hauled ten miles in a single load, which was no heavier than many a load of green wood, which is taken the same distance. The coal cost \$6.40 per ton at the yard, and it was only a pleasant day's outing to haul it with a team that was fresh and lively from having little to do. A ton of coal is equivalent to at least two cords of average hard wood. Dry wood brings from \$4.50 to \$5 per cord in the

town where the coal was bought. Putting that and that together, it was a "good spec" to exchange the wood for the coal, especially in view of the small trouble and great comfort connected with a base burner stove.

THE days of open fire places and gleeful wood fires are, I fear, numbered, though, as long as this deponent liveth, there will be at least one to "blaze away" every winter. But already black, gloomy box stoves have well nigh supplanted the cheerful fire on the hearth, and the base-burner, with its pretty little mica windows through which the glow of red hot anthracite can be seen, is a great improvement upon these. Really, though, must "the fireside" become a figure of speech and a thing of the past? Are "back-log studies" to be pursued no more? Any one who has read and entered into the spirit of the Marvel's book on this subject, will feel a pang of regret at the ant-open fire-place revolution that is going on. But I question if it can be stayed.

I WAS talking with a farmer the other day who has fifteen acres of good unculled bush. Probably he could make \$1,600 or \$1,800 clear profit by converting that timber into firewood. The interest of the lesser sum would far more than pay his coal bill every year, and he would have fifteen acres of land added to his farm of one hundred acres. Plainly, "there's money in it," and yet one shrinks from the idea of a clean sweep being made of all the forest contiguous to towns and cities, where there is a ready market for fire-wood at high prices. If the rainfall is affected by denudation of the land of its living timber, then we ought to pause before sweeping off all the bush, and by planting shrubberies and parks around our houses, setting out shade trees along the highways, and making artificial forests of all rough hilly places unfit for culture, do all in our power to counteract the evil consequences of a too general removal of the native woods. This is a subject of great importance, and should receive careful consideration, not only at the hands of our farmers, but also our legislators. W. F. C.

MIXED FARMING.

Though in some favoured localities, and under particular conditions, mixed farming may not be the most commendable, yet, under the present circumstances of the great majority in Ontario, it must be applied for some time to come. Farmers living near large towns can profitably go into the production of specialties for consumption; but those with plenty of room, cash and talents for it may give their attention to breeding stock, with both pleasure and profit; all the strong men do not reap the harvest, so this class will be in the minority for generations to come. The average farmer, with no more than one hundred acres of land, must keep to the old plan of raising a little of everything, with slight deviations to meet exigencies of the times and seasons. What had been the leading commodity in past years may have to fall back to the second or third place, and others formerly of minor importance come to the front. One thing is certain, that grain-raising, except for feed on the farm, will have to be diminished very much in the near future when, by the aid of the Canada Pacific Railway, the prairie farmers of our vast North-West can pour their wheat into our mills at a price that will keep Ontario out in the cold. By the Scott Act movement, barley will be in much less demand, so these two grains, which in many localities formed the main staff on which the farmer leaned to meet his liabilities, cannot be trusted in future as the crops for the market, and

must take a subordinate place. In some older settled parts it may be better that such a change has been forced on us for a time, to give the soil a rest, but in very many places these will derange local capabilities and entail much loss to the farming community and their dependants, and will induce an entire change of front too rapidly to be made with profit. Stock-raising and dairying appear to be the only substitutes. S. D. G.

INCREASING THE LIVE STOCK UPON THE FARM.

It is only after a man has carefully weighed the advantages of the two leading systems of husbandry and put upon competitive trial the growing of live stock and the growing of grain for sale, that he can be competent to judge of the advantages either one possesses when compared with the other. It is not stating it incorrectly to say that in live stock, farmers have a kind of property that grows the year round; whereas perennial plants and all productive growths from the soil that are not cut from the ground in a few months after planting are dead property during a considerable portion of the year. It is not an adequate answer to this to say the farm stock is profitless during the winter. If profitless, this is owing, not to the necessities of the case, but rather to the character of the stock, or mode of keep; possibly to both. If the farm is properly stocked, and the provisions for care-taking are as they should be, the feed not being stinted, all young animals should grow apace, and feeding-stock should get fat. It is especially true of breeding animals that the winter season is one during which rapid and profitable growth toward maturity of the unborn young is made, and like the interest upon a note, or a tax upon the land, the accession of growth goes on night and day alike.

It would seem that crops which can be grown and made ready for market in ninety or one hundred and twenty days, should be profitable; but here again the fact comes in, that land kept in use for tillage crops lies idle two-thirds of the year, taxes and the interest upon capital invested accumulating during the eight months of idleness, as well as in the four months of productiveness. The introduction of machinery stimulates to over production in manufactures, and it is worth considering how far the facilities afforded for bringing certain tillage crops to perfection in a brief period of time influences such free production as to often cause a glut in the markets, and keep grain below a price which insures a profit in the growing. It is only in the older settled countries, where land has been for a long time under tillage, that due stress is given to the value of manure left by live stock upon the farm, and, on the other hand, to the drain which land suffers through growing grain and hay to be fed away from the premises.

There will certainly not in the lifetime of any man now living be a surplus of first-class beef cattle; and as consumption increases per capita, as the quality improves, we may continue to look for the usual scarcity of good cattle, and consequently for profitable prices for these. It is natural that men should doubt and waver, but if success has not attended grain growing, the product being grown for sale, to be hauled off the farm, the land being found to lose its fertility, and the purse not to grow full, then it will be well not to change over to another system because neighbour A or B has done this with success, without due study; because A or B may be thoroughly conversant with the business, and no success will attend any branch of stock breeding or feeding unless there is a proper understanding of the details.

The above from the *Rural Record* is pertinent now that the price of grain is so low. Well bred stock of all kinds is in good demand at good prices. The improved breeds of draught horses, cattle, sheep and swine make a marked improvement in the profits.

LARGE OR SMALL FARMS.

Generally speaking, small farms well tilled pay a larger per cent. profit on the capital invested in a larger farm or what is usually considered than a large farm. At the very start I will say that in the discussion of this question sufficient allowance is not made for the man who manages. We are all willing to admit that a large proportion of men are not capable of managing a large business. In other branches we do not reason in the same way as in farming. We do not think that because a man can manage to make a living as a shoemaker, that he could successfully manage a large boot and shoe manufactory profitably; or, because a man can make a fair living selling goods in a retail store, that he could take hold of a large wholesale business and manage it successfully. Yet many a man who by experience learns that he cannot manage another business successfully, purchases a large farm and imagines he can manage it successfully. He fails, of course, and then discovers that perhaps he has over-estimated himself, and with him the balance of men, and he concludes small farms are the best. He learns that it takes considerable business ability to run a large farm as well as any other business.

This is one point at least to our conclusion that more depends upon the manager than upon the farm. We have men who imagine they have the ability to manage very large farms, but a little experience teaches them that they are in this respect failures. We have some very large farms at the present time in the country, and while all may not be managed profitably, yet a large number are, and I think I am safe in saying that fully as large a proportion of men who attempt to farm large are successful as in other branches of business. Where we undertake to carry on an extensive business. To that, in a great degree, the success of the farm depends upon the way it is managed. It is principally because so many men fail to take hold of the details of large farming, and have not the executive ability required to manage so much to the best advantage, that they make a failure. So far as they themselves are concerned, they are industrious and work hard. They are economical and try to save, but these are not done in the way to be of the best advantage, and while they are in a great measure all that may be necessary for a small farm, yet they fail when applied to larger farm operations.

One man may manage a five or ten acre garden patch, and do so profitably. Put the same man on an eighty acre farm and he would soon manage himself out of everything. Another man will take forty, or even eighty acres and make it pay. He will lay up enough for a rainy day, and farm well. Put the same man on a two or a three hundred acre farm, where he must be capable of managing a few hired hands, with three or four teams, and he will soon lose all that he has made, as we might guess, but the troubles will decrease very rapidly. It requires just as good business capacity to manage farms as any other branch, and when this fact is fully recognized, we will have a less proportion of failures among this larger class of farmers than we have at present. I can see no objection to large farms, if they are carried on successfully, any more than in large manufactories, in other branches of trade, if they are managed successfully.—N. J. Shepherd, in *Farmer and Dairyman*.

HOUSEHOLD HINTS.

A CLEANER housewife cleans her rusty flat-irons by rubbing briskly over sand-paper a few times. It renders them perfectly smooth in a few moments.

FRIED ham for breakfast is particularly nice when the slices are cut the night before and allowed to soak all night in a cup of water to which a tablespoonful of sugar has been added. This softens the meat and takes out the oppressively salt taste.—*Detroit Post*.

DELICIOUS breakfast: Fry several slices of salt pork to a crisp brown. Then take five or six large potatoes, pare and slice them, drop them in the hot pork gravy, turn them on both sides to brown, pour over them three well-beaten eggs. Stir the whole gently to equalize the portions of egg. Then eat and be happy.—*Toledo Blade*.

To crystallize oranges and nuts, take one cup of sugar, one small cup of water, and the juice of one lemon. Let this boil until the syrup, when dropped from the spoon looks like fine white hairs and is very brittle. Then dip small pieces of oranges in this, lay them on buttered plates to dry. The whole meats of English walnuts are very nice crystallized in this way.

To cure a felon: Saturate a bit of wild turnip the size of a bean with spirits of turpentine and apply to the affected part. A sufferer who tried the above plan says it relieved the pain at once. In twelve hours there was a hole to the bone, and the felon was destroyed. The turnip was removed, the wound dressed with a healing salve, and the finger soon became well.—*Boston Budget*.

A CONTRIBUTOR writes: Those who wish to renovate and cleanse feather beds can do so in the most effective and easiest way by simply laying them upon the snow. Leave them out a few days, if the weather be fine, and turn them over every day. The stains and soiled places will be faithfully transferred to the snow beneath. A moist snow is better for this purpose than when dry.

A DISH that needs to be more generally known is made by chopping some veal that has been cooked, very fine, season it highly with pepper and salt and a little mustard, and bind it with the yolk of an egg; then take a firm head of cabbage, cut out the heart, and fill the space with the veal; tie the cabbage up in a cloth and let it boil until tender. Some cooks use part cold boiled ham.

Buy several cheeses and keep them through the winter. As they ripen, get older, they will also taste better and digest easier. Every American family should make cheese an article of diet, taking the place of meat as a practical substitute for it. To crowd pie and cheese into a stomach already crammed is to invite the doctor and encourage patent medicine. Better eat cheese as a food spiced with good sauce, and patronize your own welfare. More cheese, more cows. More cows better farms, and more comforts at home.

THE secret of cooking meat so as to retain the juice, is to turn it frequently. Meat can be cooked in a hot griddle or frying pan to be almost as excellent as if broiled, by heating the pan, putting in a bit of butter to prevent the meat from sticking, and turn it almost as soon as you have put it in the pan. To sear the surface quickly is to imprison the juices. Never salt meat till almost or quite done; salt extracts the juices. The nicest thing to use in broiling meat is the common wire bread-toaster. The meat is firmly held in the wires, and the long handle enables it to be turned without trouble.

HORSES AND CATTLE.

THE SHOING FORGE.

BY GEORGE FLEMING, ESQ., F.R.C.V.S., INSPECTING VETERINARY SURGEON, ARMY VETERINARY DEPARTMENT.

The horse's foot is a most wonderful piece of mechanism, and excites far more surprise and admiration than the feet of all other creatures. So wonderful, indeed, is it, that any one who had not closely studied its structure and functions would scarcely believe the hard, insensible hoof could contain such a multiplicity of beautiful arrangements, all adapted to serve most important purposes, and to render this noble animal so useful to mankind. The bones are constructed and placed with a view to speed, lightness, and strength; ligaments of marvellous tenacity bind them together so firmly that disunion is all but impossible, while they are so ingeniously disposed as not to hinder, in the slightest degree, the remarkably swift and easy movements of the bones upon each other; elastic pads and cartilages are situated in those parts of the foot where they are most required to protect it from jar, and serve to compensate for the absence of the toes, which are seen on the feet of all other creatures except the horse species. All these parts are covered by a living membrane, which envelopes them like a sock, and is exquisitely sensitive, in addition to being everywhere covered by fine networks of blood-vessels in the greatest profusion. This membrane endows the foot with the sense of touch, without which the horse could not be so sure-footed, nor run with such astonishing speed; and it also furnishes the blood from which the hoof is formed. The hoof itself—so rough, insensible, and to all appearance scarcely worthy of observation—reveals a world of wonders after we have exhausted those to be found in the interior. It is made of fibres all growing in one direction—towards the ground, and that direction the most favourable for sustaining strain. These fibres are extremely fine, and they are hardest and most resisting on the outer surface: each is a tube, composed of thousands of minute coils, so arranged as to confer strength and durability, while the tubular form of the fibre ensures lightness. Each part of the hoof has its own share of responsibility in protecting the living parts it contains. The *wall* is the portion we see when the horse is standing firmly on the ground. It grows from the upper part of the foot—the *coronet*: and this growth is always going on to counterbalance the wear that is taking place at its lower border. Its outer surface is beautifully dense and smooth in the natural state, and altogether the wall is perfectly adapted to meet the wear that occurs when the horse is running at liberty in an unshod state. This is also the part on which the shoe rests, and through which the farrier drives the nails that attach it.

When the foot is lifted up backwards, we see the *sole* and the *frog*. The *sole* is the part that lies within the wall; it is slightly hollow in a good foot, and is thick, strong, and covered with flakes of loose horn in one which has not been pared by the farrier's knife. The *frog* is a soft triangular piece of horn in the middle of the sole towards the heels. It is very elastic, and serves a most important purpose, as it acts as a cushion to prevent concussion, and also hinders the horse from slipping. The sole, frog, and lower border of the wall have all to come in contact with the ground and loose stones; therefore nature has furnished them with an abundance of horn to make them strong enough to bear the horse's weight, withstand wear, and keep the delicate parts inside from injury. So long as the horse is not com-

polled to work on hard roads, its hoofs are well suited to all that is required of them; but our civilization demands that we should have paved and macadamized streets, and on these the hoofs would quickly be worn away, especially if the horse had to draw or carry heavy loads—consequently lameness would ensue. It is therefore absolutely necessary to prevent this mishap by *shoeing* the hoof with iron, as we shoe carriage-wheels with tires, the ends of walking-sticks with ferrules, etc. This shoeing has been a great boon to mankind, as it has rendered the horse a hundredfold more useful than it would otherwise be, and has made it independent of the kind of roads over which it has to travel.

The primitive idea of shoeing was to prevent the lower border of the hoof from undue wear; and, no doubt, for many ages this idea was adhered to, and a shoe was only applied when the horn had been worn away so much as to endanger the horse's utility. In time, however, the farrier began to improve upon nature, as he thought. Cutting instruments were brought into free use; the horn that was so well adapted as a protection was cut away from the sole and frog to such a degree that the poor animal, if it chanced to put its foot suddenly upon a stone, either came down with a crash or limped along from the pain caused by the injury to the sensitive parts, which had now been almost completely exposed. In addition to this, and to compensate for robbing the foot of its horn, heavy, wide-surfaced shoes were put on to cover the mutilated sole and frog; these required a large number of big nails to attach them securely, and these nails split the hoof and pressed upon the quick; so that between the painfully tender sole and frog, the unwieldy, leg-tiring, clumsy shoes, and the numerous large nails that squeezed in upon the sensitive parts, we cannot wonder that the unfortunate horse suffered an amount of torture that makes one's flesh creep to think of, and which soon crippled him, and prematurely ended his days.

In addition to this barbarous treatment, in order to make fine work, the outer surface of the wall—composed of the dense smooth fibres—was rasped unmercifully away as high almost as the hair roots, and this exposed the soft immature fibres within; these shrivelled up and broke, and being unable to sustain the nails, the shoe frequently came off, and not only was the foot still more damaged, but the "cast" or "lost shoe" was a source of inconvenience and annoyance. Nay, the lives of individuals, or the fate of kingdoms, may at times have been at stake through such an apparently trivial misfortune as a shoe coming off, owing to its improper treatment.

We all remember how Benjamin Franklin, earnestly solicitous of impressing upon us the great value of attending to the smallest details of every-day life, in order sometimes to avoid great calamities, makes Poor Richard say: "A little neglect may breed great mischief. For want of a nail the shoe was lost, for want of a shoe the horse was lost, and for want of a horse the rider was lost, being overtaken and slain by the enemy—all for want of a little care about a horse shoe nail."

These evils of farriery are as prevalent and destructive to day as they were fifty years ago. The number of horses tortured and ruined by this unreasonable paring and rasping, in addition to the heavy shoes, too small for the feet, and badly formed, is beyond computation.

The *frog* and *sole* should never be pared; they flake off gradually when they have reached a certain and proper thickness, and as they have to come in contact with the inequalities of the ground, and with the loose, sharp stones so frequently on its surface, is it not reasonable to

urges that they should be allowed to retain their natural condition? Whoever pares, or causes to be pared, a horse's soles or frogs, is guilty of cruelty to the horse whose feet are so mutilated.

The *front of the wall* should never be rasped. It destroys it, and makes it thin and brittle. It ought to be allowed to retain its close, glossy, tough surface, so well adapted for resisting the weather and holding the nails. As the wall is always growing, and as the shoe prevents its being worn down to a natural length, when the old shoe is taken off in the operation of shoeing, the lower end only of this part of the hoof should be rasped down until the excess of length has been removed—nothing more.

The shoes should be as light as possible, and fastened on with as small a number of nails as will retain them. They ought to be the full size of the circumference of the hoof, and the hoof should never be made to fit the shoe, but the shoe to fit the hoof.

A proper and rational method of shoeing is a boon to the horse and its owner, an improper method, which destroys the integrity of the hoof, and wears the limbs, is a curse and a torture to the one, and loss and annoyance to the other.

When horses go to be shod at a forge, care should be taken that they are not ill-treated or frightened, particularly young horses. By bad treatment, or unskilfulness in handling their legs and feet, they are frequently made so timid and vicious, that severe measures have to be resorted to in order to ensure safety to the farrier while he is shoeing them. A few kind words, a few pats on the neck, a few gentle strokings of the limbs, and a little persuasive coaxing, will prove a thousand times more effectual in inducing horses to be patient in shoeing than all the harsh, loud pitched words, hard knocks, twitches on nose, and other unmeaning and unhorsemanlike proceedings can do.

Sir Edwin Landseer, who, by his beautiful and everlasting conceptions—so truthfully and exquisitely portrayed—has done so much to foster among us a love for animals, shows, in the accompanying illustration, how much may be done by tact and kindness. The horse that is being shod stands as quietly, without restraint of any kind, as if he knew that the worthy old farrier was his dearest friend, and was performing for it one of the most necessary offices possible. Even its companion, the happy-looking ass, looks as if he wished its turn had come, so that it might submit its limbs and hoofs to the soft manipulation and protected efforts of the village Wayland Smith. And we may be sure that the hound always welcomes the Jay on which it accompanies its two companions to the smithy. We might even fancy that it wonders why its feet are not shod in a similar manner when they become sore through long runs over hard ground.

A humane and intelligent farrier is a boon to every community; but one who is harsh, unobservant, and pays no attention to perfecting his most useful art, is a torturer of animals and a destroyer of property.

Farriers, of all men who have to do with horses, can confer upon these good creatures the greatest amount of relief and comfort, by attending to the simple indications of nature, and using their own common sense and judgment, instead of adhering to stupid and blind routine, which never improves, but, on the contrary, retrogrades. Every lover of the horse should see that its beauty is not deformed, nor its utility marred, by a farriery system which is as outrageous to the meanest comprehension as it is disgraceful to the age we live in. The more we understand the Great Creator's merciful intentions, the less likely are we to thwart them.

THE NORMAN HORSE.

Wherever the Norman Horse is found in America, the name of Dillon is known. The Dillons were pioneers in this line, and, as will be seen by the facts given below they still continue to do pioneer work. Having demonstrated beyond a question that the Norman Horse crossed with the common-produces the ideal draught horse for farm and draught purposes in the north, and after having demonstrated to their own satisfaction that it would be equally valuable in the south, they have engaged in an enterprise in Texas which is simply magnificent.

These gentlemen in connection with others purchased a tract of land in Shackelford County, Texas, embracing 2,700 acres, and in addition to this are entitled to 75,000 acres besides, giving them a range of over 100,000 acres, 2,700 acres of this is under fence. On this range they have placed 4,400 horses, principally native mares, these they are breeding to Norman Stallions as fast as they can spare the stallions from their home stables. They have made one shipment of thirty-five stallions.

The objection that some horsemen have urged against the Norman Horse is that they would not endure the southern climate. The Dillons have proved that this is not true. They have demonstrated that the Norman will stand both summer and winter fully as well as native stock, and that colts will thrive fully as well as at the north. Five two year old Norman mares all with foal were shipped to their Texas Rancho, all foaled, and mares and colts have done well.

We need hardly say anything about the reliability of this firm: guarantee all horses bought of them to be breeders and to be just as represented. Their beautiful illustrated catalogue of Norman Horses, giving list of animals imported and bred in 1884, amount of stock on hand, and much useful information concerning the Norman Horse, sent free of charge.

A GENERAL PURPOSE HORSE.

