

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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\* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.\*

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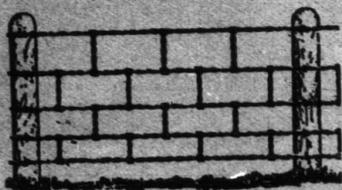
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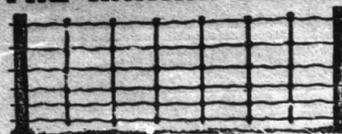
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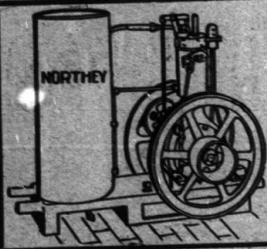
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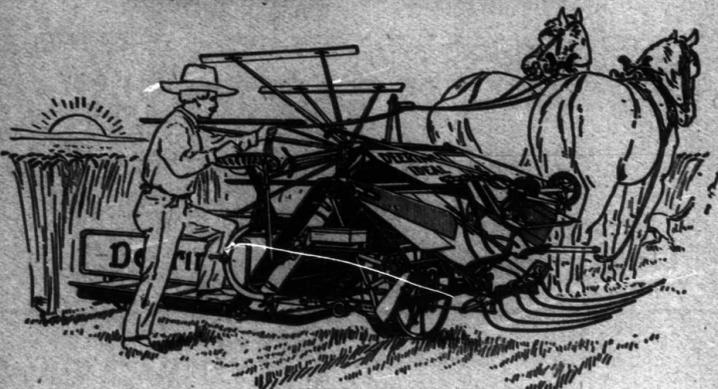
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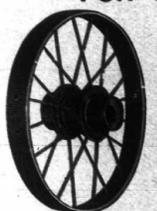
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# FARMER'S ADVOCATE

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VOL. XXXV.

LONDON, ONT., AND WINNIPEG, MAN., JULY 2, 1900.

No. 505

## EDITORIAL.

### Scarcity of Live Stock.

The acknowledged uncertainty of the wheat crop as a main dependence for Canadian farmers, and the low price so long prevailing for that cereal, a condition which even a war of considerable proportions, once a sure precursor of higher prices, now fails to appreciably affect, has properly led to a more general dependence upon live stock and its products for returns from the farm. The active demand for live stock and the improved market prices now ruling for all classes of meat and milk producing animals and for dairy products, as well as for good horses, has only one drawback, and that is the fact of the scarcity of stock in the country at the present time. A keen demand and good prices are welcome experiences and are doing much to relieve the conditions for farmers and stock breeders, and the only element of regret in the situation is that they are not in a position to reap the benefit more largely without unduly depleting their reserve of breeding stock, and thus, it may be, seriously discounting the future. The increased demand and rapid rise in values in the last three years, following a period of depression, found farmers anxious to avail themselves of the opportunity to realize on everything in the way of stock they could reasonably spare, and as a consequence the feature which most forcibly strikes the observant traveller through the country is the undoubted shortness of the supply of stock on Canadian farms. The stereotyped complaint of the market reporters is the paucity of the supply of suitable animals for the export beef trade. Feeders complain that they cannot find the class of cattle likely to make paying returns for the feed required to prepare them for market, while for the inferior class available higher prices are asked than they feel justified in paying with any hope of a margin of profit. A letter recently received at this office from a dealer who in the last two years had succeeded fairly well in filling orders for several hundred stockers for the Western States shows that he is utterly unable to repeat the experience this year, as the cattle simply cannot be found, and one man, met upon his travels, who, by taking time by the forelock, had managed to get together a considerable number on pasture, was assured of 5 cents per pound for them in the near future. In an extended trip through a considerable section of Western Ontario, fairly representative of the Province, in the last two weeks, visiting a number of breeders of Shorthorn cattle, the writer found the herds in every case noticeably short in numbers as a result of numerous sales, the owners in a majority of cases apologizing for the smallness of their herds and enquiring where they could buy to replenish their stocks. Not only were bulls fit for service found closely sold out, but the supply of females reduced to a very considerable extent, while buyers from the States were still scouring the country for more, a carload of pure-bred females leaving London for Iowa only last week, and three carloads from this district in the last three weeks for different destinations.

The temptation to sell when good prices are offered, and the natural aversion to seeing a buyer with good money go past, is more than the average breeder can successfully withstand, and, as a result, many have sold animals which they have felt in their better judgment ought to be retained in the herd to breed from and to build it up to better proportions. Justification for this course may be found in the determination entertained by some, at least, to fill up the blanks by importations, or the purchase of high-class imported animals, and by this means infusing fresh blood into their herds, and it is gratifying to find enterprising men of means so ready to take the risks of importing so largely as

they are of the best that can be bought, and disposing of them at a reasonable margin of profit. The smaller breeders who have not advertised their stock are finding customers among the more prominent breeders who have made extensive disposals and are looking for replenishing stock, but these in turn are offering only for the best, and generally that is the kind that is changing hands. As a consequence, it is largely of the best of our stock that is leaving the country, for, in the main, it is from the United States that the demand for our breeding stock comes. And the shortness of breeding cattle in that country is so very great that it must of necessity take years to recruit sufficiently to supply the requirements.

The obvious lesson for Canadian farmers, in view of these facts, would seem to be to increase their stock of cattle by raising more calves, improving the breed and quality by the use of pure-bred males of the best type, and feeding the young animals generously so as to bring them to early maturity and fit them for the highest prices in the market. Good sires are far too scarce in almost every section of the country, and there is little excuse for this fact, as pure-bred bulls of the beef breeds can even now be bought at a price which they will almost certainly bring in the market for beef at the end of a two or three years term of service, to say nothing of the increased value of their offspring as compared with common stock. In many sections where the services of superior sires may be had for a reasonable fee it is regrettable that so few farmers avail themselves of their use, as by this neglect they prejudice their own interests and the reputation and prosperity of the country.

These remarks apply equally to all classes of stock in the country at the present time, as the great demand for horses, sheep and hogs, as well as for cattle, and the well-known scarcity in all these lines, abundantly show. The present condition of the live-stock industry calls for serious consideration and a pronounced forward movement for increase and improvement, as it is undoubtedly the sheet anchor of successful farming in Canada and the most important of all our industries.

### The War with Weeds.

Constant vigilance is the price of freedom from the penalty that surely follows in the wake of neglected weeds. They are a perennial and always an aggressive enemy, and the cost of conquering them increases with their age in days. The proverbial statement that everything in life has its compensations would seem to find confirmation in the fact that in the cultivation of crops the labor required and employed in the destruction of weeds in many instances tends to improvement of the growth and development of the crop and of its final yield. This is especially true of all hoed crops, and we are inclined to the opinion that some day in the future, when cultivation reaches its climax, most of the crops of the farm will be to a greater or less extent hoed crops. If the stirring of the land around the roots of cereal plants, as well as of root crops and corn, by the admission of air and the conservation of moisture in the soil, hastens and strengthens their growth, the question whether its application more generally would not produce satisfactory results would seem to be worthy of consideration. The beneficial and more general use of the horse-power weeder and of the harrow upon cereal crops during the early stages of their growth point in the direction of an extension of the principle in this country, and the hoeing of the wheat crops, both by hand and horse power, has long been practiced in England, where cultivation has received the closest attention. In passing through some of the best agricultural districts of this country, about the only eyesore upon the landscape is the profusion of blossoms of weeds seen on some

farms, weeds that are known to be prejudicial to the crops and are bound to increase as the years go by, unless prompt and vigorous methods for their destruction are adopted. Their presence, it is but fair to state, is not in all cases an evidence of careless or bad farming, as they are sometimes found on generally well managed farms and in robust crops of grain, and the explanation is that they came in impure grass seeds purchased, where detection is difficult, or in a change of seed grain where their presence was not suspected, and in such cases it may be taken for granted that no one is more pained by their presence than the farmer who has unconsciously been victimized, and finds himself faced by a troublesome pest which may require years of labor and vigilance to eradicate.

The weeds which on Ontario farms are most disagreeably noticeable, on account of their showy colors, are ox-eye daisy and wild mustard, both of which are exceedingly troublesome and difficult to destroy, owing to the oily nature of their seeds, which retain their vitality long, and though buried for years, germinate when brought to the surface. The former is perhaps the more dangerous of the two, since it draws heavily upon the moisture and strength of the soil and is hard to pull out, and because it ripens on meadow and pasture lands and its seeds are spread in the hay and manure, and possess great vitality. Perhaps the most effectual remedy is to plow down early in June and sow a crop of rape in rows, to be cultivated with care, and followed by a crop of corn or roots.

Wild mustard, when not too strongly in possession of the land, may in time be conquered by hand pulling, or by fallowing or the repeated cultivation of hoed crops. The practicability of destroying this weed by spraying with a solution of copper sulphate (bluestone) or of sulphate of iron of approved strength, without injuriously affecting the grain crops or young clover plants, seems to have been satisfactorily demonstrated, both in Great Britain and at Canadian experiment stations, but it is probable that the labor and the expense of the necessary outfit will prove too great to warrant its general adoption. A practical farmer in an English exchange recently gave the result of his experience of spraying and also of harrowing portions of the grain crops in the same field for the destruction of charlock (wild mustard). While spraying with the solution apparently killed nearly all the mustard, the grain went off in color to a brown tinge for a week, when it recovered and a considerable proportion of the charlock afterward recovered and blossomed, while the harrowing destroyed the great majority of the weed plants and greatly improved the grain. This experiment serves to confirm the theory of beneficial effects from the use of the harrow and the weeder while the grain is growing, and we are persuaded that by this means mustard and many other weeds may be so materially weeded out of a grain crop that a little labor by way of hand pulling will effectually stamp out the pest in a few years.

We need scarcely add, since it goes without saying, that prevention is better than cure, and those who have escaped the plague, as well as those who have fallen victims to it, will be impressed with the necessity of care in the purchase or exchange of seed, of seeing that it is free from weed seeds. This is not in all cases an easy or a simple matter to decide, but it is worth while to use all the means within reach to satisfy oneself on this point, in view of the possible consequences of sowing impure seed.

Refreshing showers have fallen in most sections of Ontario in the last two weeks, and all spring crops are looking well. Hay, though very good in some sections, will on the whole be rather a light crop. There are many excellent fields of fall wheat in most districts, but a considerable proportion will not be more than two-thirds of a good crop.

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11. NO ANONYMOUS communications or enquiries will receive attention.
12. LETTERS intended for publication should be written on one side of the paper only.
13. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or  
THE WILLIAM WELD CO.,  
LONDON, CANADA.

### Protecting Birds of Plumage.

The Legislature of the State of New York is to be commended for its recent enactment protecting the lives of wild birds of plumage. It is to the effect that wild birds, other than the English sparrow, crow, hawk, crane, raven, crow-blackbird, common blackbird, kingfisher, and birds for which there is an open season, shall not be taken at any time, dead or alive, except under authority of a certificate issued under the act for scientific purposes, and under heavy bonds. No part of the plumage, skin or body of any bird protected by the section, shall be sold or had in possession for sale. Nests of the protected birds must not be robbed or destroyed except when necessary to protect buildings or to prevent their defacement.

Birds or game (except fish taken in the State) shall not be transported without the State, nor be taken or possessed with that intent. Any person who violates any provisions of the act is guilty of a misdemeanor and is liable to a penalty of \$100, and to an additional penalty of \$25 for each bird or part of bird taken or possessed in violation thereof. We hope to hear that the new law will be rigidly enforced. When we consider the rapid increase of insect pests, preying upon the grain, fruit and other crops of the farmer, these birds of plumage must be regarded as his very best friends, to say nothing of the added charm of their cheerful songs and appearance in the trees about the homestead or in the woods. Their slaughter, out of pure wantonness, by boys or young men (so called), or to minister needlessly to human vanity in the form of millinery, ought to be firmly put down by the State. We are satisfied that if women would but give this matter a second thought they would do a great deal to protect the lives of these beautiful friends of agriculture by absolutely refusing to purchase the adornments of plumage for hats or bonnets.

### Rural Mail Delivery.

At the recent annual meeting of the East Middlesex (Ont.) Farmers' Institute, the subject of the free delivery of mail daily in the country was discussed and the principle endorsed by the unanimous adoption of the following report from a committee to which the preparation of a suitable resolution had been referred:—

"We, a committee appointed by your Institute to draft a resolution dealing with the question of 'Rural Mail Delivery,' beg to report that we consider the time has come when the farmers and all residents of rural districts should have a daily mail delivery, and we recommend that this Institute adopt this resolution requesting the Postmaster-General to use his influence in that direction; and, further, that a copy of this resolution be sent to the Superintendent of Institutes, requesting him to bring this matter to the notice of other Institutes."