At the Lambton Farmers' Institute, Wyoming, Mr. D. M. Robertson read a paper on this subject in which he stated there was a growing conviction among the farmers that it was just as cheap to keep good horses as bad ones; the only difference was in the original cost. By the proper crossing of certain breeds a good general purpose horse could be produced. A good general purpose horse should possess the following characteristics:—Size, about sixteen hands; weight, about 1,300 pounds; a symmetrical shape, face nearly straight; broad, intelligent forehead, mild eyes, ears medium size; well curved neck, resembling the curve in the neck of a game cock; chest wide and deep; the shoulders should be slightly slanting; the arms should be long and as muscular as possible; the knee should be broad; he should stand plump on his forelegs, the fetlocks should be clean, the withers should be of medium height and even with the neck. The ribs should be well sprung, so as to give the body a cylindrical shape. The space between the back ribs and the hip bones should not be more than a hand-breadth. A horse could not have too much muscle in the loins. The hips should be long and broad. The quarters should be slightly drooped, strong, and muscular. One of the most important points about a horse is the neck. It should be of good size and clean.

President Mills:—"Do you attach much im-

portance to the size and shape of the bones?"

A.—"Yes; I would have the bones pretty large and the legs present a flat appearance when viewed from the side."

Q.—"Even for heavy draught horses?"

A.—"Well, not so thin for heavy draught, but I would have them very much thinner than a great many have them. I like a full, round foot, well up in the heels."

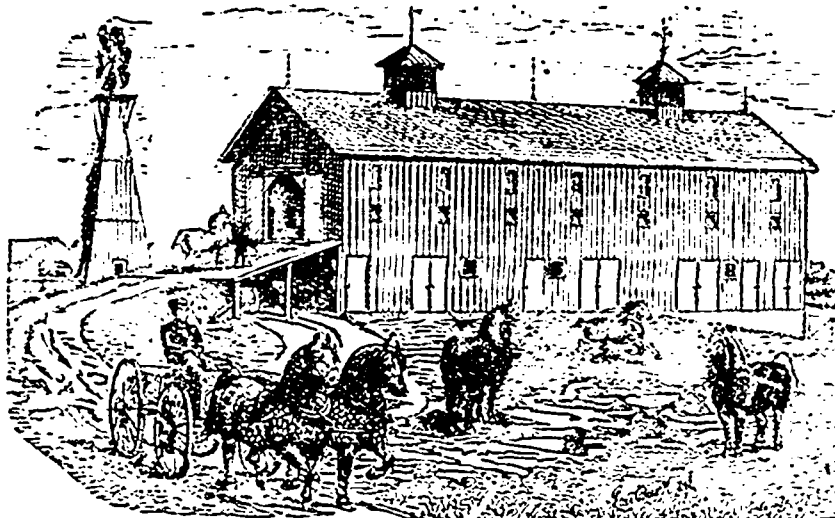
Q.—"What size of castors would you prefer?"

A.—"I would rather have large castors on a general purpose horse."

GLANDERS.

A description of the symptoms attending this troublesome disease may be useful to RURAL CANADIAN readers:

If this disease always assumed the same character, and every glandered horse presented the three special symptoms—greenish, sticky, and at times, bloody discharges at the nose, the hard, painless and adherent swollen glands at the jaw, and above all, the peculiar and characteristic ulcerations of the mucous membrane upon the car-



One of the six Barns on the Home Farms of Dillon Bros., Importers and Breeders of Norman Horses, Normal, Ill.

tilage of the cavities of the nose—there would be no difficulty in recognizing it. Unfortunately it assumes many forms. Sometimes they are only slight glandular enlargements; at others, discharges from the nose, while in a third animal neither of these will exist, and only small ulcers will be detected in the upper angle of the nostrils. The horse may appear in healthy condition, with nothing apparently wrong to a casual observer, able to do its work without signs of fatigue, and yet communicate the loathsome disease to all, even mankind, who may come in contact with it.

If the disease has assumed an acute form, the appetite is impaired, the pulse accelerated, general prostration, staring coat, watery eyes, yellowish or purple streaks on the membrane of the nose, a discharge from the nasal chambers varying from a watery to a sticky mucous character. Little red elevations will frequently be observed on the mucous membrane of the nose, which develop into ulcers of irregular form and colour. The glands on the outside of the jaw are enlarged, hard and lumpy. Sometimes a cough is present. In the latter stages the nasal discharge becomes bloody, fetid, and so profuse as to cause suffocation.

If the disease is chronic, there is invariably ulceration of the mucous membrane of the nasal chamber, but the ulcers are sometimes so high up as to be seen with difficulty. There will also be discharges from both nostrils, which vary from a thin watery, to a thick and bloody nature, frequently very offensive. In the chronic state there is no fever, and the animal appears to be in excellent health and spirits.

NAKED BITS FOR HORSES.

"An Experienced Horseman," in the *Kentucky Live Stock Record*, reminds those who have the handling of horses of the cruelty of which they may be carelessly guilty:

"Let any one who has the care of horses these cold, frosty mornings, deliberately grasp in his hand a piece of iron; indeed, let him touch it to the tip of his tongue, and then let him thrust the bit into the mouth of the horse if he has the heart to do it. The horse is an animal of nervous organization. His mouth is formed of delicate glands and tissues. The temperature of the blood is the same as in the human being, and, as in man, the mouth is the warmest part of the body. Imagine, we repeat, the irritation that would be to the human, and, if not the same degree, still the suffering to the horse is very great. And it is not a momentary pain. Food is eaten with difficulty, and the irritation repeated day after day causes loss of appetite and strength. Many a horse has become worthless from no other cause than this. Before India-rubber bits were to be had, I myself used a bit covered with leather, and on no account would have dispensed with it in freezing weather."

FEED your stock with regularity, both as to time and quality. Regularity is a great producer of flesh; it is beneficial alike to man and beast.

THE *Pittsburg Stockman* very sensibly says: Do not be afraid to pay well for stallion service. It is the only way to bring the best horses within your reach and encourage breeders to locate in your neighbourhood. This is the point in horse raising in which you can least afford to be niggardly in expenditure. Economy here, at the expense of quality in your colts, is sheer waste.

THE care of horses is at least as much as their feed in keeping them in good condition. At this season the brush and currycomb should be used freely but not roughly. The stimulus these will give the animal's hide will start the old coat of hair earlier. While a horse is shedding his coat he is not strong, and it is therefore necessary that the debilitating process be completed before he is put to hard work.

"GENERAL purpose" horses are the scarcest commodity in the market. By general purposes we mean all, or nearly all purposes. Of course it would be impossible to find a horse suitable for heavy, slow work, and at the same time a successful race horse either at running or trotting, but the general purpose horse to be desired, and the one that it is possible to produce, is one that is heavy enough, kind and stout enough for general farm work, with style, beauty, action and speed enough for saddle and light harness.

It is the brain and wit of the successful horse dealer which pays him, not his continuous labour. The farmer raises a so-so sort of colt and offers to sell him at perhaps \$75 or \$100; the sharp man, who is "half horse," buys him, teaches him how to step and to behave in harness, changes the contour of his body, the belly particularly, by proper feeding, trains his muscles, and then sells him to a wealthy man for a family roadster or trotter, for three, four or ten times the cost. He improves the colt by careful study and attention to little things which the farmer thinks fussy or unimportant. And yet a great deal of this training can be given on the farm better than anywhere else, particularly everything relating to gentleness. A horse should be so gentle that if children should sleep under him no intentional harm will come.

SHEEP AND SWINE.

SWINE.

BY MALCOLM M'ARTHUR, OF LOBO.

With regard to the best breeds I may say I am fully convinced that the Suffolks and Berkshires include our best breeds for early maturity and putting on the market a much-called-for class of meat, both on this side of the Atlantic and also in Great Britain. In Suffolks and Berkshires you get good hams and shoulders which you all know are the most marketable articles in the pork line. However, I would say that I am fully persuaded for side meat, well marbled, and the fat and lean well mixed, that a cross between the large Yorkshires and the two breeds I have mentioned would produce the best results. For side bacon you want a larger framed hog than either the Suffolk or Berkshires, and I would say one of slower maturity. Animals of early maturity like the two classes mentioned are apt to develop too much fat without any growth of muscle or the lean part of the meat; hence Suffolks and Berkshires cannot be supposed from this early maturity to produce a first-class quality of side meat.

Then with regard to breeds, I may safely say, Suffolks and Berkshires for choice hams and shoulders, and a cross-bred pig for side meat. From the present prices paid for small and large pork in our markets a hog from 150 to 200 pounds commands the highest prices and discounts a larger animal fully seventy-five cents to one dollar per cut; thus showing that early maturity and medium sized pork is the best investment for our Ontario farmers, according to the ruling of our present markets. And our farmers should study markets more than they do. The advice that I would give to my fellow-farmers on breeding is this, let your litters come early, say March or not later than April in the small breeds which I have mentioned. Between April and say the hot weather of June, in temperature, is the most favourable time for the growth and development of a young animal in this latitude. That is, a pig littered early will pass through a more favourable temperature than a later one, and he will have so much the start in growth. There are two conditions under which a hog makes no progress or development, and these are in extremes of heat and cold. There is no animal that suffers more in the hot weather of June and July than a pig, for see his inclination to wallow in muddy pools to cool his feverish skin. And on the contrary, there is no animal that deteriorates or makes such slow progress in development as a pig in cold quarters. It does not pay to feed hogs in cold weather, especially in the majority of pens we see in the average barn-yard.

You will find that early spring pigs, killed about November or December, will produce the best results.

About breeding, I may say, that there is no animal that yields to the influence and prepotency of the male the same as swine, and for this reason I would advise you to breed from well-bred pedigree boars. Take a razor back sow of mongrel breed, and the first cross will produce you a progeny that cannot be distinguished from thoroughbred Suffolk or Berkshires, but you do not want to breed from them any more. The only remaining thing I have to say is about breeding pigs; and this is of the greatest importance. My plan is to start young pigs after their suckling state is over by giving grain or chop in solution, that is, mixed with water or other feed in a fluid or soft state. I am fully persuaded that our farmers lose money by feeding hard dry grain to swine, especially when they are young. In the Western States the rule is, ten pounds of corn to make a pound of pork, but these Western men

feed the corn in the cob and the greater portion of the feed passes through the animal undigested, as may be seen in the dung of hogs fed on corn and peas in the whole and dry state. I contend that seven and a half to eight pounds of ground corn or peas will produce a pound of pork, if the animal is kept in proper quarters.

In conclusion I would strongly recommend a more careful attention to breeding the best stock we can get. Pork is a staple article of food and swine breeding should form a prominent part in the husbandry of Ontario; and by proper attention to breeding and feeding the farmer will be amply repaid for his efforts.

A SMALL FLOCK OF SHEEP.

Sheep do best and return the largest per cent. of profit when kept in small flocks, less than fifty. Wool should not be the sole aim in keeping sheep, the lambs are the real things to be looked after, mutton varies less in price than any class of meat, while the demand is steady at gradually increasing prices for superior quality. The Southdown is without a rival for mutton although other breeds are said to be good under some conditions, but there can be no mistake in selecting the Southdown for a cross. With any of the Down breeds it is usual to raise as many lambs as there are breeding ewes in the flock and a lamb of any breed is worth as much at one year as its dam. Two hundred dollars invested in sheep will ordinarily double itself in a year and the wool pay all cost of keep.

There are a few points that should be remembered and pondered, first that the manufacture of woollen goods is not going to stop, second that in the palmiest days of wool growing, about forty per cent. of the wool and woollens consumed were imported, third, the continued high price of all meats for a long series of years demonstrates plainly that in contributing to the meat supply is the surest way to make the farming pay. Even poultry has doubled in selling price the last few years. Diversified farming is conceded the most profitable in Ontario, a small flock of sheep could well be added to the stock on many small farms. Sheep require care—intelligent care, and that is just what a man with a small farm and little stock can best give them. I should rather expect a man with forty acres of land and \$200 worth of sheep to make more money out of his flock than another with a thousand acres to do so.

The wintering of sheep depends much on the condition of the flock at the beginning of winter. Sheep if low in flesh in the fall hardly ever improve, but keep going down hill all along, until before the spring time draws around their pelts are hanging in the shed. See, then, that your flocks are in good condition, and if there are any thin ones among them, separate them from the rest and give them a little grain each day until they have gained their wonted vigour. It is much cheaper and more easy to put sheep in good condition in the fall than to have to coax and nurse them all through the winter and then only secure their pelts for your trouble. But it is a bad policy and poor management to allow them to run down in the first place, as it does not cost much more to keep them thriving than it does to let them go to "sticks," but after they once get down it costs a great deal both of time and feed to get them up again.—*National Stockman.*

CUTTING FODDER FOR SHEEP.

In a large experience in cutting fodder, we have found the saving in cutting for sheep even greater than for cattle. When the fodder is cut it is easy to mix with it ground feed or grain, and

the sheep will then eat the cut fodder and grain together, insuring a mastication of the grain and its better digestion and assimilation.

In fattening sheep, cutting the coarse fodder will be found very advantageous; first because much fodder will be saved and the grain better utilized; second, because the sheep can safely be crowded in fattening, without danger of disease, when the grain is always eaten with coarse fodder. When sheep are fed heavily on grain alone, it is not raised or remasticated, and sometimes is likely to produce fever in the stomach, but when the grain is eaten with cut fodder it lies light and porous in the stomach, and is well acted upon by the gastric juice, which can circulate freely through the mass; the food is then readily digested, and passes through the system without causing any irritation. As coarse fodder is raised and remasticated, and grain mixed with it is also raised and remasticated. Using short cut coarse fodder, makes it most convenient to feed a great variety of food that sheep are very fond of—corn, oats, middlings, oil cake, pear, unmarketable beans, barley, etc.

There is more sense than poetry in the old saw that says the "sheep's foot is golden." Sheep come nearer "working their own passage" than any other animal on the farm. They like good grass, but they consume and work into manure more weeds and briars from fence rows and wherever found than any other animal. They also equalize fertility by eating where the grass grows during the day and seeking the poorer knolls, where sometimes the ground is too poor to grow grass, to lie down at night. This they will do, except when driven to the hollows to seek protection from the storm, and that no farmer should allow his stock to do. Then, when they have scattered their manure on the poor knolls, they tramp it in with their sharp feet, so that it cannot wash away. It would be a sorry day, indeed, that banished sheep from the farm entirely, although many farms, much too many, are run without their aid. This is partly owing to the lack of a proper appreciation or understanding of their full value on the farm, and partly to the legislation that has robbed the owners of most of the profit on their fleece, for while it is a fact that a flock of sheep on a farm, as above stated, comes nearer paying its way as it goes, than any other stock; it is also a fact that in the end, when the net profit should reasonably be expected, it fails under present laws to show up. Predictions are now freely made, that next year's clip will be far below that of 1884, and even if such were not the case, we should advise every farmer to keep a small flock with the full assurance that they will not come out in debt.

In the *Michigan Farmer* a farmer tells how he manages to conquer Canada thistles by the help of his 200 sheep. He puts a small handful of salt on each thistle at the root. The sheep eat the thistle close to the ground. The salting is repeated as often as may be necessary, and the thistle seldom appears the second year.

A dry pen is, to a pig, of more consequence than many suppose. It pays to keep the pig dry and warm. The sleeping part of the pen should be raised a foot or so above ground, and allow the air to freely circulate under the pen, to dry the bed. The cold does not hurt a pig if the bed is good and dry, but wet pens are one of the greatest nuisances of a farm.

HEIFERS intended for the dairy should not be fed on fattening food. Plenty of coarse provender is better. It enlarges and strengthens the digestive organs, and when they come in profit, the tendency will be to milk and not to fat.

CANADA WEST LAND AGENCY COMPANY.

Those who have hitherto applied to this Company for copies of the FARM JOURNAL will notice the amalgamation which has taken place by which the JOURNAL becomes, in connection with the RURAL CANADIAN, a monthly publication. It will be the endeavour of the proprietors to extend the circulation still further, in Great Britain and the United States, so as to make it the most important medium of communication between these countries and our Dominion. Parties wishing to advertise lands for sale may obtain full information as to rates, etc., by addressing J. R. ADAMSON, Manager CANADA WEST LAND AGENCY COMPANY, 14 Adelaide Street East, Toronto.

NORTH-WEST LANDS.

We have just completed arrangements with the Manitoba and North-Western Railway Company, by which we are able to offer their lands for sale, situated on the line of the road now in operation, and in the very heart of the famous

Fertile Belt.

512,000 ACRES OF THE BEST LAND IN THE WORLD TO CHOOSE FROM. - FIRST COME FIRST CHOICE.

Cheap Prices; Long Credit; Low Interest; No Restrictions; Large Rebate for Cultivation.

BRANT COUNTY.—Onondaga Township.

742.—The "Onondaga Farm" is a magnificent property containing 266 acres, of which 190 are cleared and mostly free from stumps. 80 acres are covered with fine hardwood bush. The soil ranges from sandy loam to clay, and is very productive. It is well fenced with board, rails and trimmed stumps. The buildings comprise a solid roughcast house, 1½ storeys, containing 8 or 9 rooms; 3 good frame barns, stabling for 35 head of cattle, with other outbuildings. There are 2 orchards, one old and one young, both bearing. It is conveniently situated to school, church, post office (½ mile), and railway station about 3 miles distant. Caledonia, where there are stations on the G. T. R. and the N. & N. W. R., is 7 miles distant. Brantford, the county town, 11 miles, and the City of Hamilton about 14 miles. Price, \$12,500, \$5,000 cash, balance to suit the purchaser, with interest at 6 per cent. The farm is very well adapted for stock-raising, the land being rolling, and Big Creek running through it, without, however, making any waste land. It is within 7 miles of "Bow Park Farm."

BRUCE COUNTY.—Carrick Township.

2524.—A particularly nice farm of 115 acres, about 90 cleared, some fine sugar bush, ash, cedar, etc. The soil is a first-class loam, rolling and easily worked, watered by a spring creek and wells. Fences are board and rail. Log house, frame barn, good orchards containing Apple, Pear, Plum and Cherry trees with grape vines and currant bushes all bearing. On a gravel road close to School, Churches and Clifford market town 2½ miles. Price \$5,000, terms easy. This is a bargain.

ELGIN COUNTY.—Malabide Township.

2445.—A splendid farm of 200 acres, 175 of which are cleared, 140 free from stumps, 15 in fall wheat, 15 in meadow, 50 seeded down, and 25 in bush, which affords good pasture, timber, oak, maple, and beech; soil is sandy loam, gently rolling and easily worked; there is a spring and a creek, a well at the house, and a cistern at the barn; good subsoil drainage; the fences are rail, board and pine stumps; the dwelling is frame, on stone foundation, 24x36, 2 storeys, with cellar of house; outside kitchen, 12x18; woodshed, 18x18; frame barn, No. 1, 40x60, on stone corners, barn No. 2, 50x30; stable and shed No. 1, 45x34, stable and shed No. 2, 45x24; frame granary, 22x22, drive house, 24x36, stable, 24x36, pig-pen, 22x22, all in good repair, 8 acre orchard, containing all kinds of fruit—all bearing. The farm is ¾ mile from gravel road, and a school is on the lot, English, Presbyterian, Methodist, and Baptist churches; post and telegraph offices, and market town at Aylmer, 2½ miles on the Air Line, G. W. R.; P. O., also at Jaffa; St. Thomas, 13 miles. Price, \$14,000; \$5,000 cash, balance in 10 years, at 7 per cent. Owner giving up farming. Will exchange for city property.

GREY COUNTY.—Sydenham Township.

2110.—A most valuable property, 600 acres, 63 cleared, 125 meadow, timbered with Maple, Birch, Cherry, Cedar and Elm, soil light clay loam, rolling and easily worked, watered by 2 springs and 3 creeks, cistern in back kitchen; fenced with straight cedar rails; dwelling of frame, on stone foundation, 24x24, 1½ storeys, containing 10 rooms, cellar, 16x16; also a large wood-shed, there is also a house for hired men—all in good repair; orchard comprised of a few fruit trees. Taxes amount to \$35.90 a year, with 14 days' road work. School 1½ miles, Church 1 to 2 miles, Post Office, Bogner, 2 miles, Telegraph Office 5 miles, and market town, Owen Sound, 11 miles, on the T. G. & B. R. Price, \$11,000; \$3,000 down, balance to suit, at 6 per cent.

HALIBURTON COUNTY.

We offer in the Townships of Dysart, Dudley, Harcourt, Gifford and Harburn a large tract of land admirably adapted for stock raising. It is extremely well watered, and raises even better grass and root crops than the high priced lands in the front. As the price ranges from \$1 to \$5 per acre, stock raisers can operate a much larger acreage than it would be possible for them to do in lands ranging from \$50 to \$100 an acre. In consequence of this low price the cost of raising animals is reduced to a comparatively very small sum. Intending investors would do well to inspect these lands thoroughly before buying elsewhere. Any practical man who understands his business can easily convince himself of the advantages of this district by personal inspection.

HALTON COUNTY.—Nelson Township.

2176.—That magnificent property known as "Limestone Hill," containing 200 acres, 150 are cleared, nearly all free from stumps, 30 in permanent pasture, and 50 wooded with beech and maple; soil, limestone loam, slightly rolling, none stony, well-watered; fences cedar rails, and at the front pickets. The residence is a splendid out stone two-storey building, 60x40, containing about 14 rooms; cellar, 30x30; summer kitchen and woodshed. A large barn, with stabling, was recently burned down, leaving the stone foundation and cellar—this has been partially rebuilt, and the stone foundation is still standing ready for building the remainder. The other buildings comprise a frame barn, 40x20, a large frame driving house, with stabling in connection, a stone smoke house, etc. There are 2 orchards, covering 15 acres, and containing 700 trees all bearing, and nearly all grafted fruit in various stages of growth, and all choice varieties. Distance 1½ miles from school; church 1½ miles, Lowville P. O., ¾ miles, Zimmerman or St. Ann's Station on the H.

and N. W. Railway 3 miles, Milton 5 miles, city of Hamilton 15 miles, Burlington 8 miles. This is one of the best stock farms in the country, and cannot be beaten for raising any kind of crops. Price \$12,000, terms easy with interest at 6 per cent. A fine spring creek runs past the buildings.

HALDIMAND COUNTY.—Caledonia Village.

187.—That first-class foundry and machine shop known as "Scott's Foundry," comprising a large brick building, 2½ storeys, the ground floor of which is tiled with expensive lathes, cutting and punching machines, etc., the first floor is a carpenter's shop and fitting room, and the upper flat is a pattern room. The foundry, with cupola, and powerful blast adjoms, and further to the east is the paint shop and store house for finished work. There is also a blacksmith shop with 4 forges; planing mill, 40 horse power engine, and 35 horse power boiler, and all necessary shafting and machinery for carrying on a large business. The lot covers half an acre of ground, and is very centrally located. The shipping facilities here are unsurpassed, the G. T. R., passing through the village, while the N. & N. W. R., gives access to the country north and south, and to the G. W. R., C. S. R., C. V. R., and T. G. & B. R. Price, \$4,500; terms easy. A dwelling house may be had adjoining the foundry at a moderate price. This foundry is celebrated for the manufacture of the Vibrator Threshing Machines, of which all the patterns are in stock, as are also horse powers, reaping machines, ploughs, saw mill machinery, engines, and a large lot of gearing patterns, stove patterns, straw-cutting box patterns, etc., etc.

MUSKOKA DISTRICT.—Stephenson Township.

2136.—The "Norcot Farm," containing 195 acres, 48 cleared, 40 meadow, 40 seeded down, 147 bush; no rocky or stony land, timber, hardwood, a few pine, plenty of cedar, spruce, etc.; soil clay loam, rolling; there is a creek, and a well is near the house, the farm is well ditched; the fences are cedar rails (new); log dwelling, 20x16, 1½ storeys, 1 room and attic, small cellar, roofed with shingles, in very good repair, frame barn, 50x33, on cedar posts, log stable and loft, 24x15, both shingled, 7 years built, and in first-class condition; government road, post office, schools, and store, 400 rods away; churches, telegraph office, grist and saw mills, etc., 5 miles; market town, Bracebridge, 15 miles. Price, \$2,500; \$1,750 cash, balance to suit.

NORFOLK COUNTY.—Charlotteville Township.

2589.—Good farm of 100 acres, 90 cleared and free from stumps, 55 in meadow, and 10 wooded with excellent pine and white oak; soil is sandy loam; rolling and easily worked; fenced with rails; is watered by a creek, cistern, and two wells, situated one at house and other at barn; dwelling is frame, 26x36, roofed with shingles, 1½ storeys, 7 rooms; cellar and outside kitchen; good lumber bank barn, 30x52, with cow stabling underneath; also a shed, drive house, machine shed, with carpenter's and blacksmith shop, smoke, and bee houses, corn cribs, pig sty, poultry shed, etc.—all buildings in good repair, there is a very large orchard, containing 300 apple, 250 peach, 100 cherry, plum and pear trees, and some grape vines; good roads; school, 1 mile; English church, 4 miles; Methodist 2, and Baptist, ¼ mile away, post office, Gionshee, 1 mile, market town, Simcoe, 3 miles, where are post and telegraph offices, and station, on the G. T. R., also some at Delhi, 6 miles. Price (which includes live and dead farming stock), \$5,000, which is a bargain.

WELLINGTON COUNTY.—Luther Township.

625.—A good farm of 202 acres; 45 cleared, under cultivation and well fenced; balance, 125 acres, is excellent hardwood land, heavily timbered with maple, beech, elm, hemlock and basswood, and 30 acres of first-class cedar and valuable mixed timber; this is a particularly good lot, rolls slightly to east and south from the centre; it is a corner one, the 13th concession road being in front, and the 13th side line running along the easterly limit of the lot, rendering it easy of being divided into two farms of 100 acres each, good roads, choice neighbourhood; good rail fences; 1½ miles from Egerton post office, and one mile from school-house, there is a splendid new frame house, 30x32, containing 7 rooms, well finished, new frame barn, about 50x40, log stables on the premises. Price, \$3,500. This lot is only separated by the road from the following one.

626.—Valuable farm of 100 acres; 20 of a dry, luxuriant beaver meadow in the north-west corner, through which flows a never failing creek, 40 acres more are burned and ready for clearing and fencing, and 95 of heavy standing hardwood bush on rising ground, extending along the easterly and southerly boundary of the lot; no waste land; at a small outlay this can be made a most valuable farm, would make a very valuable stock or dairy farm; good roads; no buildings. Price, \$1,200, or 625 and 626 together, \$4,500.

FOR EXCHANGE.

We can offer a few sections of excellent land in Manitoba in exchange for farms in Ontario, or other choice property.

House property in Toronto will be given in exchange for one or two good farms, well located.

J. R. ADAMSON, Manager "Canada West Land Agency Co.,"

14 ADELAIDE STREET EAST, TORONTO

GARDEN AND ORCHARD.

FRUIT JOTTINGS.

MR. HENDERSHOT'S article on the Grape strikes me as being very much to the point. I see he grows the Pocklington and thinks highly of it; will he speak up again and tell whether the berries hang well to the cluster? This objection of "shelling off" is one that has been urged against it by certain parties and it would be well to meet it squarely if it is without fact-foundation. I have fruited it; but by a blunder the weeds and thistles got ahead of it, so that I could not expect it to do fairly with me. I think it will prove too late in our short season but accounts are very flattering further south.

THE Concord is generally too late with us although the Worden seems a regular "never-fail." I think it would interest many readers if Mr. Hendershot would also tell us whether the Worden is any improvement on its parent with him, and now much earlier it is.

WHATEVER secret there is in the success of Mr. E. J. Woolverton with the Pocklington, I trust your talented horticultural editor will not whisper too low or hang on to it too long. Let us have it soon, and the louder the better; for it takes something very plain to get many of our farmers to believe they can grow good grapes. Over twenty pounds on a single four-year vine! We can't all do it perhaps; but those of us might try, if shown how to come near it.

YOUR horticultural editor does well to refer to the dark side of fruit growing. No doubt it is true that most people come a good deal nearer to 2,000 quarts of strawberries per acre than they do to the 8,000 rate; yet is it not equally true that it is mostly their own fault? Given an acre of good soil, forty good loads of manure, clean culture, and the essentials of a good produce variety, an average season, and average freedom from small boys and other insects, and I ask if a minimum yield of 2,000 quarts of strawberries is not as mathematical a result as we can look for in any department of agriculture? Of course the data mentioned are a good deal to take for granted; that is but right if there is to be a good yield. For my part I have applied what I consider the manual and cultural essentials for 7,000 quarts per acre on a patch of nearly two acres, and I look for that yield with considerable confidence. On another plot of less extent the conditions have not been applied to warrant 2,000 quarts per acre, and I shall be surprised if I get that much. I believe I know how to put on manure and work enough to raise *four hundred baskets* of this luscious fruit on one acre, and I mean to try it! Let us seek into our mental economy the fact that short of the finalities of climate or insects, the difference in yield is mostly a simple question of brains, manure and elbow-grease, to produce anywhere from nothing at all up to 12,000 quarts of strawberries on an acre of good land!

NOW is the time to be sure the strawberries are safe, if you have not attended to them sooner. Freezing and thawing will tear and heave out the roots on sticky soils, if unprotected, and a hard freeze following a thaw will kill them on any soil. Beds in grass and weeds suffer least from this sort of weather, but sure protection can easily be provided, no matter what the system of culture; scatter over the whole ground a dressing of well-rotted manure to the depth of nearly or quite an inch and a half. The crowns of the plants do

not need to be covered—in fact we find them better uncovered. But we have plenty of snow during most winters; in Southern Ontario the whole plant might be hidden from sight without detriment, and would grow through the manure (well-rotted, as aforesaid) in spring.

THIS question of mulching is a very broad one—as any one will find who will try it on an acre of ground, as I have done. Not only does the manure protect the roots from heaving on wet land, or from freezing outright in a dry soil, but it diffuses richness throughout the entire soil, with the melting of the winter's snow, better than if a good coating should be worked in with spade and hoe, in the spring, it keeps a measure of warmth about the crowns of strawberry plants or several inches of the stems of raspberry or other bushes, it keeps the fruit clean, as no one would imagine from the nature of the application, and finally it helps repress the weeds without being difficult to till the ground through. Be sure to mulch.

MANY people have plenty of hot strawy manure, with little or none that is thoroughly decomposed.



PRIMULA CHINESE PRIMROSE.

Such fresh stuff will yield the best results if ploughed into a sticky soil; in the act of rotting it will tend to warm and loosen the land. But don't plough it into light land before it rots, because light land is too loose already. Fresh manure may be used as a mulch if put on in cool or cold weather and not allowed to cover the plants. Some of the excellence of the manure will be lost by evaporation if the weather keeps rather dry; but there is likely to be a net gain by the land getting the benefit of washings which in most other cases would remain in the barnyard.

WHAT a particularly hardy strawberry the Crescent is! People in cold climates who try Wilson or Sharpless without success, should try the Crescent before they turn their backs on strawberries. I don't know another sort that is quite as hardy in every respect, for the foliage stands the summer's scorching as well as the roots resist the winter. Pity that the berries are not so good to eat as some other varieties! Well-ripened Bidwell or Sharpless, or especially Prince of Berries, will soon close your lips to Crescent. But Crescent strawberries are infinitely better than no strawberries at all, and this sort grows so easily, looks so handsome, and bears so well, that it deserves a good word even if it is so common.

Is the Baldwin as good with you, I wonder, as it is here? If I only had leisure to graft, and

some liking for that tedious operation, I would work over some of my bearing trees of St. Lawrence, Fall Russet, Early Harvest, and even Red Astracan with that noble winter variety. With me the Baldwin is always well-coloured and handsome, large, crisp, and even high-flavoured, and it bears nearly every year on my light land. It has a remarkably small core also. True I would rather eat Northern Spy—a little rather—but the Baldwin will probably yield double the crop of Northern Spy within the first twenty years after planting, and that's a good deal of a man's life. Unfortunately the tree is a little apt to winter-kill when young, with us, and so needs top grafting. But in Southern Ontario, where it is quite hardy, if the fruit is of the uniform excellence above stated, the Baldwin should rank "A. 1."—especially as it is one of the best shippers known.

PRIMULA (CHINESE PRIMROSE).

THIS beautiful and early flowering class of greenhouse plants is indispensable for the greenhouse and bay window, and should be grown more extensively than it is. The beautiful varieties of *Primula Sinensis* may be sown in February, March, April and May. The earlier sown are, however, to be preferred for making fine strong plants with an abundance of bloom. Great care must be taken to have a clean, well-drained pot or seed-pan filled to within half an inch of the top with sifted leaf-mould; leave the surface rather rough, and sprinkle the seeds thinly upon it. The most successful raisers do not cover with soil, but after sowing the seed press down the surface tolerably firm, and place a square of white-washed glass over the pot. Place in a warm house or hot-bed, and water very gently when the soil becomes dry. When the seeds germinate, remove the glass and keep in a shady position. Pot off into small pots when the young plants are about half an inch above ground, and place near the glass in the frame or greenhouse. In their after-culture, *Primulas* should be kept as near as convenient to the glass, have plenty of fresh air, and never be kept for a long period in a high temperature. The leaves should not be wet in watering. *Tender annual or perennial.*

THREE HINTS.

ONE thing is always to be said in favour of small fruit culture over large fruits. The grower can count, with decent care, on an annual crop. Pears, apples, peaches, and plums, etc., fail totally every few years, but the berries do not fail one season in ten; and when they fail partially the higher prices make partial or total amends for the small crop. Berries, too, can be raised in one year or less after planting, but for the large fruits one must wait three or four years at least, and when he happens to get a full crop now and then most of his competitors have the same. When a man's location for small fruit-growing is good he had better utilize it for all it is worth. The culture of the larger fruits would be greatly accelerated if fruit trees were all planted at wide distances, and the intervening space kept under constant cultivation for hoed crops, and attended by constant manuring. Then the trees, of themselves alone, would require almost no extra work, except that of pruning during the first few years after planting. And still it will probably take a hundred years before some farmers will ever hear of this method, and perhaps another hundred to get them to believe in it as the best system.—*Exchange.*

"Maryland, My Maryland."
 "Pretty Wives,
 Lovely daughters and noble men."
 "My farm lies in a rather low and mis-
 erable situation, and
 "My wife!"
 "Who?"
 "Was a very pretty blonde!"
 Twenty years ago, became
 "Sallow!"
 "Hollow-eyed!"
 "Withered and aged!"
 Before her time, from
 "Malarial vapours, though she made no
 particular complaint, not being of the
 grumpy kind, yet causing me great uneasi-
 ness.

"A short time ago I purchased your
 remedy for one of the children, who had a
 very severe attack of biliousness, and it
 occurred to me that the remedy might help
 my wife, as I found that our little girl, upon
 recovery had
 "Lost!"
 "Her sallowness, and looked as fresh as
 a new blown dairy. Well the story is soon
 told. My wife, to-day, has gained her old-
 time beauty with compound interest, and
 is now as handsome a matron (if I do say it
 myself) as can be found in this country,
 which is noted for pretty women. And I
 have only Hop Bitters to thank for it.

"The dear creature just looked over my
 shoulder, and says 'I can flatter equal to
 the days of our courtship,' and that reminds
 me there might be more pretty wives if my
 brother farmers would do as I have done."
 Hoping you may long be spared to do
 good, I thankfully remain.
 C. L. JAMES,
 BELLEVILLE, Prince George Co., Md.,
 May 26th, 1883.

None genuine without a bunch of green
 hops on the white label. Shun all the vile,
 poisonous stuff with "Hop" or "Hops" in their
 names.

FERTILISERS - SEND FOR CIRCULAR
 and price list. PETER LAMB & CO.
 Toronto.

W. S. HAWKSHAW, Gleaner, P.O. breed-
 er of Short-horn Cattle and Tall bred
 Shropshire Sheep.

THOMAS IRVING, Logan's Farm, Montreal,
 breeder of Ayrshire Cattle, Clydesdale
 Horses, Yorkshire and Berkshire Pigs, and
 Leicester Sheep.

ALEXANDER BURNS, Maple Lodge Farm,
 A. Rockwood, Ont., breeder of Short-horn
 Cattle. Young stock for sale.

JOHN JACKSON, Woodside Farm, Abingdon,
 Ont., importer and breeder of Southdown
 sheep, Gold Medal Flock at Ottawa, and 115
 prizes at the leading fairs in 1884; also Short-
 horns and Berkshires stock for sale.

FOR SALE: Twenty Colonies of Italian and
 Hybrid bees, mostly pure Italians, in Jumbo
 hives, for which I will take \$700 a colony, de-
 livered on board Cars at Montreal.
 WILKINSON, SARGENT,
 Montreal, Ont.

VIRGINIA FARMS VERY CHEAP. Climate
 mild - taxes low - health perfect. Schools
 and Churches convenient. Send stamp for
 Catalogue. C. D. Fyee, Nettoway, C. H., Va.

W. J. SMITH, Angus, Ont., breeder of
 Jersey Cattle. Young stock for sale.
 Also high-class Friesian, Rock and White Leg-
 horn Poultry. Eggs (15 season) \$1.50 per setting
 of thirteen.

VIRGINIA FARMS VERY CHEAP. Climate
 mild - taxes low - health perfect. Schools
 and Churches convenient. Send stamp for
 Catalogue. C. D. Fyee, Nettoway, C. H., Va.

FIRST-CLASS DELAWARE FARM for sale
 11 miles from town of Farmington, on
 Delaware R. R., 50 acres high state of cultiva-
 tion, 25 bushels corn, 20 bushels of wheat per
 acre, 25 acres in timothy and clover, 60 acres
 in grain, 70 peach trees, apples, pears, cherries
 and grapes, two-story dwelling, modern finish
 out-buildings, three tenant houses; healthy
 location; school and church convenient. Will
 be sold at a bargain, less than cost of buildings.
 Address AMOS COLE, Farmington, Delaware.

25 BEAUTIFUL FANCY MIXED CARDS
 no two alike, with name, 10c.

25 COMIC TRANSPARENT CARDS, 10c.

Agents wanted. Outfit of 60 two samples, 15c.
 12/12
QUEEN CITY CARD HOUSE
 200 Queen Street, Toronto.

MISCELLANEOUS.

My faith hath no bed to sleep upon but
 omnipotency. *Rutherford.*
 THE best school of nobility is the imitation
 of Christ. *Bishop Huntington.*
 If ye were not strangers here, the dogs of
 the world would not bark at you. *Ruther-
 ford.*

It must be great mercy, or no mercy; for
 little mercy will never serve my turn.
Bunyan.

THE grand in nature is the Almighty's
 oath,
 In reason's court, to silence unbelief.

REASON and faith resemble the two sons
 of the patriarch - reason is the first born, but
 faith inherits the blessing. *Culverwell.*

DEATH does not destroy, but catches, crys-
 tallizes, and makes permanent the character
 of a good man, leaving it a priceless bequest
 to society. *Bishop Pusey.*

THINK of the day, the hampering, affecting,
 overwhelming day, when the cup of cold
 water will reappear as an ingredient in the
 everlasting glory. - *James Hamilton, D.D.*

WE direct the attention of our readers to
 the Seal Advertisement of J. A. Bruce &
 Co., Hamilton, in another column.

WE shape ourselves the joy or fear
 Of which the coming life is made,
 And fill our future's atmosphere
 With sunshine or with shade.
Raphael.

As a king is honored in his image, so
 God is loved and hated in man. He cannot
 hate man who loves God; nor can he who
 hates God love man. *St. Chrysostom.*

BECAUSE Christ loves us He claims us,
 and desires to have us wholly yielded to His
 will, so that the operations of love in and for
 us may find no hindrance. - *F. R. Havergal.*

God is a sun. He is the infinite good.
 Nothing but a living, sensible communion
 with Him can displace heaviness from the
 heart and shed happiness over the life. - *T.
 Peckham.*

You are perfectly free to "do what you
 will;" but take care not to "lose what
 you will," or you will be sorry later.
 Always leave your father to choose for you. -
Agnes Gibson.

I CONFESS that our diet here is but spar-
 ing; we get but tastings of our Lord's com-
 forts; but the cause of that is not because
 our steward, Jesus, is a niggard, but because
 our stomachs are weak. - *Rutherford.*

SATAN always rocks the cradle when we
 sleep at our devotions. If we would prevail
 with God, we must wrestle; and if we would
 wrestle happily with God, we must wrestle
 first with our own delinquency. - *Bishop Hall.*



NIAGARA JESSICA.
 Order Following.

Our Collections, which we guarantee among
 the most valuable tested

Grapes & Small Fruits

KNOWN FOR FAMILY COLLECTION.

Carefully packed by Mail free for price named.

- 100 Strawberry Plants, 10 valuable varieties for \$1 00
- 15 Raspberry Plants, 5 beautiful varieties for 1 00
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Catalogue of other valuable fruits mailed free -
R. H. HENDERSHOT,
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 STEVENSVILLE, Ont.

-THE-
 IMPROVED
**Model Washer
 and Bleacher**
 ONLY WEIGHS 6 LBS.
 Can be carried in a small valise
 Pat. Aug. 2, 1884.
 C. W. DENNIS, Toronto.
 SATISFACTION GUARANTEED OR MONEY REFUNDED.

\$1,000 REWARD FOR ITS SUPERIOR
 Washing light and easy. The clothes have that pure whiteness which no other mode of washing can produce. No rubbing required - no friction to injure the fabric. A ten-year old girl can do the washing as well as an older person. To place it in every household, the price has been reduced to \$3.00, and if not found satisfactory, money refunded within one month from date of purchase.
 See what *The Baptist* says: "From personal examination of its construction and experience in its use we commend it as a simple, sensible, scientific and successful machine, which succeeds in doing its work admirably. The price, \$3.00, places it within the reach of all. It is a time and labour-saving machine, is substantial and enduring, and is cheap. From trial in the household we can testify to its excellence."
 See what the *Canada Presbyterian* says about it: "The Model Washer and Bleacher which Mr. C. W. Dennis offers to the public has many and valuable advantages. It is a time and labour-saving machine, is substantial and enduring, and is very cheap. From trial in the household we can testify to its excellence." Send for circulars. Agents wanted.

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 Please mention this paper.