(Signed) J. K. LITTLE,  
THOS. KNAPTON, | Committee.  
R. H. HARDING,  
A. M. MUNRO, Secretary.

Though at first regarded as impracticable on account of the expenditure involved, the rural free delivery of letters and papers in the United States is steadily growing since its first trial in 1886. It now includes 383 distributing points in 41 of the 45 States, the exceptions being Idaho, Montana, Mississippi, and Wyoming, the appropriation increasing from \$20,000 to \$300,000. At the head of the States served by rural free delivery is Ohio, the most favored State, with forty-nine routes, Indiana having forty-four, and Iowa twenty-three. Thus in Texas there are only two rural free delivery routes, while in South Carolina there are twenty-one. In Washington there is one only, while in California there are fourteen, and in Louisiana, Alabama and Florida there are three routes only, while in Maine there are seven. In the opinion of post-office authorities, however, the present system is only in its incipency, and among the plans in view for its further extension is one for rural free delivery of mail by electric cars. One remarkable and salutary effect of the extension of the rural free delivery system has been the great improvement it has brought about in country roads. The extension of the system being optional with the government, the plan has been adopted of favoring those regions in which the roads are best, and as a consequence there has been a general improvement in the condition of roads traversed by rural carriers. This has been especially the case in the west, and it accounts for the apparent preference accorded to Ohio and Indiana, in which States the construction of good roads has been a prerequisite to the establishment of a rural free delivery service. In one county in Indiana the farmers incurred an expense of \$2,600 to grade and improve a road in order to obtain free delivery. Referring to this advantage of the system, Mr. E. E. Rothermel, an Indiana farmer, writes:—

"Being a patron of a rural free delivery route, I know the value of it, and also its advantages. At this time of year it is often very inconvenient for the farmers who live from three to five miles from the post office to get their mail regularly if they must go after it, as they are too busy during the day and too tired at night. Then during the winter it is often very stormy and disagreeable. As the farmer has more time to read during the winter, it is a great convenience to have his papers brought to the door, no matter how the weather is. It is also a great advantage in mailing letters. The farmer very often has stock or grain to sell; if he can get his paper regular he can see the markets daily and will have a good idea of their condition. A great many think if they have free delivery they will be taxed extra to pay for it, but this is a mistake. The farmer has just as much right to demand free delivery as the city people. Rural free delivery has proven such a success that more routes are being established all the time. Some of the requirements to secure free delivery are good roads, the signature of the heads of one hundred or more families on a route of not less than twenty miles. The route must be so located that the carrier can travel it and not double any part of the road. Each patron must provide a suitable box for receiving the mail, and all the boxes must be located on the route, as the carrier does not drive in to houses off the road. Applications for routes must be made to the post office department through your representative in Congress. Rural route No. 1, Richmond, Ind., is about twenty-three miles long. Our carrier gets around very regularly, varying but a few minutes from day to day. The mail comes every day in the year except Sundays and legal holidays. The carrier of route No. 1 receives \$400 a year and furnishes his own rig. He goes in a one-horse buggy and has a change of horses. He never stops for bad weather."

The dairy industry is enjoying a prosperous year so far in Eastern Canada, pastures and prices for the product being good.

### Salt Packages.

Through the efforts of Mr. R. Holmes, M. P., member for West Huron, Ont., a bill has passed its third reading at Ottawa amending the Weights and Measures Act as it affects packages of salt. According to this new Act every barrel of salt packed in bulk, sold or offered for sale shall contain 280 lbs. of salt, and every such barrel or sack of salt sold or offered for sale shall have the correct gross weight thereof, and in case of a barrel, the net weight also marked upon it in a plain and permanent manner. It is also required that the name or the registered trade-mark of the packer of this salt, if it is packed in Canada, or the name and address of the importer if it is packed elsewhere than in Canada, shall be marked, stamped or branded on every barrel or sack of salt sold or offered for sale in Canada.

### Word from Virginia.

A reader of the FARMER'S ADVOCATE, formerly from Ontario and now in a blue grass region of Virginia, from where he writes, states that the blue grass over which the Southerners go in such raptures is nothing but our common natural June grass. He describes the majority of the farms as ranging from 200 to 5,000 acres, and much of it so worn that it will hardly grow weeds. The majority of farmers are referred to as being lazy and shiftless, depending on the darkies to do the work. It is utterly out of the question for the owner of a farm to do any work. This state of things is attributed to effects of the slave trade, of which there are still relics in the form of old log cabins, etc. The Southerners still harbor a grudge against the Yankees, and are entirely in sympathy with Great Britain in the present war.

The horn and Texas flies are said to be very bad on stock, and the writer refers to having used fish oil and carbolic acid, which he saw recommended in the FARMER'S ADVOCATE as a remedy, and which he has found to work well. As a rule, the farmers there never think of trying any remedy for things of that sort. Our correspondent closes his letter by saying that he finds a good many things in the FARMER'S ADVOCATE that he is able to make use of even as far south as Virginia.

### A Holiday Trip in Western Ontario.

(EDITORIAL CORRESPONDENCE.)

A ten-days holiday trip last month among the farmers in the district lying between London and Goderich was an exceedingly enjoyable experience. "The leafy month of June" was a favorite time for such an outing, the country in that section, favored with seasonable showers, looking its best in its new spring dress of green. A tolerably thorough knowledge, from personal observation, of the agricultural conditions and capabilities of the Dominion from ocean to ocean compels the confession that for uniformity of excellence in the favorable lay of the land, the quality of the soil, and the character of the farming seen in the region embraced in the north riding of Middlesex and the "Huron Tract," is unsurpassed in Canada or in any other country it has been our privilege to see. For good roads, these counties hold the record, not only the main lines, but most of the crossroads being systematically graded and gravelled with good material, making it a real pleasure to ride or drive over them, a feature which will doubtless give these districts a first preference when the system of rural mail delivery shall be adopted by the Postal Department, a departure which, we are willing to believe, is not in the distant future. In the strength and capability of the soil, the variety of crops of grain and grass and fruits successfully grown, the transportation facilities and marketing advantages enjoyed, the holders of these lands have a heritage of which they entertain a pardonable pride, while the evidences of thrift and prosperity manifested in broad, well-fenced fields, substantial barns, with stone or concrete basement stables, comfortable and tasteful dwellings, large, well-kept and fruitful orchards, and abundant shade and ornamental trees, are such as are rarely found in any country, and constitute conditions which, compared with those of many other lands, may well be regarded as causes for gratitude and congratulation. These townships, once famous for their fine fields of wheat as the principal crop, are now devoted to a variety of agricultural and live-stock industries in which the creamery and cheese factory play a prominent part, and their natural accompaniment, the raising and feeding of bacon hogs, largely on the by-products of the factories, is at present an interesting feature of their operations, with the price of live hogs figuring around 63 cents a pound at the period in the life of the pig when the greatest gain at the least cost is found. This element, together with cheese at 10 cents in summer and butter at a profitable price in winter, makes this phase of farming fairly safe and satisfactory.

Another and by no means inconsiderable proportion of the farmers of these counties make

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a specialty of feeding beef cattle for the export trade, and few districts in the Dominion turn out larger or better contingents of finished beefes for the British market. Formerly the practice was to winter the cattle roughly at straw stacks, with a few weeks at hay in the spring and a finishing period on grass, but the system has gradually changed till now a large number are fattened in basement stables in winter, on ensilage, roots and meal, with cut hay and straw, for early spring shipment of the most forward, while those not up to the standard for the first shipment are finished on grass and go off in July or August, and a fresh lot is picked up to put on the pastures in the fall, to be fed the following winter. By either of these systems in connection with a rotation of crops in which clover holds a prominent place, it will be seen that the fertility of the farm may be well maintained in perpetuity, and that such is the case is amply evidenced by the heavy crops of wheat, oats, peas and barley seen during our trip on the farms where stock feeding for either purpose is followed. Though wheat is no longer largely sown, yet the best fields of wheat we have seen this year are in this district, some promising a yield of 30 bushels per acre and upwards, though the average on the whole will not be high, owing in some cases to ice in winter, and in others to indifferent preparation of the land, or to a lack of fertility, for all are not equally good farmers, nor have all caught on to the idea that they must feed the land if it is to feed them; and whenever a field or part of a field of wheat was below the standard, it was generally accounted for by the fact that the better crop was owing to that part having been manured, or a clover sod being plowed down and the land firmed by surface cultivation, conserving the moisture in the soil and making a congenial seed-bed where the young plants found suitable food in prepared form and grew strong and vigorous to grasp the ground and hold their own through the rigors of winter and the frost heavings and cold winds of early spring.

Huron County, long famous for its heavy horses, had lapsed during the dark days when horses were a drug in the market, but many excellent mares are now nursing promising foals, and some fine yearlings and two-year-olds are seen in the fields, which will soon grow into good value.

Shorthorn cattle and their grades hold precedence in these counties, though there are many useful herds of special purpose dairy breeds. Among the many excellent herds of Shorthorns inspected were those of Capt. T. E. Robson, of Ilderton; A. W. Smith, of Maple Lodge; Harry Smith, of Hay; Thomas Russell, of Exeter; James Snell, W. J. Biggins, and William Grainger, of Clinton, and Ridgewood Park farm of 900 acres on the shore of Lake Huron, at Goderich, the beautiful home of the Attrill family, where, in addition to Shorthorns, a choice stud of Hackney horses has been established.

At Loyal, six miles from Goderich, we had the pleasure of seeing the rich producing Jersey herd of Harry Morris, the foundation of which was purchased years ago from the writer, and which have won their way to favor by honest work at the churn, while at Dungannon we found Thos. Dishar enthusiastic in his praises of his grade Jerseys, which have proved a revelation to him and others of the excellencies of the butter breed, while our old friend Thomas Anderson, of the same place, we found just as firm in the faith that the Shorthorn is *par excellence* the cow for the country, and Shorthorn sires, of which he has a rare good one at head of his herd, the only hope of improvement in our cattle stock. To all those named, and many others met, grateful acknowledgment is due for generous hospitality and kindly attentions which will not soon be forgotten.

Agricultural education is gradually being accorded that measure of recognition which it merits at the hands of those responsible for the control of leading British educational institutions. The establishment of a chair of Agriculture at Cambridge has been followed by the decision of the Senate to create a special examination for the B. A. degree for students in Agriculture. The example set by Cambridge is certain to be followed, if not immediately, at all events in course of time, by most of other leading Universities. The Royal University of Ireland now holds an annual examination for a degree in Agriculture.

**Remedy for Horn Fly.**

Reports from a good many sections indicate that the Horn Fly on cattle is again becoming very troublesome this season. In last issue Prof. Day referred to the remedy found most satisfactory on the Ontario Agricultural College Farm, viz.: one tablespoonful crude carbolic acid in one quart seal oil, applied once or twice a week with a brush. Dr. James Fletcher, Entomologist at the Central Experimental Farm, Ottawa, says: "The simplest remedy is a mixture of pine tar and lard in the proportion of one part to ten. We have used this here for the last four years, and the cattle were treated in the pasture by the herdsmen putting a little on each animal when the fly was most troublesome, and the annoyance soon stopped. It was put on with a cloth and rubbed down the neck, chest, back and loins. For bulls which are shut up in the stalls we found it simpler to spray them with coal-oil emulsion, a mixture of coal oil and soapsuds. This is, on the whole, better than the tar, but it is not a nice thing to make, and we find many people prefer to use pine tar and lard."

**STOCK.**

**A Movement for Local Stock Improvement.**

An important meeting of the farmers of Harrison's Corners, Ont., and vicinity took place at the schoolhouse, sec. 18, on the evening of June 19th, to consider the best means for the improvement of stock, especially that of cows, in that section. Among those present were Messrs. Joseph McGillis, James S. McDonald, Duncan D. McDonald, James Cleary, James McPhail, Hiram Fykes, and others. Mr. Duncan A. McDonald occupied the chair, and Mr. J. P. McMillan acted as secretary.

After explaining the object of the meeting, the chairman called upon Mr. J. P. McMillan to favor them with his views touching the subject of stock improvement. Mr. McMillan expressed the pleasure it afforded him to join them in discussing a system of such vital interest to farmers generally as the improving of their cows and other animals. It was, in his mind, an all-important matter to every member of the community, whatever his calling, to promote as far as possible whatever appertains to the business of agriculture, as upon its success the entire community so much depends. Mr. McMillan said that he had correspondence with the Hon. Minister of Agriculture regarding the improvement of their stock by means of the high-class pure-bred animals. It was gratifying for him to learn the deep interest manifested by the Hon. Minister as appearing from his letter, in which he kindly expressed his willingness to afford those sending cows from a distance special privileges not granted to others residing more adjacent to the farm as an inducement to them to avail themselves of the advantages the Experimental Farm afforded. Mr. McMillan also intimated that he was in communication with the manager of the railway company with regard to terms for carrying cows over their line to Ottawa in order to have them served, and he expected, under the circumstances, that the company will agree to his suggestion and give special reduced rates for the purpose. At the close of his remarks the following resolution was unanimously carried, and the meeting brought to a close with cheers for the Queen.