COUGHS.

From E. J. LASCELLE, Watchmaker and Jeweller, Dunnville, Ont. "I beg leave to say that I have used WINTAM'S BALM OF WILD CHERRY for many years and pronounce it a capital remedy for Coughs, Colds, and all affections of the throat and lungs, having experienced relief from it many times. In fact, I would not care to be without it."
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6/12
 Buy only the Genuine.

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SCALES FOR ALL PURPOSES.
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A SAFE INVESTMENT.
 Investing twenty-five cents for a bottle of Hager's Peppermint Balsam, the best throat and lung healer known. Cures coughs, bronchitis, asthma, and all pulmonary complaints.

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 We have made arrangements by which we are enabled to offer
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 A Club of Five New Subscribers!
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 An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all the Lung Affections, also a positive and radical cure for Nervous Debility and all the various Complaints, after having tested its merits in various curative powers in thousands of cases, he feels it his duty to make it known to his suffering fellow-men. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp naming this paper, W. A. NOYES, 149 Power's Block, Rochester, N. Y.

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PURE BRED SHORTHORN CATTLE.
 Under the auspices of the
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A large number of valuable cattle will be offered at the above sale, which will be held in Toronto, on Wed. Feb. 25th, 1885
 Rules of sale similar to last year. No reserve bid other than catalogue price. For further information apply to
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 Have imposed upon the people so much that the company that manufacture the Electric Medical appliances (which are really a good thing) have been obliged to adopt a novel plan in order to get them introduced. They send them on trial, and if they fail to cure they make no charge whatever for the trial. They have many testimonials of wonderful cures; and we would advise all that are not enjoying good health to write and get their book, which gives full particulars, and which they send free. A letter or postal addressed MYGOS, Brooklyn, N. Y., will always reach them.

MARRIAGE CERTIFICATES,
 Suitable for any Province, and may be used by the clergyman of any denomination, beautifully printed on fine heavy paper in vermilion, blue and gold, constantly on hand, 50 cts. per dozen. Twenty-five copies mailed to any address, free of postage, for ONE DOLLAR.
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 A person suffering with pain and heat over the small of the back, with a weak weary feeling and frequent headaches, is seriously ill and should look out for kidney disease. Sarsaparilla Blood Purifier regulates the kidneys, blood and liver, as well as the stomach and bowels.

POULTRY AND PETS.

EASTERN ONTARIO POULTRY AND PET STOCK ASSOCIATION.

In Ottawa, in the last week of October last, the above named Association was organized. A constitution was drawn up and agreed upon. The following officers and committee were elected for the current year:—Officers. A. C. MacDougall, President, P. G. Keys, Vice-President; A. G. Gilbert, Secretary; Alfred Geddes, Treasurer. Committee.—E. B. Holt, P. Smith, E. H. Benjamin, G. S. Robertson, and John Clay. It is the intention of the above named Association to have an exhibition of Poultry and Pet Stock in Ottawa, commencing on the 17th February, and continuing for two or three days. It will be open to all poultry men in Eastern Ontario. It is hoped the exhibit will be large in order to make the exhibition a success. The advantages to be derived from the foregoing Association will be recognized by poultry raisers.

Whenever the Association meets practical points pertaining to the management, raising, and keeping of fowls will be discussed, also it will have a tendency to improve and develop the best breeds of fowls in this locality. The best breeds are more saleable and bring in larger profits than ordinary ones. It is to be hoped that this recently organized Association will meet with success, which no doubt it will, as it belongs to the Capital.

THE COMMON HEN.

We wish to take up the subject of common hens, in order to oblige a large number who often make enquiries as to the relative merits of the common stock and pure breeds. In the first place, it is no easy matter to define what may be called a common hen. Sometimes common hens are the very best breed of any, as they combine the good qualities of several breeds. The Brahma hen, which lays so well in winter, may be slow in growth and late in maturing, and when bred too close, through relationship, may fail to give satisfaction. The breeder of such fowls will perhaps turn them out to run with roosters of no particular blood, and the result is a mongrel—half Brahma and half anything, as the case may be. But the Brahma blood is there, and tells in the common stock, which receives the credit for excellence that belongs to the Brahma alone.

One of the best illustrations is to notice the influence of the Houdan. If this breed is crossed on any kind of hen the best qualities of the Houdan seem to be prominent, and the crest and toes (five) will crop out for successive generations, even when bred away from the Houdan for five or six years, the Houdan blood not being more than the one-thirty second part, and yet it is to be dung-hill fowl that the credit for egg production is allowed, while the honours gained by the top-knotted hens, which show their remote origin to the Houdan, should properly be ascribed to that source. Again, mix a flock of fowls indiscriminately, common or pure breeds, and allow them a Langshan cockerel, and every black hen will begin to lay early for the large kinds, which means that the Langshan blood is a great improvement, but because the fowls were not kept

as pure kinds, and made evidences in favour of the claim that pure breeds may be good, but common fowls may be better.

Crossing fowls impart new life and greater vigour when they are closely bred, yet crossed fowls are not necessarily common, but they are so styled, though it is safe to say that there is not a flock of fowls known that has not been improved to some extent by our pure breeds, which have been so widely disseminated. Does any one doubt that the Leghorn, which is one of the purest of breeds, lays better than any other, or can any one answer why common fowls are not uniform in other respects as well as laying? They should be if they possessed fixed qualities, but the fact is they have too many different strains of blood in them. There are the Brahma, Leghorn, Houdan, Plymouth Rock, Hamburg, Langshan and Cochlin crosses, which give egg production, but prevent uniformity of plumage.



SWAN AND FOX

The pure bred is the best for all purposes, and until the common flock is seen that does not prove the excellence of the pure breeds, it will not do for the advocates of common fowls to attempt to disparage breeds that unerringly stamp good qualities on every flock to which they are united.—*Farm and Garden.*

A SWAN AND FOX.

How strong is the love of the mother bird for its young! The swan affords a pleasing illustration of this. It is dangerous even for men to approach the old swans, when their little family are around them. The Rev. Thomas Smith, in the *Naturalist's Cabinet*, informs us that a fox once attempted to attack a swan's nest, at Pensey, in Buckinghamshire, when the female swan instantly darted into the water, and having kept him at bay for a considerable time with her wings, at last succeeded in drowning him; after which, in the sight of several persons, having discomfited her formidable foe, she returned to her nest, which contained her young, in triumph.

POULTRY NOTES FOR THE RURAL.

At this season of the year it is necessary that poultry should be fed vegetables at least thrice each week. Cabbage forms the best diet, but if too expensive or difficult to obtain, a good substitute will be found in mangolds, turnips, or even sliced potatoes. Care should be taken to see that this description of food is not frozen, many careless keepers of poultry will look into the coop, and seeing the vegetables, lying around, will say, oh! they have plenty of green food; no use giving them any more. Whereas very little trouble would tell them that the roots are perhaps frozen, as hard as stones. Give a little and often; removing the old, before feeding fresh.

As grubs and insects, form a great portion of the feed of fowls, during the summer months, it, therefore, becomes necessary, that a substitute should be found during the winter months, when the birds are cooped up. Any waste meat, or offal, will answer the purpose. Bullock's liver, or lights, chopped fine will be found excellent, and should be fed uncooked.

DURING very cold weather the birds should have at least one warm meal each day, which should be liberally dosed with Cayenne pepper. If this is not come-at-able, then use common black pepper. Given warm quarters and fed as above, poultry will be soon stimulated to lay, and you will reap your reward. When eggs are selling at 25 cents per dozen, it pays to bestow a little extra trouble on your hens.

FARMERS are not sufficiently alive to the importance of raising greater quantities of poultry of all descriptions than they do at present. Few take the slightest trouble to breed. The birds mostly set themselves, and if they bring out a clutch of young ones, all well and good. If not, well it does not matter, and so the thing goes on. Now a very little trouble would soon set the matter right. Provide proper quarters for the birds, see that they go there to roost at night. Have plenty of nests for laying in, and separate places for the setting hens, and there will be a great increase in the stock, and fewer added eggs sold.

MANY persons sell their chickens at a season when the markets are glutted, and receiving poor prices are dissatisfied. Thus they are little inclined to give any attention to their poultry the following season. In this as in any other business the markets should be watched, and the supply regulated by the demand. A special effort should be made to get chickens and ducks on the market early, and the birds which are not ready for the early market, should be kept until nearer Christmas when the demand for poultry is great. We would have liked any sceptic on this point to have taken a drive with us through the counties of Middlesex and Huron, during the latter portion of December last. Buyers from the States had been through these counties and bought up all descriptions of poultry and at prices remunerative to the breeders. They purchased by weight, so the farmers had only themselves to blame if the birds were not heavy enough.

THE LINE SELECTED BY THE U. S. GOV'T TO CARRY THE FAST MAIL

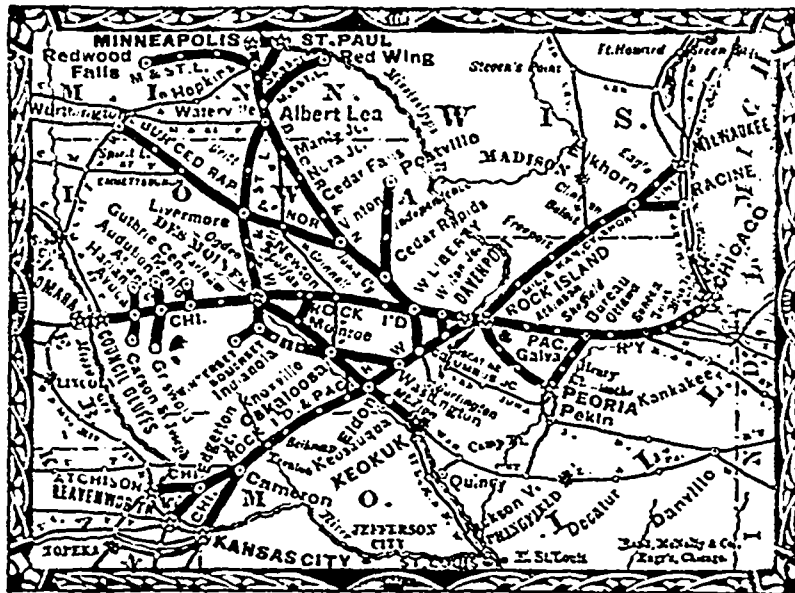


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TOURISTS AND HEALTH-SEEKERS. HOME-SEEKERS. Should also remember that this line leads direct to the heart of the Government and Railroad Lands in Nebraska, Kansas, Texas, Colorado and Washington Territory.

6/12 A MAN

WHO IS UNACQUAINTED WITH THE GEOGRAPHY OF THIS COUNTRY, WILL SEE BY EXAMINING THIS MAP, THAT THE



CHICAGO, ROCK ISLAND & PACIFIC R.R.

Being the Great Central Line, affords to travelers, by reason of its unrivaled geographical position, the shortest and best route between the East, Northeast and Southeast, and the West, Northwest and Southwest.

"GREAT ROCK ISLAND ROUTE"

As it is familiarly called, offers to travelers all the advantages and comforts incident to a smooth track, safe bridges, Union Depots at all connecting points.

ALBERT LEA ROUTE.

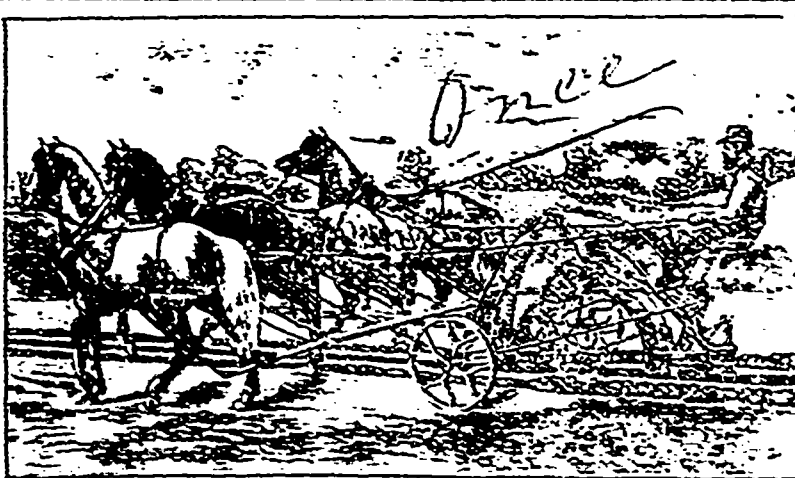
A New and Direct Line, via Seneca and Kankakee, has recently been opened, between Newport News, Richmond, Cincinnati, Indianapolis and La Fayette, and Council Bluffs, St. Paul, Minneapolis and intermediate points.

IMPROVED BUTTER COLOR. It will not color the Buttermilk or Turn Rancid. It contains no Acid or Alkali. It is the best in the world.

\$1000 OFFER TO MY CUSTOMERS. For the LARGEST CROPS of VEGETABLES and GRAINS. My Catalogue sent free, will give all the details.

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FOR THE CURE OF ALL DISEASES OF Horses, Cattle, Sheep, Dogs, Hogs, Poultry. For 20 years HUMPHREYS' Veterinary Specifics have been used by Farmers, Stock-breeders, Horse R. H., Hippodromes, Menageries, and others with perfect success.

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Humphreys' Homeopathic Specific No. 28

In use 30 years. The only successful remedy for Nervous Debility, Vital Weakness, etc. It is a powerful tonic and restorative, and is used by all the leading physicians of the world.

Illustration of a bottle of 'RHEUMATISM CURES' with text: 'SORE THROAT', 'FROST BITES', 'BURNS, SCALDS', 'DEAFNESS'.

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UNEQUALLED IN Tone, Touch, Workmanship & Durability. WILLIAM KNABE & CO. No. 124 and 206 West Baltimore Street, Baltimore, Md. 112 Fifth Avenue, New York.

LADIES' Compound Extract of Penicillin and Tonic is perfectly safe and always successful. Sealed partitions 25 stamps. Address: EXTRA MEDICINE CO., 51 FINE STREET, DETROIT, MICH.

GRAPE VINES. Nursery established 77 years. Over 100 varieties. Also, New York, Kentucky, Gooseberries, Currants, etc. Catalogue free. Geo. W. Campbell, Delaware, Ohio.

WANTED LADIES AND GENTLEMEN who will send 25¢ to the publisher at their own homes, who will send the following: Address: W. W. W. Co., 221 West 30th St., N.Y.C.

25 YEARS IN THE POULTRY YARD. A large, complete, and well-ventilated poultry house, built of brick and wood, for sale at a low price.

GUIDE TO FRUIT CULTURE. A complete and practical instruction given in Book-keeping, Business Forms, Penmanship, Arithmetic, Short-hand, etc., at home, by mail. Distance no objection. Terms moderate. Send stamp for Prospectus.

CONSUMPTION. I have a positive remedy for the above disease, by its use, thousands of cases of the pulmonary and of lung standing, have been cured. It is a powerful tonic and restorative, and is used by all the leading physicians of the world.

BUSINESS ANNOUNCEMENT.

TO CANADIAN FARMER SUBSCRIBERS.

There is a number of our subscribers who are behind in their subscriptions. We beg to intimate to these that such back amounts, whether for a whole year or years or for a part of a year, are due to the old publishers. We will shortly send to each one of our subscribers a statement of the amount due, when they will oblige greatly by remitting it convenient. All who have paid us for the present year or a part of the same will of course receive the paper up to the time of expiration of their subscription from the new publishers. Yours very truly,

W. H. MONTAGUE, Editor.

The Rural Canadian.

TORONTO, FEBRUARY, 1885.

THE DAIRYMEN'S ASSOCIATION.

The annual meeting of the Western Dairymen's Association was held this year at Stratford. There was a fair attendance of members and interesting discussions were had on subjects of dairy interest. As usual, however, the cheese men were conspicuously prominent, and the greater part of the time was occupied in hearing papers and addresses on cheese in all its scientific and financial relations. Nevertheless the butter industry got a much better show than usual, and it is hoped that the Association will use its undoubted influence to do in some measure for butter what has already been done for cheese. No one can listen to the discussions which take place at the meetings of this body, or read the reports of them which appear in the daily newspapers, without being impressed by the intelligence and ability evinced by members, and especially by the store of practical knowledge they possess of dairy affairs. We cannot help thinking, however, that too much importance is attached to the presence of certain "professors" from the other side of the lakes, and that much valuable time is wasted in listening to their science so-called. Such a man as Mr. Ballantyne can speak more sound sense and can give more useful information in the course of a five minutes' address than can almost any one of those "professors" in half an hour. There is abundance of talent in Ontario, and we should like to see more of it brought to the front. The Eastern Association, which meets in a few days, might begin by setting the example.

UNITED STATES WHEAT CROP.

The Report of the United States Department of Agriculture for December shows that the average farm price of wheat in the Union was only sixty-five cents per bushel, against ninety-one cents for December of the previous year. The average in Nebraska was forty-two cents per bushel, in Kansas forty-five, in Dakota forty-six, in Minnesota fifty, in Iowa sixty-two, in Missouri sixty-two, in Illinois sixty-three, in Indiana sixty-seven, in Michigan seventy-four, in Ohio seventy-five, in New York eighty-five and in Pennsylvania eighty-six. These low prices, the report observes, are a perfectly natural result and had often been predicted. A series of crop failures altogether unprecedented in Europe, stimulating production all over the world, could have no other outcome, but there is not much doubt that the low prices will soon reduce the area and relieve over-production. In the winter-wheat States it is estimated that the area in crop for next year's harvest is less than last year's by more than 2,000,000 acres. The result of last year's harvest as estimated for final record is as follows—

Acres harvested.....	39,475,885
Bushels of total yield.....	512,763,900
Value of crop.....	\$330,861,254

The average yield per acre was only thirteen bushels, being about nine bushels per acre less than the average for the Province of Ontario.

THE FARMERS' INSTITUTES.

The Farmers' Institutes recently held in different parts of the Province under the auspices of the Professors of the Agricultural College have been attended with great success. The farmers themselves have shown a lively interest in those meetings, not by their presence merely, but by the part they have taken in the discussions. Papers of a valuable and practical character were read by local men, in addition to those of the college professors, and every subject that came up for consideration was thoroughly sifted. By undertaking work of this sort and carrying it out in a vigorous manner the professors can do a great deal of good in the country, and indeed they have already awakened an interest in agricultural affairs that is certain to give large results. We have often said that the usefulness of the college should not be left to depend on its graduating classes, nor yet on its able and instructive annual reports. There should be a way of reaching the masses of the people more directly, and we regard it as the first consequence that the fruits of careful study and experiment on the Model Farm should be given to the people in the way they can best appreciate it. It is a good thing to have a lot of young men thoroughly grounded in agricultural knowledge; it is also a good thing to have results fully and clearly recorded in printed reports; but we believe that in the institutes held for the first time this year there is even a larger field of usefulness open to the professors than the class-room affords, or the printed page can pretend to occupy.

TREE PLANTING.

The importance of planting trees to take the place of the monarchs of the forest, of which our country is being rapidly depleted, can scarcely be over-estimated, and should be encouraged by every legitimate method. Time was when the timber upon the land around our forest homes, was looked upon as an encumbrance, to be got rid of as quickly as possible; but as the land became cleared and villages sprang up and grew into towns and cities, the value of timber for building purposes and for fuel became apparent.

Take the neighbourhood of any of our large towns and see the high prices realized for fire wood, and how difficult to obtain. In spite of these facts how little provision is being made to provide timber to take the place of that which is being removed. Yet there is scarcely a farm, no matter how small, but there is a portion of it unsuited to or difficult of cultivation, that could be well adapted to tree culture. Still these places are kept, year after year, of little use, except perhaps, affording a scanty pasture during a small portion of the year, whereas if the rough broken spots were planted with the more valuable varieties of timber they would in a very few years amply repay the outlay, and would form a very valuable legacy.

Even allowing that there is no rough land to so dispose of, some portion of the least valuable part of the farm should be devoted to forestry; the value of it, if only as a wind-break, will soon become apparent. Recently when driving through one of the richest sections of the Dominion we were shown a grove of maple trees which had only been planted ten years, yet the land was covered with a luxuriant growth of timber. Indeed we could scarcely credit that it had only been planted so short a time. From a variety of circumstances the land was difficult of cultivation, so the owner determined to fence and plant with trees, which now, after a lapse of only a few years, serves by judicious calling to supply the farmer with the species for

tion of the fuel required for domestic purposes; and were he to have it all cut down and sold, the price that could be realized for the timber would pay a very high rate of interest, on the value of the land and outlay. Many persons are of opinion that it takes years—a life time—before trees attain sufficient growth to be of any value. This is a mistaken idea, for most persons can, in almost any locality, remember when such and such a tree was only a sapling.

Arboriculture is considered of such value in Sweden and some parts of France that a portion of the school grounds are devoted to the purpose, and each youth on entering plants a tree which remains under his special care during his stay at that school, thus teaching him to take an interest in tree growing. Upon leaving school the tree is frequently transplanted, and years after pointed to with pride. The lesson thus early taught is rarely forgotten.

In Norway the importance of maintaining the forests is recognized.