Moved by Joseph McGillis, and seconded by James Cleary, that "We, the farmers of Harrison's Corners, in the township of Cornwall, having heard with much interest the practical and interesting views expressed by Mr. J. P. McMillan, having for their object the improvement of our cows and other animals, and also heard read the letter of the Hon. Sidney Fisher, the Minister of Agriculture, received by him approving of his project and encouraging the movement by placing within our reach the service of the animals at the Experimental Farm free of charge, we hereby return our hearty thanks to the Hon. Minister of Agriculture; also, we congratulate Mr. McMillan on his energy, and highly commend the able public spirit promoting him in his efforts to establish a practical system by which our stock can be improved."

DUNCAN D. McDONALD, Chairman.

P. S.—Since the above meeting was held, through the efforts of Mr. McMillan, the manager of the Montreal and Ottawa Railway has consented to carry cows and other female breeding animals from Harrison's Corners and vicinity to Ottawa and return free of charge, so that the farmers of that district can have their breeding stock conveyed to the Central Experimental Farm and there bred and returned free of charge.—D. D. McD.

**Some Phases of Breeding.**

The statement attributed to the Nebraska breeder who said, "Whether inbreeding or out-crossing, the breeder is a fool who uses animals that have defects which are objectionable, and my experience leads me to believe that when perfect or nearly perfect sires and dams are used there is no danger to be feared from the very closest inbreeding," is an extreme one. Many men who are not fools do things which are not wise, and sometimes animals that are in some respects defective have qualities that it may be desirable to perpetuate, though it is sometimes a very close question whether, in case of unsoundness which is known to be hereditary, if it is not better to forego the advantage of these good qualities than to take the risk of repeating the bad ones. It is not extreme to say, however, that it is always unwise to inbreed at all closely in a strain afflicted with hereditary unsoundness. That a great deal too much of this has been done by gentlemen who are enthusiasts for some particular lines of breeding is undoubted, and in spite of the manifest objections to it, it is equally certain that much more greatly infatuated with the merits of an animal that they will run any risk in order to reproduce his qualities, and even inbreed to him when the almost certain effect will be a reproduction of an unsoundness, and possibly its indefinite multiplication. It may possibly be true that all of the evil resulting from inbreeding is due to the intensification of defects, and that were sires and dams absolutely perfect, inbreeding might possibly proceed indefinitely perfect without injurious results. But such a

thing as a perfect sire or dam cannot be found, and when one inbreeds at all he is sure to have some common defects in sires and dams. If these are not glaring, they may not become appreciable in the first few crosses, but as the inbreeding proceeds the intensification of defects increases, and a fault that may have been very slight in the first two or three crosses may before a great while be very much exaggerated.

There is now getting to be a pretty strong consanguinity between the different members of the whole trotting family. They are now pretty nearly all Hambletonians and Membriuos. In a very few years there will not be a trotting horse in America that does not trace to one or both of these strains, and in most of them these strains will be repeated. There will have been, however, a very great number of out-crosses absorbed, and in so many thousands of different proportions and in such an immense number of different admixtures that this general inbreeding is not apt to be hurtful, as inbreeding—possibly it will not be more than enough to give the proper homogeneity to the entire family. The fact that with nearly every instance of inbreeding there is an out-cross will be of immense value in preserving the great bulk of the family from the effects of too close inbreeding. We do not think there has ever been any great danger on this score at any rate. Another thing that to a certain extent exercises a counteracting influence is the almost perpetual change of location and surroundings that our horses are undergoing, thus furnishing an almost continuous climatic out-cross, and while the effects of this may be at times exaggerated, there is no doubt that it is considerable. There are a good many very well known cases where stallions that have been failures in particular sections have changed their locality and become very successful sires.

While there are a few breeders that are apt to inbreed unwisely and to carry their inbreeding too far, we do not believe that the number of these is very great. There are more that are willing to take all sorts of risks of unsoundness to get speed, and this probably is the greatest fault of ambitious breeders. Some appear to be rather indifferent as to the future soundness of their stock. They are encouraged in this by the fact that so many foals escape the unsoundness of their parents, although of course this immunity may only be temporary with the individual and the unsoundness may reappear with the next generation. It is true also that an hereditary unsoundness is very liable to reappear in the offspring, when it reappears at all, at about the age it came on the ancestor from whom it was derived. This fact makes breeding from unsound ancestry appear more innocent than it really is—the bad effects being postponed. We frequently hear it said of a stallion, "He has never been known to get an unsound foal." This may be very true, and yet the horse be a very unsound breeder, the unsoundness rarely appearing at a very early age, but usually developing in the matured or partially matured horse.—Kentucky Stock Farm.

**Weaning and Feeding Pigs.**

I hardly ever wean any of my pigs under 10 weeks, but if a person has sweet skim milk for them, they might be weaned younger. As soon as the pigs are 3 or 4 weeks old, I put 5 or 6 sows with their little ones all together in one large pen, then I allow the little ones to run in an adjoining pen to feed. I am very particular to keep it clean. I feed them a little shorts, a few peas, and some corn (peas and corn unground), and all the mangels they will eat. I just break the mangels in pieces. I keep the floor clean, and covered with straw to feed the roots on. I do not feed them too much grain, and they eat their roots better.

I feed my sows ground oats and shorts mixed and soaked twelve hours. If I can buy wheat bran for \$10 or \$12 per ton, I mix some with it. I give them one-half pail night and morning, all the roots they will eat at noon. I don't think it hurts the sows for the pigs to run with them 10 or even 12 weeks.

The more I feed pigs, the less I think I know about it. I am satisfied there is as much in breed as in feed, and also that there is as much difference in the same breed of thoroughbred stock as there is in twodistinct breeds. I have had three Yorkshire boars. Two of them would impress their breed on their stock, no matter what their dams were like. Their offspring were always good strong pigs right from start to finish, always thrifty, and good doers, and never known to have cripples from being overfed. While the third hog, which was said to be the best cost considerably more, and was said to be the best I ever owned by all who saw him, his get are very inferior—lots of them ruptured (even some of the sow pigs), more runts, and lots of poor doers. I have given several away between 2 and 8 months old. And further to prove that there is more in breed than feed, I had two young sows, second litters, one York, one Chester, they each farrowed the same day, each had 4 pigs. I took the 4 from York sow and gave them to Chester sow. The York pigs grew right away from the Chester, and were far superior, both being fed the same. I would like to say there is no trouble at the present time with fats. I am putting off January pigs now at 180 lbs., while a year ago last winter I had to keep them 8 months to grow what packers call singers or bacon hogs, then sell some as low as \$3.00 per cwt. Norfolk Co., Ont. S. A. FREEMAN.

Holmes, M. P., has passed its Weights and salt. Accord. salt packed in 280 lbs. of salt sold or gross weight net weight also in manner. the registered salt, if it is man in Canada, ended on every red for sale in

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**Feeding Brood Sows.**

The feed for the brood sow before farrowing should be nutritious, but not concentrated. Heavy, concentrated feed stuffs may be extended or given volume by using bran, which serves well for this purpose, and roots, which are much relished, and by supplying chaff, clover or alfalfa hay softened with boiling water. Some corn may be fed, but meals rich in protein—oats, beans, middlings, and barley—should supply most of the nutriment. Breeders differ in their management of sows before farrowing, some insisting that they be held in thin flesh, while others would have them in high condition. They will prove satisfactory when in good flesh, provided it is put on under proper regulations as to the character of feed and the amount of exercise. As farrowing time approaches, let the feed be sloppy and limited in quantity. Any tendency to costiveness should be overcome by feeding bran, roots, oil meal, or other feeds of a corrective character. For two or three days after farrowing, supply only a limited supply of feed. A thin, warm slop made of middlings, oatmeal, with a very little oil meal poured a little at a time into the feeding trough, will quench the thirst of the new mother and answer all requirements. Eating her young, an act quite common with brood sows, is unnatural, and reflects upon the management of the feeder, indicating that feed and exercise have not been properly regulated.—Prof. Henry, in "Feeds and Feeding."

**Raising Young Pigs in Winter Without Loss—Outdoor Exercise Necessary.**

To the Editor FARMER'S ADVOCATE:

SIR,—I have had considerable experience during the past few years in raising pigs; have had a good deal of trouble and disappointment, but think we have learned how to overcome the difficulty in raising pigs in the winter without much loss.

When I built my new brick piggery, about four years ago, I thought I was going to have a first-class house for raising winter pigs, as I spared no expense in making the place warm, dry, well lighted, ventilated, wood floor laid on the cement floor, and brick walls all wainscoted with matched lumber, so that the pigs could not come in contact with either the stone or brick walls to chill them. We have a wide hall or passageway (11 feet wide) running through the center of the building, longest way (the house is 40 x 80 ft.), in which I have a large box stove, where we keep a fire during the very coldest weather, so that we have no frost in the house; kept roots all winter without freezing. Now, you would think this would be a capital place to raise young pigs in winter, but we found it not to be so. The first winter we lost nearly one half of our young pigs. I was greatly disappointed, and wrote to several of the best breeders, asking them if they could tell me the cause or a remedy? The answer I got was that my pigs wanted more exercise out in the open air. The pigs came all right, were strong and healthy; lost but very few until they were three, four or five weeks old, when they would die very suddenly. When a week old they get as fat, round and pretty as any little pigs you ever saw, clean, lively and in perfect health, but when three or four weeks old they would get so fat that they could not breathe, their throats would seem to fill up with fat so that they could not take their food and had great difficulty in breathing, so I lost about the half of them. We raise from four to five hundred a year—about five litters per month—so we had quite a loss; but we had no trouble in raising them in the summer. The next winter we adopted a different system of management. I have another brick house near by the large one, 30x30, divided into four pens and fitted up the same as the large house, except there is no cement floor, but double inch boards with tar paper laid between the two thicknesses and all laid in hot tar. This building has a high ceiling, over 10 feet in the clear. In each one of these pens I have an elevated sleeping room about four feet above the floor, with stairs for the sows and pigs to go up and down. I have a large box stove in this house, so that in very cold, freezing weather, when sows are farrowing we keep the house just as warm as we think best for the young pigs, but we found the same difficulty with the pigs dying when three or four weeks old in this house as in the larger one, so we adopted the plan of turning the sow and pigs into outdoor yards about fifty feet square, in each of which we have a little house 8 feet square, with a little swing door in one end and glass windows in the opposite, with ventilation above the window or in the roof. For young pigs we have a canvas door hung at the top so the little pigs can run out and in at will; it keeps out the cold winds. Each pen has a floor and lots of dry bedding, changed twice a week. We leave the pigs in the large warm house until two or three weeks old, and then turn them out into the yards with the little house, where they have lots of exercise and cold fresh air. As the feeding troughs are outdoors in the yard, the sows have to come out into the cold snow for their feed, and the pigs follow the mother. One would naturally think that it would be hard on the little pigs taking them out of the warm house into the cold yard in the middle of winter, but it is not so, for they never get sick or die after putting them out, although, sometimes they begin to show sickness before we get them out; they soon recover and come around all right in a few days. Here they keep healthy, thrive and grow nicely; never lose any outside unless something uncommon happens them. Out of some two

or three hundred, we lost but very few last winter, and had them coming in all through the winter; and now when fat hogs are fetching such a high price, we are deriving the benefit.

We feed our sows in winter warm cooked slop feed, skimmed milk mixed with bean shorts, with a little barley, corn or pea meal cooked 10 or 12 hours before feeding, and fed warm. We do not cook feed in summer, but soak it 10 or 12 hours before feeding. We feed the young hogs about the same as we do the sow, with a larger proportion of skimmed milk, and three times a day. During the winter we feed all our hogs a little dry whole corn once a day and all the mangels they will eat once a day. In summer we cut and feed green, once a day, alfalfa clover, all they will eat, to all our hogs, except those that are being finished off for the market; the last two months we do not feed them clover. The greater number of our brood sows, after weaning their pigs, are turned out to pasture, but at the same time fed once a day with green feed; this is during the summer months. We have had splendid luck during the past two years, having lost but very few, and the buyers say we have the best bacon hogs that come in to this market. We always get the highest price going. We wean our pigs when six or seven weeks old.