The Government have officials, whose duty it is to see that young trees are planted to take the place of every one cut down; and to see that the timber is judiciously felled. Of course such plans would not be feasible in Canada; but there are many ways in which the Legislature could encourage tree planting, one of which would be by remitting the taxes on land planted with timber.

The efforts of the Government of Ontario, to encourage forestry, by offering a bonus for each tree planted, does not seem to meet with the success expected. We still have hopes, however, of good results from their measure. Mr. R. W. Phipps, who has charge of this important public interest, is well qualified for his work; and in due time his efforts will doubtless bear fruit. And it will be the duty of the press—especially of the agricultural press—to give the Government and Mr. Phipps all the assistance in their power by keeping this important question before the people, so that every farmer may ere long be induced to benefit himself and his children after him, by planting trees!

THE MARKET FOR MUTTON.

Fears have sometimes been expressed that producers of Canadian mutton for export to England were likely to have a dangerous rival in the mutton producer of New Zealand, who exports the dressed carcass in refrigerating ships. It does not appear, however, that those fears have been well grounded. At any rate we learn that for the last three months of 1884 the average price of New Zealand mutton in England was only 5d. per pound, and as the total cost of charges is 4d., the New Zealander gets only 1d., which is less than he is paid at home. He requires at least 2d. per pound to satisfy him, and unless he can get this much it is not likely that he will continue to keep up the supply. There is so much loss occasioned by improperly constructed refrigerating chambers in ships and railway cars that a good margin is required in order to give the shippers a paying profit. The rates of insurance are also high; and though it is possible that these rates may be reduced, and that means for transport in sound condition may be provided, the competition is too keen to make the trade a safe one to dealers so far removed from market as the New Zealanders are. On the whole, the Canadian export trade in live sheep does not seem to be seriously threatened, and between the market at home and the markets in the United States and Great Britain the Ontario farmer is likely to realize good prices for all the sheep he can feed.

Read your own paper. That is, pay for it in advance.

SEED CATALOGUES.

There are on our desk a large number of seed catalogues from widely separated points. All are attractively gotten up—many are "things of beauty" if not a "joy forever." To any of our readers making application, the publishers will furnish catalogues without charge. We make mention of the following:

Steele Bros. & Co., corner of Front and Jarvis streets, Toronto; Wm. Rennie, corner of Adelaide and Jarvis streets, Toronto; James A. Simmers, King street, Toronto; John A. Bruce & Co., Hamilton; James J. H. Gregory, Marblehead, Mass., U.S.A.; Peter Henderson, 35 and 37 Courtlandt street, New York, U.S.A.; James Vick, Rochester, N.Y.; B. K. Bliss & Sons, 34 Barclay street, New York; D. M. Ferry, Detroit, Michigan, U. S., A.

The above firms we can confidently recommend. They are all well known and honourable men, whose past record entitles them to every confidence on the part of those having business relations with them. Our advice is, buy seeds only from reputable firms, and thus save loss of money and loss of labour.

CANADA SHORT-HORN HERD-BOOK.

Below we give a list of transfers of thoroughbreds reported up to January 20th, 1885. In the following list the person first named is the seller and the second the buyer:

H. Lady Macdonald (vol. 9), by Victor 2nd [10582], S. Kerr, Rockwood; Robert Brown, Acton.

B. Brigade Major [12492], by Earl of Goodness 5th [8514], Wm. Douglas, Caledonia; James Deans, Paris Station.

B. Zorra Chief [12507], by Oxford Duke 2nd [10712], Wm. Gould, Woodstock; H. Shadwick, Woodstock.

H. Cora B. (vol. 9), by Booth King [6662], Wm. Paddon, St. Thomas; John C. Burke, St. Thomas.

B. Captain [12508], by Wellington [10596] Wm. Watson, Nassagaweya; George Taylor, Rockwood.

H. Florence 3rd (vol. 9), by 2nd Duke of Winfield [8492], J. R. Martin, Cayuga; Richard Feagan, Jarvis.

B. Gladstone [12514], by Young Duke of Bedford [9759], Alex. McLeish, Spring Bank; Robt. Hopper, Springbank.

B. Lord Dufferin [12513], by Young Duke of Bedford [9579], Alex. McLeish, Springbank; A. McLachlan, Lamen.

B. Hibbert Duke [12509], by Duke of Kent 4th [11909], George Sproat, Seaforth; Thomas Fell, Stratford.

C. Lady Havens (vol. 9), by Louth Chief [12516], Wm. R. Havens, Homer; Jas. R. R. Secord, Homer.

B. Grantham Chief [12517], by Louth Chief [12516], Wm. R. Havens, Homer; Jas. R. R. Secord, Homer.

B. Louth Chief [12516], by Fillagree Duke [5244], John Carroll & Sons, St. Catharines; John Nihan, St. Catharines.

B. Chancellor [12521], by Duke of Bedford [8869], John C. Evans, Hespeler; John I. Hobson, Mosborough.

B. Enterprise [12519], by Marquis 2nd [10216], Thos. Ormiston, Delaware, Ed. White, Colfoys' Bay.

H. Gentle Belle (vol. 9), by Enterprise [12519], Thos. Ormiston, Delaware, Alex. Taylor, Kemble.

C. Hattie Napier 2nd (vol. 9), by Lord Blythwood [3484], B. B. Osler, Dundas, Robert Burt, St. George.

C. Florence 2nd (vol. 9, page 406), by 8th Duke of Clarence [4990], John R. Martin, Cayuga; John Boulter, Cheapside.

C. Lady Jane 3rd (vol. 9), by 2nd Duke of Wingfield [8492], John R. Martin, Cayuga; John Boulter, Cheapside.

H. Lady Dimple (vol. 9), by Orpheus 17th [11962], John R. Martin, Cayuga, John Boulter, Cheapside.

B. 3rd Duke of Ardrross [12549], by Duke of Ardrross [11531], John R. Martin, Cayuga; John Boulter, Cheapside.

B. Duke of Wellington [12533], by General Havelock 3rd [711b], John Bruce, Barnett, Robert Dow, Barnett.

B. 10th Duke of Hillhurst [12587], by Duke of Oxford 35th [9593], Hon. M. H. Cochrane, Compton, Quebec; Jas. Bellwood, Woodburn.

B. Prince [12543], by Blake [9697], James Johnston, Orangeville; John Hoar, Orangeville.

B. Dick [12541], by Blake [9697], James Johnson, Orangeville. Wm. Cornelius, Orangeville.

B. Duncan [12540], by Blake [9697], James Johnston, Orangeville; Duncan Connell, Orangeville.

B. Christopher [12534], by Statesman 1st [44096], W. J. Isaac, Harwood; George Keith, Toronto.

C. Red Rose (vol. 5, page 520), by Prince of Halton [5957], Wm. Watson, Nassagaweya; Wm. W. Scott, Milton.

C. Princess Beatrice (vol. 6), by Duke of Middlesex [5049], Alex. McLeish, Springham; Mrs John A. Brown, Rapid City, Man.

C. Mazurka Lass (vol. 9), by Mazurka Duke [5703], Lieut.-Col. C. A. O'Malley, Wardsville; A. J. C. Shaw, Thamesville.

B. Korti [12547], by Ramsden's Earl [12546], A. J. C. Shaw, Thamesville; James Winter, Botany.

B. Ramsden's Earl [12546], by 3rd Earl of Darlington [7025], James Thompson, Masonville; C. Priddis, London.

H. Pride of Elmgrove (vol. 9), by Alfred [8071], J. L. Courtice, Porter's Hill; John W. Yeo, Holmesville.

H. Miss Abia (vol. 9), by Highland Chief [8703], Henry Reed, Glanford; Craven Bros., Exeter.

B. Beach [12555], by Hanlan [8678], James Wallace, Granton, David Johnston, Granton.

B. Duke of Dufferin [12556], by Prince Bloom [9129], Wm. Cornelius, Amaranth Station, F. Hill, Waldemar.

B. Governor Wood [12559], by Lorne [10187], Thomas Chisholm, Mansewood; F. Chisholm, Milton.

C. Roney (vol. 9), by Halton [7159], J. D. Abbott, Everton; John Simpson, Nassagaweya.

B. President Garfield [12560], by Baron Cambria 2nd [11475], Ed. Hiscott, St. Catharines; Jas. Osmand, Niagars.

B. Lincoln Chief [11501], by Baron Cambria 2nd [11475], Ed. Hiscott, St. Catharines; A. Fry, Jordan.

B. Grantham Chief [12563], by Baron Cambria 2nd [11475], Ed. Hiscott, St. Catharines; A. Staunton, Jordan Station.

SMUT OF WHEAT, OATS, AND BARLEY.

From what we have stated, our readers will see that it is no easy matter to get rid of smut. It may, however, be noted that the fungus can grow on no other plants except cereals and grasses; therefore, in smutted districts, a rotation of crops will tend to lessen the power of the pest. But if one farmer is not growing corn in a certain district, another is sure to be so doing, and so the spores from one farm will affect the

ground of adjoining farms. No smutted corn should ever be planted, and it is desirable to get rid of as many of the spores of the fungus as possible. If the grain is simply steeped in water, nearly all the spores will pass away with the water; but if the water is poured away, the spores will not be killed, but rather benefitted than injured by the moisture. Millers often use a strong exhaust to draw the smut spores from the grain, but the spores are then only drawn away from one place to another. As a single spore of smut is capable of infecting one plant of wheat, oats, or barley, it is necessary, if possible, to get rid of every spore, and this is a very difficult process where there are often uncountable millions of spores present.

A good destructive wash for smut is vitriol, or sulphate of copper solution, or bluestone dissolved in boiling water—one pound of bluestone to five quarts of water. This should be applied for ten minutes, when cold, to every sack of four imperial bushels. In the north of England smutted corn is sometimes sprinkled with stale urine and the seeds raked in powdered quicklime till they are white; this is done immediately before sowing. Sulphate of soda in solution, or soapy water, the damp seeds afterwards raked in powdered quicklime, is sometimes advocated as a preventive.

The smut fungus grows on a considerable number of wild grasses, in waste places, such as darnel, and the various wild oat, barley, and rye grasses. Wherever these grasses are seen in a smutted state they should be gathered and burnt. The working men and boys on every farm should be instructed to look after and destroy all smutted wild grasses.

The smut fungus is generally planted with wheat, oats, and barley. The spores of the fungus adhere to the seed, and the spores are able to retain their vitality as long as the seeds of the cereal. The best mode of prevention is found in selecting seed corn from unsmutted fields. Wherever smut exists in corn fields, no smutted ears should be reserved for seed; the seed should always be taken from positions in the field where no smut can be detected. If cereals are harvested for seed from smutted districts, the product is certain to come up smutted.—*London Live Stock Journal*.

A BATTLE OF BEES.

A remarkable instance, a correspondent writes, of the ferocity of bees under certain conditions has just been afforded. A couple of days since the Topsham Horticultural and Cottage Garden society held its annual exhibition at the occupied by the Devon and Exeter Beekeepers' Retreat, near Exeter. One of the tents was Association, and among its exhibits was one which excited a very great deal of interest. This was a case containing several thousand dead drones, which had lost their lives in a sanguinary battle a couple of days previously. A well-known apiarian was visiting a friend's house a day or two previously, and on coming to one of the beehives it was found that there was great uproar inside. Closer inspection showed the ground below the hive to be covered by several hundred dead drones, and hosts of them were still being brought to the entrance and bundled out by the workers generally by being seized behind the head and dragged along to the exit, to them. Examination of the slain revealed the fact that they had been severely handled—many where, as a kind of farewell, a sting was given; were headless, others had lost legs or wings, or both, and all bore evidence of rough usage. That the bees were very much the superior force was shown by the fact that only about fifty of them had fallen in the fray, a remarkable disproportion to the number slain of the enemy. The battle had raged from about seven in the morning to the same hour in the evening, and seemed then to end only with the utter annihilation of the drones.

The Grange Record.

DOMINION GRANGE OFFICERS

Jabel Robinson (re-elected) Middletown, M.; R. W. McDonald, Pictou, N. S. O.; R. J. Doyle, Owen Sound, L.; Henry Glendinning, Manilla, Ont., Secretary; J. P. Bull, Downfield, Ont., Treasurer; Jesso Trull, O-hawa, C.; T. S. McLeod, Dalton, Ont., S.; Charles Moffat, Edgchill, Ont., A. S.; Wm. Brock, Adelaide, G. K.; Mrs. Vancamp, Bowmanville, Ceres; Mrs. R. J. Doyle, Owen Sound, P.; Mrs. Moffat, Edgchill, F.; Mrs. McDonald, Pictou, N. S., L. A. S.

EXECUTIVE COMMITTEE—Robert Currie, Wingham, Ont.; A. Gifford, Meaford, Ont.

AUDITORS.—R. Wilkie, Blenheim, Ont.; L. Vancamp, Bowmanville, Ont.

OFFICERS OF PROV. GRANGE.

ONTARIO.

Alex. Servos, Master, Niagara; A. Gifford, Secretary, Meaford.

NOVA SCOTIA.

Master, A. B. Black, Amherst, N. S.; Secretary, A. McQueen, Point de Bute, N. B.

EXECUTIVE COMMITTEE.—Edwin S. Creed, Newport, and W. F. George, Sackville, N. B.

THE FEEDING AND MANAGEMENT OF DAIRY COWS IN THE WINTER SEASON.

BY THOS. LOCKHART, ZORRA, ONT.

This period is not to be limited to the number of months which the calendar designates winter, but for our purpose, we shall regard it as that period during which stock are fed in stable.

Dairy cows should be stabled at night as soon in the fall of the year as the weather becomes disagreeable. No fixed time can with propriety be set, as seasons vary, and therefore judgment exercised by each must decide this matter. That dairy cows are often left out in the open fields, exposed to cold and inclement weather, in the fall season, at a great sacrifice both of flesh and milk product, there can be little doubt. Experience teaches that to secure the bodily comfort of the cow is no unimportant part of the management of the dairy herd. It matters not how well one may feed a cow in the field, if she comes into the milking-yard suffering from cold and wet, with contracted body, bristling hair, and shivering limbs, the milk pail will not bear away its wonted measure. On the other hand, if instead of these unfavourable conditions, the more favourable ones were supplied, by putting the cow in the stable, where she will be warm, dry, and comfortable, and there giving her the same apportionment of feed as in the first case, the extra yield of milk will far more than pay all cost on account of extra labour. Not only is the latter course advisable with reference to the immediate results, but also the more remote, for, whilst a cow may lose flesh under the one class of treatment she may gain flesh under the other.

Ventilation is another important matter. It is not sufficient that dairy cows are placed in the stable, but it is very necessary that a reasonable approximation to a certain mean temperature should be preserved in the atmosphere of the stable. Just as it is found expedient in our dwellings to keep the doors and windows closed at times of intense cold, and thrown open at times of heat and muggy atmosphere, so it is likewise expedient in the cow stable. The evil effects to the dairy cow, from irregular and careless management in the matter of ventilation, cannot be fully computed. When the cow is kept too cold she eats lavishly but does not assimilate her food, when kept too hot her appetite becomes weak and her constitution sickly. Hence, little or no progress is made, and the cow becomes liable to organic disease. We have reason to believe that many who keep dairy cows turn them out of warm stables in the day time and let them stand for hours in the cold and storm, until their bodies are nearly stiffened, and then when it is

convenient, once more the poor suffering cows are allowed to go into the stable to get thawed out. And yet, such parties think it strange that their cows do not thrive better. Let every dairyman remember that the same general principles so applicable to the well-being of the human economy are equally as applicable to the cow economy.

We will next consider the kind of feed and mode of feeding for the winter period. Upon this question there may be, and no doubt is, honest difference of opinion, yet, whilst all may not be able to agree in the minor details of feeding; in some matters of general outline we may not be very far apart in our views. The true economist, we think, should endeavour as far as practicable to produce upon his farm the variety and quantity of feed necessary for his herd of cows, but owing to contingent and other circumstances the feeding materials and proportions of each vary from year to year. This may be occasioned by certain changes in rotation of crop, or by a failure or partial failure of some particular crop. For example, last year the turnip crop was a partial failure with many farmers, and a total failure with some. This year, the turnip crop is good. Again, American corn grown for green feed or fodder, is to a certain extent an uncertain crop, depending, as it does, so much upon the class of weather which attends its early growth. And in a greater or less degree, all crops which have some part to fill in the feeding process, are favourably or unfavourably affected by climatic and other conditions. Therefore, we deem it impossible, on economical grounds, to adhere rigidly to any stereotyped course of feeding. Admitting, however, what we have thus far said to be true, we nevertheless believe that certain kinds of feed among the general supply of the farm are peculiarly fitted for feeding at particular periods, and in certain proportions. It is a general practice, we think, among farmers, to milk the dairy cow up to about the new year time. Now, we submit that any particular class of stock should be fed with due regard to the kind of return one seeks to obtain. Young stock should be given a class of food which promotes the general growth and development of body. If the fattening process is the object sought in return for feed, then the class of feed selected and the mode of feeding it should be the most appropriate for that object. Following the same line of reasoning, we conclude that where milk is required in return for feed, the right kind ought to be given to the cow, never forgetting, of course, the maintenance of her general flesh. The knowledge of experience here speaks out, and says that feed of a sappy nature such as well-cured corn, the mangol, the turnip, etc., is very effectual in producing the flow of milk in the cow. Hence, we would say, during the milking season in the fall of the year, it is consistent with true economy and good management to feed the dairy cow in proper proportions upon the more succulent products. It pays to feed with a liberal hand, with a view to a specific kind of return. Stinted feeding when either milk or beef is the return wanted is suicidal, and may with aptness be called a policy of being "penny wise and pound foolish."

The period for putting the dairy cow dry in her milk having arrived, some exercise of wisdom is needed in that particular. We deem it a safe plan to change the kind of feed gradually from the sappy to the dry, in such a degree as to arrest the flow of milk. Then, by discreetly lengthening the period of time between the successive milkings, the drying process may be effectually accomplished without endangering the udder from caking, and inflammatory results. During the first half of the time when the dairy cow is at rest from the milking strain upon her

system, which time, we might say, should not in our opinion be less than three months, is the proper period to feed her the dryer food. During this time, to maintain a certain vigorous and healthy condition of body is all that is desired, and, besides, it is very necessary that certain kinds of feed should be reserved for the cow when her condition and constitution will demand more and better food.

During the month of January, and the first half of February, if the dairy cow be fed a liberal amount of straw and chaff four or five times a day, supplemented with a half bushel of turnips at a feed, morning and evening—all other proper conditions being supplied—she will thrive and do well. We do not wish to be understood as saying that this course of feeding is the best under all circumstances. Some farmers have bank barns, and horse, steam or wind power by which they cut their straw, chop their grain, and slice their turnips, enabling them by a system of mixing to effect a food which is both palatable and nourishing to the animal fed. By this process certain fodder, which a cow would not eat in its raw state, is appropriated as food, and if there is not in it much that is assimilated, still it may serve a good purpose as a diluter of the richer foods, which, when fed alone to an animal, may be followed by waste and evil results. But whether the singular or mixed mode of feeding be adopted must be determined by the circumstance and advantages which make the one course or the other peculiarly fitting for the party concerned.

As the time of calving draws near, the dairyman should give special attention to the dairy cow, both as to her feeding and general management. If the feeding has been somewhat restricted for a time, it may be necessary now to increase the amount of food and change its quality.

The cow must not at this period be allowed to lose flesh. A supply of food that would be quite sufficient to maintain her normal condition of flesh during the month of January, might be quite insufficient to do so during the latter half of February or the month of March. The reason for this is too apparent to need stating. In one course of feeding, hay could be substituted for straw, and a portion of wheat bran or meal fed daily or twice a day as discretion might dictate. In another course of feeding, where the modern conveniences of straw cutter, grain chopper, and turnip slicer are available, a larger proportion of bran or meal could be mixed with the cut straw, and for cut straw a certain proportion of cut hay might be substituted. In short, such timely change should be made in the daily apportionment and quality of feed as will serve to keep the dairy cow at this critical time in a thriving and healthy state. It is quite important that this should be done so that the cow may enter upon the milking period with some flesh of body which, with proper after-feeding, would insure a good and continuous flow of milk. But it is also important from another reason, viz., because many of the morbid conditions, derangements and misfortunes attending calf birth may be attributed to the unhealthy condition of the cow, occasioned by stinted and improper feeding. Not only should a keen eye be given to the feeding of the dairy cow at this particular time, but she should receive the most careful and considerate management in every respect.

Too much exercise or exposure to cold and storm should be avoided, and to allow her to be chased by frisking colt, or senseless dog, is intolerable. Irregularities and exciting causes should find no home among the dairy herd.

The feeding and management of the dairy cow from the beginning of the milking period, while

confined to the stable, is worthy of attention. Some little care should be exercised concerning the udder of the cow. It often happens that oaked and inflammatory conditions occur at the beginning of the milk flow. The cow of great milking capacity is the most liable to danger in these respects. The application of certain approved liniments or salty grease with plentiful rubbing, is very efficacious in allaying inflammation and softening the udder. But, with proper attention to the kind of feed, exercise, and protection from cold draught, we believe this condition of the udder would seldom occur in a form that need give cause for anxiety. Regarding the maintenance of the flesh of the cow and the promotion of the flow of milk during this latter period of stable life, our remarks pertaining to fall feeding when the dairy cow is milking, are equally applicable here, and we would simply add that a bountiful supply of food may now be given with the most gratifying results.