Oxford Co., Ont.

E. D. TILLSON.

**The Best Food for Pigs.**

An interesting experiment in pig-feeding was carried out last year at the Yorkshire, Eng., Agricultural College. Four lots of pigs, six in each, were taken at seven weeks old and fed for 124 days on a uniform diet of 1 part barley meal, 1 part bran and 2 parts shorts. This mixture was served to the animals along with about four times its weight of water in which it had been previously soaked. The object of this preliminary 124 days' feeding was to see that the pigs to be experimented with were of uniform thrift. During the 124 days the average increase in weight per head was 1.1 pounds per day, the average for each lot being practically the same, so that after the feed had been changed in conducting the test, any variation in results may be considered due to the difference in feed rather than with the individuality of the pigs.

Having learned that the four pens of pigs were thriving uniformly, a change in the diet supplied to each pen was made on December 12th. The following shows the food given in each case:—

Pen 1.	2 parts barley meal 2 parts shorts 1 part gluten	With four times the weight of water.
Pen 2.	1 part barley meal 1 part maize	
Pen 3.	1 part barley meal 1 part shorts	
Pen 4.	1 part barley meal 1 part shorts	

The gluten given to pen 1 is a material containing over 49 per cent. albuminoids, and was used for the purpose of determining the effect of a ration containing a high percentage of flesh-formers.

The custom hitherto in vogue at the farm in feeding pigs was to steep the meal for a few days in about four times its weight of water, and to supply this in a very sloppy condition. In the experiment here described the same meals were given to pens 3 and 4, but the amount of water used along with them was reduced by a half in the case of pen 1. While the food given to pen 3 was in the usual sloppy condition, that given to pen 4 was of the consistency of oatmeal porridge. Each lot were allowed as much as they would eat. The experiment was continued for eight weeks.

At the beginning of the test, Dec. 12th, pen 1 weighed 1,076 pounds; pen 2 weighed 1,064 pounds, and pen 3, 1,120. During the first 28 days the pigs in pen 1 averaged a daily gain of 1 pound; pen 2, .8 of a pound; pen 3, 1 pound, and pen 4, 1.2 pounds. During the second 28 days the daily gains per head were for pen 1, 1.1 pounds; pen 2, .9; pen 3, 1.4, and pen 4, 1.4 pounds. The pounds of food consumed during the experiment were for pen 1, 1,904 pounds; pen 2, 1,904; pen 3, 1,904, and for pen 4, 2,254 pounds of food. The daily consumption of food for pens 1, 2 and 3 was 5.7, and for lot 4, 6.7 pounds. The pounds of food for pounds of increase in live weight were for pen 1, 5.3; pen 2, 6.1; pen 3, 5.7, and for pen 4, 4.9. The total pork produced from pen 1 was 1,083.6 pounds; from pen 2, 1,030; from pen 3, 1,057.25; and from pen 4, 1,132.8 pounds.

In studying the results we may first contrast pen 1 with pen 3. The ration containing the higher percentage of albuminoid, given to pen 1, produced the greater live-weight increase, but the total pork was about the same in each case. There appears to be an advantage in the use of a higher albuminoid ration for finishing pigs than that supplied in food consisting of equal parts of barley meal and shorts. Maize and shorts were contrasted in the food supplied to pens 2 and 3. The pigs receiving shorts yielded a higher percentage of pork, and each pound of increase was obtained with .4 pounds less meal than when maize was substituted.

The most marked contrast is between pens 3 and 4. Both received the same mixture of meals, which in one case was fed in a sloppy condition, and in the other in the form of a porridge with water supplied in a separate trough. The pigs getting the drier food yielded 124 lbs. more increase in total live weight,

7.3 stones more pork, and produced each pound of increase with a consumption of .8 less meal. What became of the extra food given to pen 3? The answer is evident: It was used in heating up the water which the pigs were obliged to consume.

We conclude, therefore, that the mixture of barley meal and shorts is better than barley meal and maize, and that the latter mixture may be somewhat improved by the addition of a highly nitrogenous meal, and finally, that a great deal of food may be wasted, particularly in winter, when pigs are fed upon food containing more water than is necessary for the requirements of the body. The cost of food supplied to pen 4 was about 18s. greater during eight weeks than that given to pen 3, but the value of the increase of pork for the same pen was 42s. 6d., thus leaving a balance of 24s. 6d. in favor of the drier food.

In studying these figures it should be remembered that the period in which the pigs were on different diets was only eight weeks, and had the period been increased the results would undoubtedly have been more marked.

**Economy in Soiling Cows.**

For years we have planted a small plot of sweet corn near the pasture, so as to be handy to throw over the fence, which would save time and labor, and as we begin to feed about August 1, both are valuable.

But we noticed the strongest cows in the herd got the first choice. Then, in a short time, the colts learned when feeding time was at hand, and the cows got nothing but considerable chasing around, which did not help the flow of milk. We ran a fence around the feed lot and shut the colts out, turning them in when the cows were through; this would help matters some. But when there came a rainy time the cows would muss the feed up and leave it. Last year we tried a new plan, which we think a success. We planted the corn near the barn, and about an hour before milking time, cut the corn and put it in the manger and opened the barn door. The cows came in and we tied them up. Then we went to the house, ate our supper, came back and milked. The cornstalks were all gone and the flies were all gone. The cows were cooled a little and were contented. The result was more milk, more comfort in milking, and no waste in feed. This makes a small patch go farther than a large patch thrown over the fence used to go.—W. H.

**Bath and West Show.**

The Bath and West and Southern Counties Society held their annual show this year in the City of Bath, from June 1st to 4th. The entries of horses numbered 221, cattle 516, sheep 141, and pigs 135. The horse classes included Shires, Agricultural horses, Hunters, and Hackneys. The stallions in the first class were not numerous, but mares and fillies made a much heavier competition. The male champion was found in Hitchin Ringleader, shown by Mr. A. Ransom. This horse also won 1st in his class and other premiums in 1899. The 2-year-old Hendre Champion won the reserve honors. In the mature class, Anchorite, bred by H. R. H. the Prince of Wales and owned by Lord Rothschild, won second prize in his class. In a class of a dozen entries of mares and fillies, Savemake Victoria won 1st, also mare championship. She was exhibited by W. H. Golding. Lord Rothschild's Blythwood Nora won 2nd in the brood mare class. The gold medal for best mare or filly, given by the Shire Horse Society, was won by Rickford Lass, owned by Sir W. R. Wills, Dorothy Drew receiving the reserve honor.