TO GRANGE FRIENDS.

This strange human voice, from its first wall we cry,
To the whisper low down by the river;
When it dies at the door of the palace beyond,
Does it die overmore and forever?

One by one do friendly faces,
Disappear before our eyes;
Fainter, fainter grow the traces,
Of the once familiar ties.
As life opens out before us,
And we slowly wend our way,
Loneliness comes stealing o'er us,
Growing greater day by day.

Let us, then, since all is fleeting,
Cherish those our hearts hold dear;
Meet them with a friendly greeting,
Ere the parting time is near;
Then life's evening drawing nearer,
And our sun about to set,
Retrospection may be dearer,
Less disturbed by vain regret.

FAITH.

ONTARIO PROVINCIAL GRANGE.

The Secretary, Mr. A. Gifford, Meaford, has issued a circular to members, announcing a meeting of the Provincial Grange at Toronto, on the 25th instant, at ten o'clock, a.m. Information as to the place of meeting, and the arrangements with railways and hotels, will be duly sent to secretaries and delegates. A large attendance is expected.

SECRETARIES of Division Granges are respectfully asked to forward names of officers, and other information pertaining to their order at as early a date as possible. We shall promptly publish intelligence so forwarded to this office.

WE continue to furnish that excellent family paper THE CANADA PRESBYTERIAN along with THE RURAL, at the small sum of \$2.00—the price of THE PRESBYTERIAN alone. Presbyterian friends will find this an easy way of securing their denominational paper at a very nominal figure.

THE special offer made last month to *Canadian Farmer* subscribers is still open. Already large numbers have availed themselves of it; and we expect during next week large additions to our list from former friends of the *Canadian Farmer*. It should be borne in mind that our offer is a special one, for a special object, and will not be repeated another year.

OLD subscribers to THE RURAL CANADIAN will find an advantageous offer enclosed in this issue of their favourite monthly. The only condition attached is that any one in arrears remit such arrears along with current subscription, and thus make themselves eligible for clubbing on the terms mentioned in circular. *Please attend to this at once.*

WOODLAND GRANGE, No. 654.—Officers elected for the year 1885: Master, William Watson;

Overseer, Robert Bye; Secretary, Francis Doupe; Treasurer, Thomas Hattle; Lecturer, Henry Telby, jun'r; Chaplain, Walter Morison; Steward, Mark Hodgson; Ass't Steward, John Dillion, Gate-keeper, Henry Telby, sen'r; Ceres, Sister Watson, Pomona, Sister Bye; Flora, Sister Hattle; Lady Ass't Steward, Sister Doupe. Night of meeting, Monday on or before full moon.

FRANCIS DOUPE, Secretary.

Mount Forest, Jan. 14th, 1885.

Mr. Brown's compliments to Mr. Smith; thinks it unnecessary his *piggs* should go through his grounds.

REPLY.

Mr. Smith's compliments to Mr. Brown; thinks it equally unnecessary to spell *pigs* with two *gees*.

ARBORICULTURE.

BY ANNIE L. JACK.

FOR THE RURAL CANADIAN.

I was talking the other day to a gentleman who was interested in horticulture and arboriculture in this Province, and I said, "It seems to me too little attention is paid by our wealthy men to the cultivation of trees, whether for ornamental or useful purposes. A house at the sea-side, a costly mansion on Sherbrooke Street, everything on a magnificent scale except the trees and grounds. No thought of planting for posterity seems to enter their minds." And then I thought of the grand old trees, and parks and gardens in England; and of the cities that contain arboreta, where on certain days the public can go and enjoy an educating process that I have never seen in this country. There trees are named and classified, and I remember that in my Saturday walks in Derby arboretum when a child I learned more botany than can be as pleasantly obtained from books. So, too, at Chatsworth House, the seat of the Duke of Devonshire, I saw the Victoria Regia lily and enjoyed the sight of trees, shrubs, rock work and beauty of hill and dale, only surpassed, I believe, at Versailles. The conservatory covers nearly an acre of ground, has 70,000 square feet of glass and a carriage way through it; while the circuit of the beautiful domain is nine miles. And such grass—such flowers, and shrubs, are well worth a journey to see. Of course, even in England, this is one of its finest country seats; and it is in the heart of beautiful Derbyshire, that is well called one of the gardens of England. A glimpse of so much rich and varied floral beauty is a revelation such as children never forget.

Yet where are the opportunities in this country when compared with its wealth? If the youth who are in the lower walks of life had the privilege of seeing the beauties of nature, in their structure and growth, we should not have so many complaints that our Horticultural Exhibitions are not patronized. I have been writing to our city papers, to have the children grow plants for exhibition; as last year, though prizes were offered, the display was very meagre. It seems as if something ought to be done to encourage the love of horticulture among our young people. "Don't show me a plant, I don't know anything about them, though I dote on flowers," is too often said; and there does not seem to be any taste for the study of botany, except as a routine in text-books. I am interested in Uncle Mark's Club and think its influence beneficial, but we need that some of the richest men of the land should come forward and beautify our cities and towns in the central places—not with simple parks and lounging benches, (and a very tiny oasis is that of Montreal,) but to gather together

and grow in groups all the plants that be made to live with care; to plant flowers or instruction, as well as for a grand show of brilliancy that tire the eyes, and fade with the first frost. I was glad to learn that McGill College is to have a *Jardin de Plantes* before long; and always remember with pleasure a ramble I had through the Botanic Gardens of Cambridge, Massachusetts, where Mr. Falconer so courteously showed me around his rich floral display, when he seemed to be particularly careful of some Alpine treasures with which he was experimenting. It was a treat to me, and I only regret that such places could not be public near every city and so educate its youth, that they would not, as a visitor to our gardens did this summer, admire a room of potatoes, as well grown "strawberry plants, so green and thrifty."

REDUCTION OF COUNTY COUNCILS.

At the annual meeting of Prince Albert Division Grange, which was held at Hensall on 30th ult., after an adjourned discussion from last meeting, it was resolved by a two-thirds majority that in our opinion three County Councillors be elected for each riding of a county, and one to retire each year in each riding or electoral district, after the manner of rural school trustees; and that the offices of road and bridge commissioners be filled by such county officers whose nomination shall be by delegates from the townships that compose the riding, and be held each year in some central place. The election to be made on the same ballot papers and at the same time and places as the election of township council.

M. McQUELLE, Secretary.

Egmondville, 10th. Jan., 1885.

SUBSCRIPTION BOOKS.—MUST THEY BE PAID FOR?

It is desirable that parties who sign orders for books sold by subscription should know that they cannot afterwards cancel their orders, or in any way evade the payments to which they have agreed. A knowledge of this fact will save a great deal of useless law expenses and unprofitable worry. The Courts, high and low, Division and Supreme, have decided these cases so many times and so uniformly against the subscriber, that it is time to cease "kicking against the pricks." What is more, it is not only compulsory by law but also by the rules of fair dealing that such should be the case. Publishers receive from their canvassers certain orders signed by individuals who are supposed to know their own minds, and to be able to pay for what they order. Upon the strength of these names they pay commissions to the agents and order a certain number of books to be printed. When they have gone to all the possible expense, and present the article, it would not be fair that the purchaser should be allowed to escape responsibility for his act, and so the Courts have decided time and again. We are led to make these remarks from noticing that during the winter there have been a number of subscription book cases before Canadian Courts, and the judges have held in every case that the written or printed contract was binding on the subscriber, and any verbal agreement or promises made by agents did not affect it. This also refers to books published in parts, which can be delivered as specified in the written contract either a few parts at once, or all the numbers at one delivery. Some of the most expensive and valuable books we have are published in parts.—*Toronto Truth.*

THE *American Bee Journal* pronounces the honey crop of the present year inferior both in quantity and quality.

Bees and Honey.



OFFICERS OF ONTARIO BEE-KEEPERS' ASSOCIATION, 1884-5.

President, Dr. Thom, Streetsville, 1st Vice-President, S. T. Pott, Belmont; 2nd Vice-President R. McKnight, Owen Sound; Secy.-Treas. Jacob Spence, Toronto.

EXECUTIVE COMMITTEE—D. A. Jones, Beeton; Wm. Campbell, Cayuga; S. Webster, Doncaster; F. H. McPherson, Beeton; P. C. Dempsey, Trenton.

Communications on the business of the Association, and Bee-Keepers' Department of the *Canadian Farmer* to be addressed to the Secretary-Treasurer, 251 Parliament St., Toronto.

TORONTO HONEY MARKET.

No notable change; but No. 1 quality, pound sections, going off a little more freely, in small lots. Extracted granulated in small tins, rather more freely than the larger packages. Small glass jars for retail in better demand than the larger sizes. We still hope for improvement next month.

KEEP QUIET WHILE COOL.

Don't do too much to your bees in cold weather. If they were properly fixed last fall, the least disturbance they have now the better. Any exciting cause, whether jarring hives or troubling them in any other way, will at once set them to feeding, and thus produce over-distension of the bowels, or, as some term it, dysentery. Let them severely alone until the weather is warm enough for them to fly with safety. Undisturbed is the true policy.

DOES FREQUENT HANDLING OF BEES DO INJURY?

Colonies should not be examined at all save to perform some actually needed work (such for instance as an introduction of a queen or something of the kind) except in pleasant weather, and when it is warm enough for the bees to fly safely. The beginner, who has it all to learn in the way of practical work in the apiary may, however, take some particular colony and experiment with that alone, by opening and examining it until he gains that confidence and expertness which comes from practice alone; for this is a part of his apprenticeship, but it should be discontinued as soon as he is able to perform the work expertly.

ONTARIO BEE-KEEPERS' ASSOCIATION.

Last year's members will notice that *THE RURAL CANADIAN*, substitute for the *Canadian Farmer*, is sent in the confidence that those who have not yet forwarded the renewal fee will do so in order that their names may be retained.

It is hoped you will be pleased with the change, and have confidence now that the irregularities complained of are ended, when the publisher of a really first-class paper of good standing has liberally agreed to devote two whole pages to bees and honey. This space, it is expected, will be filled with matter specially suitable and interesting. The publisher, moreover, has kindly agreed to furnish the complete year to members uniting after the annual meeting. This offer is also very favourable to new members.

ANOTHER NEW TREATMENT.

The new cure for foul brood as given to the

public by Mr. Frank Cheshire, one of England's ablest scientists and bee experts, bids fair to prove of immense benefit to the world in general. Foul brood has heretofore been a source of terror to every one, but the remedy used by Mr. Cheshire, and which he assures us he has found to be safe, sure and certain after repeated tests, will render foul brood a mere trifle in the apiary, rather than the dread scourge it is now considered. Phenol, commonly known as chemically pure carbolic acid, is the remedy used and advised by Mr. Cheshire, and if we can believe his statements (and he certainly has no reason to speak anything but the truth in the matter) it is a remedy indeed; and not only a remedy, but a preventive. Not only does it cure an affected colony, but will prevent an apiary from becoming affected with foul brood, no matter to what extent it is exposed thereto. All remedies heretofore advised have been so difficult of application, that it might be considered fully as cheap to wipe out and start anew; with this remedy no more trouble is required in using than in ordinary feeding.

The *Kansas Bee-Keeper* promises further discussion and facts on the application of this remedy which will be looked for with much interest.

WHO SHOULD KEEP BEES?

This question has been often asked and variously answered of late. The answers being, of course, as various and conflicting as the opinions entertained; or something such as self-interest dictated. One treats the question from the stand-point of physical or mental fitness in the bee-keeping individual. Recommending the one who has shrewd perceptions of minute organisms and of an enthusiastic temperament, combined with love of the interesting in nature, and not too thin-skinned or easily intimidated by a little sting. The one who lives in a suitable locality and can spare time and attention has advantages. The one who specially likes bees and bee study so much that working with them will be more of enjoyment than labour. The combination of most of these favourable conditions might, in some peculiar cases, overwhelmingly warrant the response that such a person ought to keep bees.

How many? The right reply must depend on several yet unmentioned circumstances. The question seems to be generally regarded as "Who should enter on bee keeping as a business?" but ought to have much wider application.

THE HONEY SPECIALIST.

As with most producers of supply for common wants of the present day the tendency is in the line of speciality. This has become particularly true of honey and the business of the bee-keeper. (The designation applied now chiefly to those who make this their mode of making a living.) Thus led to pay special attention to races of bees and modes of manipulation, of course from those are most improvements to be expected. As from special select farm stock breeders must particular advance be looked for in the production of animals well adapted to meet the wants of the general farmer. The specialist promoting the common good, so the queen breeder and dealer in bee-hives and outfits dispensing his knowledge and wares at moderate charges is to be accounted the ordinary bee-keeper's benefactor. But, assuredly, multitudes beyond these should keep bees.

A short time since there appeared in "Gleanings in Bee-Culture" a most interesting short article on this theme. Here it is:—

MRS. HARRISON OFFERS A FEW SUGGESTIONS AS TO WHO SHOULD KEEP BEES.

Milk and Honey and Sunshine.

I write some for farmers, and I tell them all to keep at least a few colonies of bees, to provide their families with a pure, sweet wax for their wives to wax their thread to

sow on their buttons, and last, if not least, to fertilize the bloom of their orchards and meadows. But I never in my life told a doctor that he could make more money keeping bees than practicing his profession. Once upon a time I called in the services of an "M. D.," and I found out how they can coin money (not honey).

If only specialists kept bees (it might be better for that class alone) who then could afford honey? The bee-master of the *London Times*, Dr. John Cumming, did a good thing in inducing cottagers to cultivate bees in England and throughout the British Empire. Let us imitate his noble example, although we may lose money thereby. Is it not a grand work to show people how they can provide themselves with a pure sweet, which is wasting at their own doors, "which is to be had, not for the asking, but for the taking?" And we will also be adding to the wealth of our native land, of which we all feel proud.

The supply dealers, who are furnishing good implements for the apiary, have my hearty thanks. I should like to see good movable frame hives, and other fixtures of the apiary, hawked around the country by waggon loads, stopping at every farmer's door. I know I don't like to see supply dealers at bee-keepers' conventions getting a resolution passed to give a vote of thanks to Mr. So-and-So for his smoker or drone-trap; but let them bring their wares, the more the better, and give plenty of recesses, so they can button-hole everybody there, and fill their pockets with circulars.

As old men, women, and invalids, are not considered proper persons to keep bees, I should like, if there are any such, that they would "speak out" in meeting, and relate their experience, for the benefit of doubting Thomases.

Peoria, Ill.

Mrs. L. HARRISON.

Upon which Mr. Root remarks:—

Well, I declare, my good friend, Mrs. Harrison, I have thought several times before, that you had the peculiar gift of hitting things right squarely, and doing more in a few words than some of the veterans do in whole columns and pages. And it seems to me this is a good stopping-place; for if we do not stop, both old and young will be occupied during the year with essays on "Who Shall Keep Bees?"

Or, to add variety to the theme, suppose we ask "Who Should Not Keep Bees?" or invite poetic opinions

ON BEE-KEEPING.

Say who, then, should keep bees?
All whoever may please,
And can furnish a place for the hives;
If a lover of honey who hates to lose money
And by vigilant thriftiness thrives.

Just procure a good swarm
Gain sweet cheer and choice charm,
This plainly the long and short of it;
Snugly hive them up right,
Fix their domicile tight,
Thus secure both the pleasure and profit.

Wisely choose the right breed,
They no taskmaster need,
Just become their kind constant protector;
They provide their own board,
They industriously hoard,
And you sip the delicious nectar.

S.

QUERIES AND REPLIES.

If I scarify or uncap the honey over the brood, will the bees carry it into the section-boxes? and will the queen lay eggs in the cells from which the honey was taken? O. P. CRITTENDEN.

Answer.—Yes, if you do it at a time when the bees are crowding the brood department with brood; but if, on the other hand, it is during a time when the honey-flow is excessive and the bees are inclined to load down the brood-combs with honey, they will recap the scarified cells. You will find the German bees more inclined to carry up the honey than Italians of any strain, I think. J. HEDDON.

(1) Is comb honey as profitable to produce as extracted, when sections are about double the price by the pound?
(2) Which gives the most work in managing?

I. HANKER.

(1) Some of the large producers of comb honey keep to it chiefly because it commands more ready sale, while thinking they can make as much honey by extracted at ten cents, as section at twenty cents.

(2) Several also are of opinion that when all preparations are made before hand more hives can be attended to by one man (or man and boy) in working for section than extracting. But of course there is the forehand work and after sorting, crating, etc., to be also estimated. S.

HIVES PACKED IN SAWDUST.

On May 1st, 1884, I bought seven colonies of bees in box-hives, transferred them to Quinby's improved hive, and increased them to eleven colonies. I have taken from the same 420 pounds of comb honey in one pound sections, 264 pounds of it being white clover, and the balance gathered from golden-rod and buckwheat. My bees are on the summer stands packed with sawdust, with six inches of the same on top, with upper and lower ventilation, and with forty pounds of honey and bees by weight of frames. I allowed ten pounds for bees and frames. C. R. HANCOCK.

Chatham, Ont., Dec., 1884.

Jacob Spence, Esq.:

DEAR SIR,—I think a great deal of the *Canadian Farmer*, and would not like to be without it if it were to come regularly; but, sir, I do not receive more than half the numbers. I would get one and then it would be three or four weeks before I would get another. I wrote to the editor twice; and I can't see why I don't get them. This is the reason I have not renewed my subscription before now; I thought I would not continue, but I have changed my mind and thought I would try it once more (enclosed one dollar, member's fee). If the paper had come regularly I could have sent you two or three other names.

GEO. J. CARSON.

Charlottesville, P. O., Jan. 16th, 1885.

Good friend Carson, your letter above is so like many others received (only not quite so severe) that one reply may suit, and will, no doubt, be in place to more members of O. B. K. A. who have not taken the trouble to write. We do hope that in future our long-suffering brethren will find a more pleasant subject for addressing words of commendation, both in the valuable *Bee Department* and regular visits of *THE RURAL CANADIAN*. Sec.-Treas.

P. S.—Please show new paper and kindly send on those "other two or three names."

N. B.—This P. S. is also meant as for the other members of O. B. K. A. All whom may concern.

A CARD.

DEAR SIR,—I want you to either get me that paper that I signed for or send me my money back, as I only got one of them yet. And see to it—right off. W. H. BOND.

Well, kind friend Bond, by looking carefully into last number and present *RURAL CANADIAN*, you will find about the best forthcoming by way of reply. Then please, another laconic card. Sec.-Treas.

Jacob Spence, Esq., Sec. O. B. K. A.:

SIR,—You requested me to drop you a card and say whether or not I received the *Canada Farmer*. I have not! There must be something wrong somewhere. But as old gipsy wife says, "Faint heart never won a fair lady." Hope for better success next time.

Lucknow, Jan. 16, 1885, JOHN F. ANDREWS.

Well, Brother Andrews, you do take good-naturedly this unpleasant shortcoming. We trust, after all, when you receive this fair *RURAL CANADIAN*, you will be well satisfied, and then another jocular card will be in order. How do you like *THE RURAL CANADIAN* substituted for *Canada Farmer*. S.

CAUSES OF LOSS IN WINTER.

I would say to the bee-keepers in the North, do not despair of yet solving the difficult problem of wintering bees, while such men as Messrs. Heddon, Clarke, and a host of others are so deeply inter-

ested, and are striving with each other, both by hard study and costly experiments, to see who shall be the first to say "Eureka." I would frankly say that I think Mr. Clarke's theory has but few friends, but all must admit that his plan has advantages for ventilating the hive. My observations have led me to believe that bees do not winter as well in trees as they do in hives; as I have had them die out in log-gums which were eight feet in length, and at the same time do well in moveable-frame hives. I have also cut trees, and have known others to, which contained combs with honey; but the bees had hibernated to such an extent that they had failed to awaken.

I think that Mr. Heddon made a true statement when he said: "This question of wintering is not one of cellars, ventilation, pieces of lath, sticks, quilts and cushions over the combs; what kills our bees is diarrhoea." I agree with Mr. Heddon this far; but what is the cause of this disease? I cannot believe that pollen is the first cause of this worst-of-all diseases which bees are heir to. I am convinced that bees having all the necessary conditions to winter well, do not breed as when ordinarily prepared for winter by the well informed bee-keepers of the present day; but anything which may threaten the welfare of the colony, whether a loss of numbers, a diseased condition, or anything which threatens the extinction of the colony, will cause it to commence brood-rearing at once; and if pollen is at hand, they will, of course, use it, and this will certainly aggravate the condition in which we find them when diarrhoea first makes its appearance.

I have seen bees affected with this disease at all times of the year, in fall, winter, spring, and in midsummer; in the fall when flights were quite frequent and no brood-rearing going on at the time. On June 18, 1884, I received, at this place, a carload of bees from Louisiana, which had been confined to their hives for over eight days, and upon having a chance for a fly, many of them showed unmistakable signs of bee-diarrhoea. This, of course, was not caused by brood-rearing.

Now, I find some locations which are nearly if not quite, exempt from this disease, as it ordinarily makes its appearance in colonies of bees. I find that in dry, sandy locations where fall bloom is scanty, and the honey sources are from raspberry, clover, basswood, and purple fire-weed, there is no trouble of this nature; on the other hand, where there is an abundance of fall bloom, such as buckwheat, motherwort, corn, and different varieties of wild asters, the trouble commences early, and many in such localities lose all the bees that they may have; whether they are on the summer stands, packed in chaff in double-walled hives, in cellars, or in clamps, the result is the same.

As far as Michigan is concerned, apiculture in the southern and middle parts seem to be more affected with this disease, or condition of things, than the northern part. Bees are kept successfully at Petoskey, which is as far north as I have known them to have been kept in this state. I know, personally, that there are wild bees as far north as Roscommon county, and that two of the most successful bee-keepers of Michigan live far north of Bay City, in the interior of the State, on an elevated location, the soil being of a sandy nature, and willow-herb, called by some purple fire-weed, and goldenrod being their chief sources of fall honey; and from whom one of our most prominent bee-keepers living in the southern part of the State, has twice purchased bees, after losing her own by diarrhoea. I refer to "Cyula Linswik," who smiles quite audibly at Mr. Clarke's long winter nap, and Mr. Heddon's pollen idea; and well she may, as she has never

met with any serious losses. Thanks to the plants which give her a pure, healthy article of honey—"it cannot be excelled"—and her admirable method of packing and ventilating the hives.

I would say in conclusion that it will be utterly impossible to winter bees successfully in low, moist localities, unless the early honey is left in the hive, the extractors used with caution, and combs of white clover or basswood honey laid aside to be given back to the bees in early fall in place of the "vile stuff" which they sometimes gather; but perhaps the surest way of all is to extract all the honey in early fall and feed up with a good article of sugar syrup, and thus not run any chances of not having the necessary requirements for them to winter safely.—S. J. Youngman in *American Bee Journal*.

TIMELY HINTS.

The *Texas Farm and Rancho* contains the following interesting items:—

To raise prices by individual effort, work your home market for all that it is worth, and ship as little as possible to the cities, so as to avoid a glut in the market.

In selecting the site for your bees, have one the ground slopes, so that rain will run off freely, and make the hives face south or east, never north.

See that your hives are high and dry, and not liable to have rains or floods wash in. Place a piece of board to enable any belated or tired bees to crawl up into the entrances, in case they may miss the alighting board on their return from a fly-out.

Two bee-keepers living in the same locality, both using the same hive (Langstroth) and having the same facilities and advantages, report as follows: A doubled the number of his colonies and took an average of one hundred pounds of honey from each. B about doubled his colonies, but did not get ten pounds of honey per hive. The difference was the result of management, care and attention.

IF NEED BE FEED.

It is to be presumed that every one has taken pains to leave a sufficient supply of stores with each colony to carry it through. If it should so happen that by inadvertence or neglect, any colony is now found deficient in stores, it can best be fed on top the frames with "good candy," so-called. This bee food is made by rubbing enough pure powdered sugar into honey to make a stiff dough or paste, which, when placed on the frames over the cluster and well covered in with the mats or quilts, will not only prevent starvation, and thus save the life of a colony, but will also start brood-rearing, and keep it going forward if any pollen is left in the hive. If no pollen is left in the hive, and it is desired to stimulate brood-rearing, the addition of a small quantity of pea or rye flower to the above candy will have the desired effect.—*Kansas Bee Keeper*.

COMB FOUNDATION.

Having secured a large quantity of excellent wax we are prepared to quote Foundation for early shipment at reduced rates for cash.

E. L. GOULD & CO.,

BRANTFORD.

THE DAIRY.

HOW TO MAKE BUTTER.

At a recent Farmers' Institute in Middlesex County, the Chairman announced that there was a lady present, Mrs. J. M. McClurg, of Lobo, who was far famed for her butter-making. She had taken prizes all over the United States and Canada for many years past. He had not been able to persuade her to take the platform, and tell them the secret of her success, but she had consented to answer any questions that might be asked her.

Mr. Mills—What do you consider the great essentials of successful butter-making?

A.—Cleanliness and the proper temperature.

Q.—Where do you set your butter?

A.—On a brick floor.

Q.—In or connected with water?

A.—No.

Q.—Deep or shallow pans?

A.—In shallow pans.

Q.—At what temperature do you churn?

A.—Fifty-eight degrees in summer and sixty in winter.

Q.—What do you do when you find the temperature too low?

A.—Warm the cream by taking it to a hotter place.

Q.—Do you ever put hot water in it?

A.—Very seldom.

Q.—How long do you let the milk stand before skimming?

A.—About thirty-six hours.

Q.—Do you churn the butter till it gathers into one lump or only till it gets into small lumps?

A.—Till it is pretty well gathered, but not too long, as that hurts the grain of the butter.

Q.—Is not the butter often tainted through carelessness in milking?

A.—Yes; I always wash the udder with a cloth.

Q.—Have you any special food for your cows.

A.—Oh! I don't know. We give them cut oats twice a day, and two pails of chop-stuff. We also give them a pail of carrots at noon, but no turnips.

Q.—Do you wash the butter after it comes out of the churn?

A.—Yes, always.

The questions and answers on this important subject were listened to with the closest attention by all present, many of whom had wondered concerning the secret of Mrs. McClurg's butter-making for the past twelve years.

PACKING BUTTER.

The following system of packing butter, particularly for small dairies and where a few crocks of the same are put down early in the season, is recommended by an exchange: The butter is first made with all possible care, and after being worked is rolled into small cylindrical shapes, four or five inches long and not more than a couple of inches in diameter. These rolls are then wrapped in muslin cloths and the ends drawn over. A large crock is next nearly filled with strong brine, and these rolls of butter are immersed in this solution. A weight is put into the crock to keep them from floating. The butter as wanted can be secured without disturbing the mass as it is necessary when packed into tubs, and it is then always fresh. It will not absorb salt from the brine, for the reason that salt and butter never make alliances, and as the butter will not take up additional moisture there can be no possibility for it taking up extra salt. Being immersed in the brine it is seen that it is un-

influenced by the air and this in itself would hold natural changes in the butter in check so that the development of lactic acid would go on so slowly that if the brine were kept in a place of quite low temperature and quite uniform, the possibility of the butter becoming rancid would be very small, at least before needed for the table. Another method is to thoroughly wash out the butter, while in the granular state, with weak brine, and when free from buttermilk place this granulated butter without further salting or working in small muslin bags holding two or three pounds each, tie them up and put in brine the same as mentioned above. At a dairy fair at Milwaukee some extra spring butter was shown in the granular form, put up in two quart glass fruit cans. The can, it is said, was first filled about one-third full of strong brine made of the best dairy salt. The fine, unworked butter was then put in until the can was running over, when it was allowed to stand for awhile to permit all the air to escape, when the cover was put on and sealed perfectly. Butter was shown made two years before, that was in every respect equal to that made during the fair.—*Canadian Breeder.*

PRIZE ESSAY ON BUTTER-MAKING.

The following took the first prize in the competition for prizes offered by the Wisconsin Dairyman's Association for the best essays on butter-making, not to exceed 250 words each. It is certainly brief and to the point:

Select cows rich in butter-making qualities. Pastures should be dry, free from slough-holes, well-seeded with different kinds of tame grasses, so that good feed is assured. If timothy or clover, cut early and cure properly. Feed corn-stalks, pumpkins, ensilage, and plenty of vegetables in winter. Corn and oats, corn and bran-oil meal in small quantities. Let cows drink only such water as you would drink yourself. Gentleness and cleanliness should be shown in managing cows. Brush the udder to free it from impurities. Milk in a clean barn, well ventilated, quickly, cheerfully, with clean hands and pail. Seldom change milkers. Strain milk while warm; submerge in water forty-eight degrees. Open setting sixty degrees. Skim at twelve hours; at twenty-four hours. Care must be exercised to ripen cream by frequent stirrings, keeping at sixty degrees until slightly sour. Better have one cow less than be without a thermometer. Churns without inside fixtures. Lever butter-worker. Keep sweet and clean. In churning, stir the cream thoroughly; temper to sixty degrees; warm or cool with water. Churn immediately when properly soured, slowly at first, with regular motion, in forty to sixty minutes. When butter is formed in granules the size of wheat kernels, draw off the butter-milk; wash with cold water and brine until no trace of butter is left. In working and salting, let the water drain out; weigh the butter; salt, one ounce to the pound; sift salt on the butter and work with lever-worker. Set away two to four hours; lightly re-work and pack.

"THE LITTLE BUTTER COW."

The following argument for "the little butter cow" in the *Western Rural* will apply to any small cow if she is a good one, just in proportion to her yield: The principal object seems to be to breed a cow that is the best for milk butter, and beef combined, which is as hard a job as it is to breed a horse for the dray, farm and race-horse all in one. Some object to the Jersey because she is too small to turn into beef when she is too old to milk. Now, then, it is generally admitted that the Jersey will make two pounds of butter a

week more than most of the large breeds, if not all. Allowing such to be, which may experience teaches me it is, two pounds of butter a week at twenty-five cents per pound would be fifty cents a week for, say the first six months, and one pound a week for the next three months, would make \$16.25 in a year. Allowing each to be milked ten years, would make \$162.50 in favour of the Jersey for butter. At this age put both up to fat and the Jersey will dress 500 pounds and the larger cow 800, making 300 pounds of beef to offset \$162.50 for butter, which makes pretty dear beef, does it not? This is allowing it costs as much to keep a small cow as a large one.

SWEET AND SOUR CREAM TEST.

A test was recently begun in a popular creamery, run on the half-skimming plan, to determine the economy of the plan of churning the cream sweet and utilizing the butter-milk for cheese-making, as compared with that of churning the cream after it became sensibly sour, and leaving the buttermilk to go to waste with the whey. Preliminary to a more general test, the cream taken from the night's milk on alternate mornings was treated by the two methods and the butter produced submitted to the examination of experts, who know nothing of the history or character of the butter except what they could see. In every case that produced by the sour method was pronounced superior in every important particular, and very especially in those of flavour and colour, no artificial colouring being used. So fully satisfied were the parties in interest from the test, several times repeated, that no advantage to be derived from the sweet cream method would compensate for the difference in quality that the other and more elaborate tests contemplated have been abandoned.—*Breeders' Journal.*

BEST TIME TO SELL.

The *Chicago National Live Stock Journal* says: "The best time to sell butter or cheese, and indeed all farm produce, is the earliest date at which it can be got in condition for market. Whoever holds butter or other perishable goods, holds them at a risk. Butter depreciates from the moment it is made till it is consumed, and is always liable to fluctuations in price, which are as often against the holder as in his favour, and he is always losing interest on its value as long as he holds it. Holding for a higher price is one form of speculation—a business farmers have no occasion to indulge in. It is true a rise in property may sometimes be foreseen, making it pretty safe to hold for a time, but when a dairyman would not think it wise or safe to buy butter or cheese to hold for a better price, he had not better hold his own. The fact that it turns out that he might sometimes have done better by holding than by selling, when his goods are first ready for market, is not a sufficient reason for his holding at another time, for the chances will as often be against him as for him, and whichever way it is, he must always endure the losses from injury, shrinkage, depreciation, waste, and use of capital. Therefore, as a rule, we say it is most prudent to sell always when products are ready for market, and most especially so with butter, which is always suffering from depreciation in quality."

PROBABLY the most interesting exhibit at the London Heatheries was the dairy. The cows were kept there and were milked before spectators. Then the fresh, warm milk was put in the centrifugal skimmers, and in ten minutes from the time the milk left the cows the spectators could spread the nice sweet butter produced from it on their muffins.

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JNO. A. BRUCE & CO., Hamilton, Ont.

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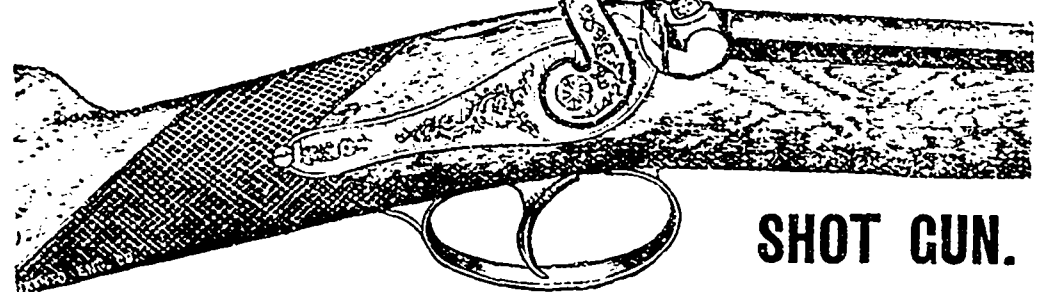
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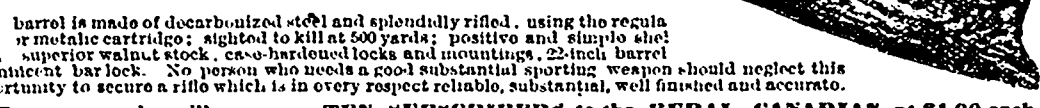


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HOME CIRCLE.

COUSIN TOM.

"Mary, I am astonished."

Of course the grave, elder sister was astonished. In truth and in fact she lived in a chronic state of astonishment, for Mary was always doing something to astonish her friends and relatives.

Miss Ruth could scarcely credit the evidence of her own senses in the hazy glow of the August morning, when she came out of the shadows of the little south porch and discovered that yonder moving object, half way up the branches of the huge old pear tree, was not a spray of leaves, nor a cluster of sun-checked pears, but Miss Mary Thorne, comfortably perched in the crook of the old tree, her curls all flecked with the sifted rays of sunshine that came down through the shifting canopy of leaves, and a book in her hands.

"I don't care," said the little damsel, laughing saucy defiance. "It's the nicest place in the world up here. I feel just like a bird, with the leaves fluttering against my face and the wind blowing so softly, and I intend to stay here. Wouldn't you like to come up here, Ruthy. It's easily done. Just put your foot on that knot and then—"

Ruth, who was thirty and weighed one hundred and sixty pounds, bristled up with amazement.

"Mary Thorne, are you crazy? Come down this instant."

"Indeed I shan't!" said naughty Mary, tossing the silky shower of hair away from her forehead, and glancing down with eyes that sparkled and danced like two blue jewels.

"But we are all going—"

"Yes, I understand; you are all going in triumphal procession to the depot to render an ovation to the great Professor La Place, the wisest, sagest, and grandest of mankind to whom the Thorne family have the unutterable honour of being second cousins, and to escort him solemnly for a month's sojourn at Thorne Hall. Oh, dear," ejaculated Mary, "I wish I could run away somewhere and hide. I hate this paragon of prime precision. I shan't marry him if he asks, and I mean to behave so badly that he won't dream of it. No, I am not going with you. I hate the close barouches, and it's too warm to ride on horseback. I shall stay at home."

And Mary settled herself so snugly, with one tiny, slippered foot swinging down, and her pretty head close to a nest of blue-speckled bird's eggs, that Ruth gave it up with a sigh of despair.

"Well, then, have it your own way, you incorrigible romp. I wish you weren't too big to shut up in a dark closet, or to have your ears well boxed."

"It's a pity, isn't it," said Mary, demurely.

"Of course it is, Mary! If cousin Tom Bradley comes this morning, be sure to explain to him why we are absent—and behave like a young lady, mind!"

"All right!" said Mary dauntlessly. "I always liked Tom. We used to have grand romps together."

She sat there in the old pear tree, prettier than any hamadryad that might have haunted the mossy old veteran of the garden, her cheeks touched with sunshine and carmine, her dimpled lips apart, now reading a line or two from a book in her lap, now looking up, wrapt in girlish reverie, into the blue sky, as it sparkled down through ever-moving leaves, and now breaking into a soft little warble of song, to which the very robins themselves put their heads on one side to listen.

The carriage had driven away long since. She had watched it beyond the curve of the winding

road; the dark mantle of shadow was slowly failing the creeping sun-glow across the velvet lawn below, and the clock in the old church spire among the far off woods had chimed out eleven.

And still Mary Thorne sat there in those forked branches of the old pear tree.

Suddenly there floated into her leafy sanctum a pungent aromatic odour, which made her lean curiously forward, shading her eyes with one hand the better to penetrate the green foliage below.

Not the late monthly roses, not the amethyst borders of heliotrope, not the spicy geraniums—none of these blossoms distilled that peculiar smell.

"My patience!" said little Mary, "it's a cigar."

A cigar it was, and the owner thereof—she could just see a white linen coat and a tall head covered with black wavy curls—stood on the porch steps quietly smoking and indulging in a lengthened view of the garden slopes.

"That's Tom Bradley," said Mary to herself.

"Now, if he thinks I'm going to come down out of this delicious, cool place to sit up straight in the hot parlours he's mistaken! Tom!" she called out, in a silver accent of imperative summons, and then burst into merry laughter at the evident amazement with which the stranger gazed around him, vainly trying to conjecture whence the call had proceeded. "You dear, stupid Cousin Tom!" she ejaculated. "Don't stare off toward the cabbage beds. Look straight up here. You may come up if you please; there's plenty of room for both. You are Cousin Tom, aren't you?" she continued, as sudden misgivings crossed her mind.

"Of course I am; and you are Mary, I suppose?"

"Mary herself. Up with you, Tom! Catch hold of this branch—there. Now shake hands, you saucy fellow! I didn't say you might kiss me!"

"Well, I couldn't help it; and, besides, aren't we cousins?" said Mr. Tom, swinging himself comfortably into a branch just above Mary.

"Why, Tom, how you have changed!" ejaculated the young lady, pushing back the curls with one hand, that she might better view the playmate of her childhood's days. "Your hair never curled so before; and what a nice moustache you've got! I shouldn't have known you, Tom."

"No?" said Tom, roguishly.

"And you've grown so tall—I declare, Tom, you're splendid!"

"I could return the compliment, if I dared. But where are all the rest of the family? The house below is as empty as a haunted hall."

"All gone to welcome that horrid, poky old Professor La Place, who has graciously indicated his willingness to pass a few weeks with us. Tom, I do hate that Professor."

"Hate him! What for?"

"Oh, I don't know, I'm sure. He is a snuff-dried, conceited old wretch, and I'll wager a box of gloves he wears spectacles!"

"Nonsense, Mary? Why he is only twenty-six."

"I don't care; I know he is rheumatic and wears spectacles for all that. And, Tom—now if you'll never, never breathe a word of this—"

"I won't, upon my honour!" said Tom.

"Well, then, papa has actually got the idea into his dear old head that I would make a nice wife for the professor, and—"

Mary turned away with crimson indignation flashing in her cheeks.

"It's too bad of you to laugh, Tom. I never, never will marry that man!"

"I wouldn't if I were you," consoled Tom.

"But, Mary, wait and see the man before you decide. He may be quite a decent fellow."

"No," said Mary, shaking her head and biting her cherry lips firmly, "I hate him beforehand."

"What a spiteful little puss you are!" said her companion, laughing.

"No, Tom, I'm not." And the blue eyes became misty. "I love papa and Ruth dearly, and I love almost everybody. I like you, Tom, but I hate Professor La Place. And I want you to promise, Tom, that you'll be my friend, and not allow him to tease me into walks, or rides, or *tele-a-tetes* of any kind. Will you?"

Would he? If she had asked him to precipitate himself out of the pear tree upon the steps below with those eyes fixed on his, he'd have done it; any man of taste would.

"I promise!" he said, and they shook hands on it.

What a cozy place for a chat that gnarled old tree was.

And when they had talked over everything they could think of, it was the most natural thing in the world that Tom should recover the book which had slipped down into the network of tiny boughs, and read poetry to his pretty cousin, in the deep masculine voice that maidens love to listen to.

And Mary sat there watching the pretty curls blowing to and fro on his broad white brow, and the long black lashes almost touching his olive cheeks; and she thought how very, very handsome Cousin Tom was, how much he had changed in the ten years that had elapsed since she had met him, and she wondered whether Tom was engaged to any pretty girl; somehow she hoped not. Now, why couldn't Tom have been rich, like that horrid Professor La Place, instead of a poor medical adent, and—

And when the large black eyes were suddenly lifted to hers, Mary felt as though he had read every thought in her mind, and blushed scarlet.

"Come, Tom," she chattered, to hide her confusion, "we've been here long enough. Help me down and I will show you the old sundial that we used to heap with buttercups when we were children."

A rumbling of wheels; it was the returning of the carriage, and Mary clung to Tom's arm.

The awful professor!" she whispered. "Now, Cousin Tom, be sure you stand by me through everything."

"To my life's end!" was the whispered answer.

But there was no one in the carriage save Mr. Thorne and Ruth.

It drew up on the grand sweep beside the two cousins.

"Where's the professor?"

"He was not at the depot," said Ruth, "and—"

But Mr. Thorne had sprung from the carriage and clasped both the stranger's hands in his.

"La Place, is it possible! Why, we have just been looking for you at Mill Station."

"I am sorry to have inconvenienced you, sir," was the reply; "but I came by the way of Whar-ton, and walked over this morning."

"Never mind now, so you are safely here!" exclaimed the old gentleman. "Ruth, my dear—Mary, let me introduce you to your cousin, Professor La Place!"

Mary had dropped his arm and stood dismayed.

"You told me that you were Cousin Tom!"

"That is my name, and I believe I am a distant cousin by relationship. Now Mary," and the black eyes sparkled, "don't be angry because I don't take snuff or wear spectacles. I beg the other Cousin Tom's pardon, whoever he is; but I am very glad he isn't here. Mary, be just, and

don't hate Cousin Tom because his other name happens to be La Place."

But no doubt it was a very perplexing thing to have two Cousin Toms; and so, about six months subsequently, Miss Mary contrived to obviate that inconvenience by allowing one of them to assume a nearer relationship; and in spite of all her assertions to the contrary, she is Mrs. Professor La Place.

For it is a solemn fact in this world that whenever a girl says she never, never will do a thing, she is pretty sure to do it the first chance she gets; and Mary is no exception to the general rule.

A CORNER CLOSET.

Sometimes it is desirable to make a closet in a room where the house-builder has failed to provide one. And it is well to know how to make it a real comfort and a thing of beauty. A corner closet is prettier than one flat against the wall. Have a board to fit the corner exactly, measuring from the point outwards about two feet. On the under side of the board screw in double hooks, such as are used in wardrobes, two or three rows. Wooden supports are strongly nailed to the wall, and the shelf securely fastened. Cover with material the same as the curtains—double-faced canton flannel or any other material desired, of whatever colour, handsome or simple. Fasten with brass-headed nails. The top can be ornamented with bric-a-brac.

TOO MUCH CREDIT.

It has been said: "There is more religion in paying one hundred cents on the dollar that a man owes, including his subscription to his home paper or the hire of a day labourer, than in the most eloquent prayer ever uttered by human lips."

It is true. Print the sentiment and keep it before the people. There is too much credit in this country. When a crisis comes, where can it stop with everybody in debt? Farmers ask too much credit, workmen ask too much credit, merchants ask too much credit, everybody goes in debt too much. Can't we stop it? Come to think about it does it not appear out of all reason and common sense that a farmer should ever ask credit for anything? It would seem that they of all men, ought always to have something to sell, and never be obliged to go in debt for anything. Much less should a farmer ever ask credit for bacon, lard, flour, corn meal or hay—things that he is presumed to raise for himself; goodly quantity enough and some to spare. And yet the bulk of the debt of most farmers is made up from these very items.

"There is something rotten in the State of Denmark" when this is the case. And the rotten thing is the credit system. Merchants encourage it, farmers accept it, and all practice it. Yes, there is too much credit. Of course we do not mean that there should be no credit whatever. This would be impracticable. But there ought to be more restriction and discrimination. A safe limit ought to be set up by all parties, and then there ought to be a well directed economy, with energy and brains to back it, to redeem the past and get out as soon as possible on the solid ground of cash payment. What with a good farm on his hand and health and means to work it, and with something coming in to sell every month in the year—yes, every week, as to that—what in the world is a farmer thinking about to ask credit for anything, much less for the absolute necessities of life, such as bacon and corn, things that he ought to have to sell and not to buy? We hope nobody will take offence at this plain speaking, but it does seem to us as one of the

most absurd of all absurdities for a farmer to have to buy corn on credit. We tell our brothers plainly that a one crop system and the credit system combined will ruin any man. They will never bring about an easy and solid state of affairs, try it as much and as long as you will. Either one alone is enough to kill the fairest prospect of any man. Abandon both. Get out of them as soon as you can. Raise something to sell, raise your own supplies, make your land rich, have grass and stock and fruit. Plow less, diversify more. Stop asking credit, buy in barter, keep an eye sped, save your cash, keep mum.
—Rural Messenger.

THE WOOING.

I saw her coming through the wood,
My pretty one, my dear;
I said: "An' you will marry me,
I'll wait for you a year."
And I'll give you a silken gown,
And I'll give you a ring,
An' you will only marry me
I th' coming of the spring."

My love she tossed her pretty head
As she went on her way,
And said: "I'm in a hurry, sir,
For it's a market day."
She had a basket on her arm,
And she began to sing,
An' she went on into the town
To do her marketing.

She stayed to rest as she came back
Upon a fallen tree;
She'd bought a ribbon for her hair
And put it in for me;
And then we sat and wondered what
The coming year would bring;
And, oh! I think she'll marry me
I th' coming of the spring.

—Casell's Family Magazine.

DEAR LITTLE HANDS.

Dear little hands, I loved them so!
And now they are lying under the snow—
Under the snow, so cold and white.
I cannot see them, or touch them to-night.
They are quiet and still at last, ah me!
How busy and restless they used to be!
But now they never can reach up through the snow
Dear little hands, I loved them so!

Dear little hands, I miss them so!
All through the day, wherever I go—
All through the night, how lonely it seems,
For no little hands wake me out of my dreams.
I miss them all through the weary hours,
I miss them as others miss sunshine and flowers;
Day time, or night time, wherever I go,
Dear little hands, I miss them so!

Dear little hands, they have gone from me now,
Never again will they rest on my brow—
Never again smooth my sorrowful face,
Never clasp me in a childish embrace.
And now my forehead grows wrinkled with care,
Thinking of little hands once resting there,
But I know in a happier, heavenlier clime,
Dear little hands, I will clasp you sometime.

Dear little hands, when the Master shall call
I'll welcome the summons that comes to us all—
When my feet touch the waters so dark and so cold
And I catch my first glimpse of the City of Gold.
If I keep my eyes fixed on the heavenly gate
Over the tide where the white-robed ones wait,
I shall I know you, I wonder, among the bright hands?
Will you beckon me over, oh! dear little hands?

SURE CURE FOR WRINKLES.

Wrinkles give an appearance of age, and usually come on as people get older, or as a consequence of using large quantities of powder—a habit remarkably offensive to men, whatever foolish women may think about it. A little powder to prevent chapping in cold weather, or after washing when the face or neck have been exposed to the sun, is a very different thing. Just a dust of powder immediately wiped off temporarily removes a greasy look; but it stands to reason that lavish use of it must fill up the pores of the skin, and thereby permanently injure the complexion. Wrinkles are very much under personal control. A girl or youth who indulges in the perpetual knitting of the brows produces a very ugly wrinkle between the eyebrows; but this may be

entirely removed by forsaking the trick. A habit of half closing the eyes—very common with persons who do not wear glasses, produces wrinkles at the outer corners. Any ill-tempered drooping of the corners of the mouth bring wrinkles in those positions. No outward application will ever cure this; the effort must come from strong determination and resolute avoidance of the causes that produce the ugly effect.

Living in a very dirty atmosphere tends to develop and accentuate wrinkles; the grime naturally settles in any little hollows that will receive it, and the longer it stays there the more difficult it is to remove. It may be partly kept out by regularly wearing a veil out of doors, but the best thing is frequent and thorough washing with hot water and application of a little cold cream at bed time. This softens and smooths the skin, helping to smooth out instead of increasing the tendency to fall into hollows and trace channels. A little alum, or other astringent lotion, applied in the morning, does good rather than harm, but if it makes the skin smart it acts as an irritant and must be avoided. Any puffing of the skin is associated with an unhealthy condition of the blood, and ought to receive proper treatment. People who habitually worry themselves over trifles frequently get wrinkles on the forehead, but persons who cultivate a calm and easy state of mind may escape them for many years.—Harper's Bazar.

GIRLS IN AUSTRIA.

Up to fifteen years of age Austrian girls are kept at their studies, but are not deprived of society. They dress very simply, rarely wearing a silk gown until the day they leave the school room for the ball room. After they leave school they go through a year's or even two years' teaching in the pantry and in the kitchen under some member of the family, or even, in some cases, in another family, under trained cooks. They may never be required to cook a dinner, but they are thus rendered independent of cooks and servants, as they learn how to do everything themselves long before they begin housekeeping on their own account. When married they are most affectionate wives and mothers. An Austrian lady, in fact, is as accomplished and learned as an English governess, as good a house-keeper and cook as a German, as witty and vivacious in society as a Parisian, as passionate as an Italian, and as handsome as an American, some of the most beautiful women in Europe being found in Vienna. Germans and also Austrians are celebrated for their stocks of linen. Here, as soon as a girl is born, the weaving of her linen is begun, and every year a piece, or a certain number of yards is set aside for her trousseau, ready for her marriage. Grandmamas, on their side, are not idle. They pass their time knitting for their grandchildren, supplying not only their wants, but also laying aside for the future a dozen dozens of stockings of every kind, being the usual number of any bride's trousseau, and some of these knitted stockings are as fine as the finest woven ones. An Austrian girl or lady is never, I may say, seen without some kind of work in her hand.

YOUNG MEN!—READ THIS.

THE VOLTAIC BELT Co., of Marshall, Mich., offer to send their celebrated ELECTRO-VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigour and manhood guaranteed. No risk is incurred as thirty days' trial is allowed. Write them at once for illustrated pamphlet free.

"WAY DOWN UPON DE SWANEE RIBBER."

Words and Music by E. P. CHRISTY.

Moderato.

PIANO.

1. Way down up-on de Swa-nee rib-ber, Far, far a - way, Dar's whamyheartis turn-ing eb-ber,
 2. All round de lit-tle farm I wandered When I was young, Den ma-ny hap-py days I squandered
 3. One lit-tle hut a - mong de bu-shies, One dat I love, Still sad-ly to my mem-ory rus-hes,

Dere's wha de old folks stay. All up and down de whole ere a - tion, Sad - ly I roam,
 Ma - ny de songs I sang, When I was play-ing wid my brud-der, Hap - py was I,
 No mat-ter where I rove, When will I hear de bees a hum-ming, All round de comb?

CHORUS.

Still looging for de old plan-ta - tion, And for de old folks at home. } All de world am sad and dreary,
 Oh! take me to my kind old mud-der, Dere let me lib and die. }
 When will I hear de lan - jo tumming, Down in my good old home? }

Ev-ry where I roam, Oh! darkeys how my heart grows weary, Far from de old folks at home.

YOUNG CANADA.

THE NEW YEAR.

The glad New Year has come again,
With swift wings and flying feet;
The old year quickly fades away,
See the Old, the New Year greet.

Now through the air the snowflakes fall,
Among the leafless boughs at play,
So to earth in glory rare
Is heralded the New Year's day.

To some it joy and pleasure brings,
While to others, suffering, pain;
And many beings thank our God,
When the New Year comes again.

It brings the cheering spring-time
And summer's joyous hours;
When the freshly stirring breeze,
Wafts the perfumed breath of flowers.

Let us begin the bright New Year,
With feelings kind and true,
Toward all our fellow creatures,
And begin the year anew.

—Lizzie, at 11 years of age.

MAKING SHOT.

Every person who has walked about the lower part of this city must have noticed a high, round tower, as high as the roadway of the bridge, which rears itself high above the surrounding buildings and has small windows at different places. This tower is in Centre street, near Worth street, and belongs to the Colwell Lead Company. There are several of these towers in this city. They are places built especially for the casting and manufacture of shot. The tower rises to a height of 176 feet, and is fifty feet in diameter at the base. It diminishes in diameter as it ascends, being about thirty feet across at the top. It is divided into several stories. A circular stairway, made of iron, extends to the summit, giving access to the several stories. Great heat is essential for casting, as the lead must cool in the descent, and thus assume a spherical shape. If hot, it would flatten when it strikes the water into which it falls.

The first method is making what is called "temper." This is a mixture of arsenic and lead. The mixture is melted in large kettles and is constantly skimmed and stirred. It is cast in bars, the same as lead. When the temper is made it is carried to the top floor, where there are kettles and a furnace for melting it. The temper is mixed with the lead, as pure lead would assume various shapes in casting; but when mixed with the temper in the proportion of three tons of lead to one ton of temper, it takes the shape of globules when it is cast.

The casting pans are large colanders, round pans with holes perforated in the bottom. The casting is all done on the top floor, and the colander is suspended over an opening in the floor, which goes through the entire height of the building to the ground, where there is a well of water. The lead is melted in large kettles and is dipped out and poured into the colander with ladles which have long handles. It oozes through the holes in the bottom of the colander and falls through the opening to the ground floor into the well. The shot is taken out of the well by small buckets fastened to an endless belt, which runs over a wheel, which carries it from the well up to a long, hot, metal table. Here the shot is constantly stirred by men with long rakes, and the heat rapidly dispels the moisture, and the shot soon becomes perfectly dry.

It is taken from the "drying table" to the "screener," a series of tables with narrow openings between them, the tables being set at a slight angle. If the shot is round and perfect it rolls rapidly along these tables, skipping the openings, until it reaches a box at the extreme end, into which it falls. If it is imperfect it cannot roll

fast, and falls into the openings, under which boxes are placed.

The shot then goes to the "separators," which are a series of drawers, not unlike a bureau, which rocks backwards and forwards by machinery. The shot is poured into the upper drawer, which has an iron bottom perforated with holes of a certain size. The second drawer has holes of a smaller size, and so on down to the lowest drawer, the bottom of each drawer being perforated with holes a size smaller than those in the drawer above it. The backward and forward motion throws the shot from side to side, letting all the shot the size of the holes or smaller pass through into the second drawer, while all larger than the holes remain in the drawer. The same is repeated down to the lowest drawer, so that each drawer contains a smaller size of shot than the one immediately above it.

The next process is "polishing." The shot is put into irregular shaped iron boxes, which continually revolve. When the box is nearly full, powdered black lead is put in. The irregular motion of the box throws the shot from side to side and the black lead is so ground into it that it can not be rubbed off. And it is this that gives it the beautiful shiny appearance.

MOTHER'S FACE.

Three little boys talked together
One sunny, summer day,
And I leaned out of the window
To hear what they had to say.

"The prettiest thing I ever saw,"
One of the little boys said,
"Was a bird in grandpa's garden,
All black and white and red."

"The prettiest thing I ever saw,"
Said the second little lad,
"Was a pony at the circus—
I wanted him awful bad."

"I think," said the third little fellow,
With a grave and gentle grace,
"That the prettiest thing in all the world
Is just my mother's face."

THE PRINTER BOY.

Near the year 1725, an American boy some nineteen years old, found himself in London, where he was under the necessity of earning his bread. He was not like many young men in these days, who wander around seeking work, and who are "willing to do anything" because they know how to do nothing; but he had learned how to do something and knew just where to go to find something to do; so he went straight to a printing office, and enquired if he could get employment.

"Where are you from?" inquired the foreman.

"America," was the answer.

"Ah," said the foreman, "from America! a lad from America seeking employment as a printer! Well, do you really understand the art of printing? Can you set type?"

The young man stepped to one of the cases, and in a brief space set up the following passage from the first chapter of John:

"Nathaniel said unto him, Can there any good thing come out of Nazareth? Philip said unto him, Come and see."

It was done so quickly, so accurately, and administered a delicate reproof so appropriate and powerful, that at once gave him influence and standing with all in the office. He worked diligently at his trade, refused to drink beer and strong drink, saved his money, returned to America, became a printer, publisher, author, Postmaster General, member of Congress, signer of the Declaration of Independence, ambassador to royal courts, and finally died in Philadelphia, April 17th, 1790, at the age of eighty-four, full

of years and honours; and there are now more than a hundred and fifty counties, towns and villages in America named after that same printer boy, Benjamin Franklin the author of "Poor Richard's Almanac."

SPEARING SWORD-FISH.

The fish are always harpooned from the end of the bowsprit of a sailing vessel. All vessels regularly engaged in this fishery are supplied with an apparatus for the support of the harpooner, which consists of a wooden platform about two feet square, upon which the harpooner stands, and an upright bar of iron three feet high, rising from the tip of the bowsprit just in front of this platform. At the top of this bar is a bow of iron in nearly circular form, to surround the waist of the harpooner. This structure is called the "rest" or the "pulpit." A man is always stationed at the mast-head, whence with the keen eye which practice has given him, he can easily descry the tell-tale dorsal fins at a distance of two or three miles. When the fish has been sighted the watch "sings out," and the vessel is steered directly toward it. The skipper takes his place in the pulpit, holding the harpoon with both hands by the upper end, and directing the man at the wheel by voice and gesture how to steer. When the fish is from six to ten feet in front of the vessel, it is struck. The harpoon is not thrown; the strong arm of the harpooner punches the dart into the back of the fish beside the dorsal fin, and the pole is withdrawn. The line is from fifty to one hundred and fifty fathoms long, and the end is either made fast on board the smack, or attached to a keg or some other form of buoy and thrown overboard. After the fish has exhausted himself by dragging the buoy through the water, it is picked up, the fish is hauled alongside, and killed with a lance. In the meantime, several other fish may have been struck and left to tire themselves out in the same way.—From "Gladiators of the Sea," by F. A. Fernald, in Popular Science Monthly for January.

BE THOROUGH.

One of the meanest things about a boy or man is a disposition to shirk and half do the things that he undertakes to do. A field half hoed, a garden half weeded, a cellar half cleaned, a job half finished, all these show a very bad trait of character in a person. I heard of an old grandmother who used to watch the children, and whatever they undertook to do, if it was only building a cob-house on the floor, she would make them finish it. They were not allowed to leave anything half done. If there were more such grandmothers we should have less slouchy, half-finished work to complain about. Whatever you begin, finish it; whatever you undertake to do, do it well. "Whatsoever thy hand findeth to do, do it with thy might."

CHASING LIES.

A lie is a bad thing to run at large. It damages, ravages, devours, more poisonous than a serpent; it often ruins not health, but reputation and usefulness. Every lie should be stopped. But whose business is it to chase a lie? Who let it loose? The man who let it loose is bound to catch it again; but a man of truth is under no obligation to chase and catch other people's lies. Suppose some man, or a dozen men, send forth a falsehood about me, am I obliged to spend my days and years in chasing it and contradicting it? By no means, let those that make it attend to their own work or meet the responsibility of it in the reckoning day.

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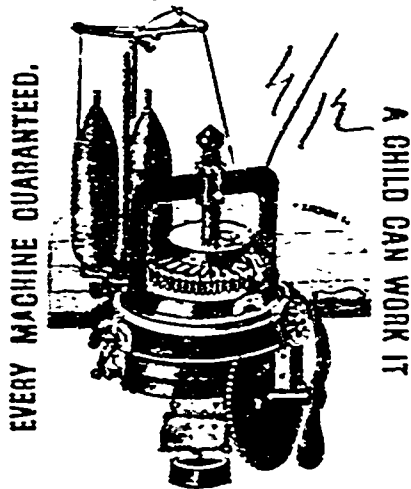
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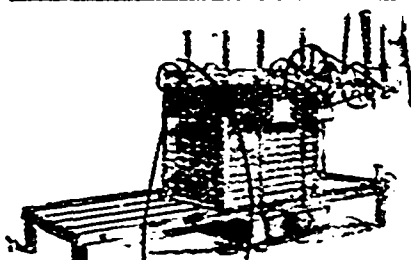


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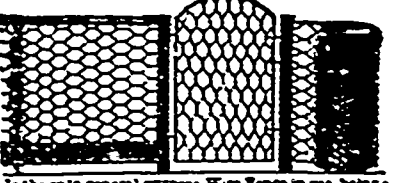
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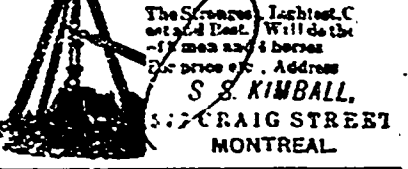
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A Catarrh cured. (text partially obscured)

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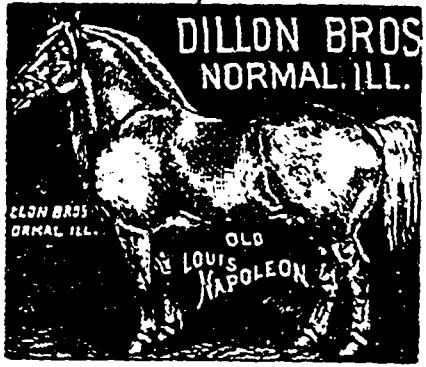
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Rev. B. B. STEVENSON.

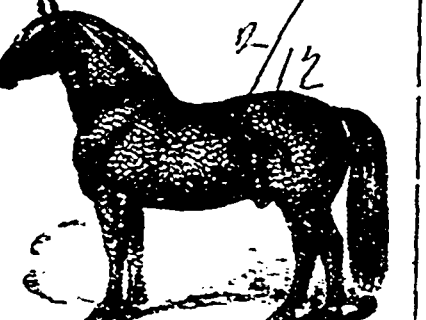
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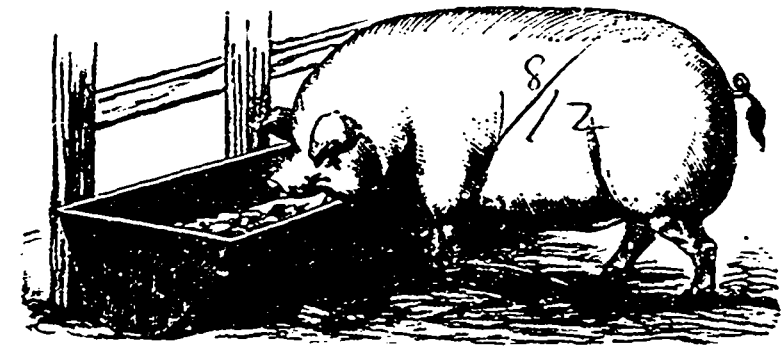
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