There was an excellent display of Hunters, and a select but small show of Hackneys. In the latter class the principal winners were exhibited by Messrs H. Livesey, E. S. Goodsell, Sir Walter Gilby, and Capt. E. M. Whitting.

There was a good show of Devon cattle, possibly not up to last year, however, but the Shorthorn classes have seldom if ever been equalled at the exhibitions of this Society. In this latter class H. R. H. the Prince of Wales won 1st on the mature bull, Stephanos, bred at Windsor and sired by Fairfax. He is described as having immense substance, broad, flat back, and full thighs with plenty of flesh. C. W. Brierley's Ben Ledi won 2nd, and Willis' White Silver Plate, bred by Mr. Bruce, won 3rd. The champion of the show was found in H. R. H. the Prince of Wales' Pride of Collynie, a light roan with capital loin and top, full thighs, and a nice handler. The cow class was excessively strong, as were also those of heifers.

Jersey and Guernsey classes were well filled, and the cows are said to be wonderfully meritorious. Of the former breed, the principal winners were Mrs. Murray Smith, Mrs. C. Combe, Mrs. T. L. Brown, Mrs. Greenall, Duke of Marlborough, Lord Rothschild, and Colonel McAlmont. The best English cow or heifer was found in the entry of Hon. Mrs. Murray Smith, Herefords, Sussex, Kerries and Dexters were well represented.

Cotswolds, Devon Long-wools, Southdowns, Hampshire, Shropshires, Oxfords, Dorsets and Exmoors each had their places. The show of pigs was fully up to the average of this exhibition, and the breeds usually seen were in good force and form. The gold medal for the best boar in the Large White, Middle White, Small White, and Black or Tamworth classes, was awarded to Sir Gilbert Greenall's Middle White Walton Royal, and the medal for the best sow fell to Mr. Phillips' Tamworth Whitacre Favorite 3rd.

The Show Pig, from Birth to Maturity.

Paper read by Henry Johnston at the Iowa Swine Breeders' Annual Meeting.

As the majority of breeders who fit swine for exhibition use practically the same methods, different somewhat in details, I have no new or startling revelation along this line to present you, but will give you, briefly, an outline of the methods we have used and that have been instrumental in bringing to us a reasonable measure of success. Like most other breeders, we have sows that have produced something good in the past, and we very naturally look to them for material for a show herd. When their litters are of sufficient age to turn out we usually put two and sometimes three litters together in a pasture where there is a good warm and dry building, and plenty of good grass. Near where the sows feed is a small enclosure with a low trough in it, and by a little persuasion and some tempting bits of food we expect to have the pigs feeding nicely at three to four weeks of age. The feed is increased as their capacity for handling is increased, but we are careful to underfeed rather than overfeed feeding no more at any time than they will eat clean. We allow them to run with the dams until they wean them, unless we wish to breed the sows again. When the sows are removed and the pigs growing nicely, we feed them liberally twice a day, and have not yet found use for the third or noon feed that some advocate when fitting stock for show, believing that the pigs will be healthier, will eat grass, take more exercise and make larger and stronger hogs when the noon feed is discarded. The first part of each feed is made by mixing water and what milk we have with shorts and low-grade flour. It is made just thin enough to pour and is always prepared immediately before feeding. We feed nothing sour to our pigs, not even a roasting ear or immature ear of corn. We feed no bran to pigs and young hogs, and especially not to those being fitted for show. There was a time when bran and shorts made a good growing food for pigs, but with the advent of our new modern milling machinery, things have changed until to-day the bran we get has about as much feeding value for growing pigs as so many flakes of condensed air, while the shorts we get is but very little more than bran itself. So, for our show pigs especially, we discard bran and use shorts and low-grade flour, using about two-thirds of shorts to one-third of flour, mixed quite thick, so the pigs will not be forced to take too large an amount of water into the stomach in order to get what food they need. The second part of each feed consists of soaked corn, with a change to soaked oats or barley, the per cent. of corn being decreased and the shorts and flour increased as the pigs grow. We have never been a believer in feeding sugar, sorghum and sweetmeats to show stock. They increase the formation of fat, but give practically nothing toward the building up of bone and muscle, and as show stock is usually used for breeding purposes, the practice should not be encouraged. Eggs are a splendid food for animals being fitted for the showing. Aside from being a complete food, they will aid digestion, will make the skin pliable and the coat glossy. We aim to keep salt and hardwood ashes before our show stock all the time, but we keep it separate so the stock will not be compelled to eat more than they want of one in order to get what they want of the other.

We never confine in a small pen an animal intended for the showing, nor do we keep one alone. We want each bunch to have a clover or rape pasture of reasonable size, where they can take exercise and grow a frame and bone as well as to put on fat. We want the fitting period to extend over several months; in fact, from infancy to the time of showing, it should be a gradual and complete development of all parts of the animal, and not a short crowding period, that will cause the formation of bone and muscle, and it is much less likely to injure the breeding qualities of an animal, in bringing it up to the high state of flesh required by many of our judges, when the fitting process is a gradual development.

In the growing and fitting of swine for exhibition there are a great many details that must be attended to, such as keeping the appetite in the best possible condition; feeding a balanced ration; keeping the feet trimmed; seeing that each one takes a proper amount of exercise each day; that they have good shade, where there is a complete circulation of air; and that the animal will be so handled that it will be at its best at the time of showing. Every exhibitor is aware of the fact that success or failure in the showing often hinges upon one or more of these details.

Now a word for the show man. While the show pig is developing, the show man should also be developing; if he does not, it will be a one-sided development for they must appear on the scene of action together and, in victory or defeat, stand together. As a breeder watches carefully over his show pigs from infancy to maturity, attends to their every want, watches the development of those qualities that are so pleasing to breeders, there is very apt to creep into his mind (and especially so if he is a young exhibitor) the idea that his stock is so very near the ideal that it cannot be defeated, and often in his fancy he already sees the ribbon swinging from his belt. Such a man is doomed to disappointment. He will find the path through the showing rough and rocky, whereas he had pictured it smooth and pleasant. He should develop the faculty that will enable him to understand that every pig he drives into the showing will not return with a ribbon.

That will enable him to see and recognize a good pig even if he is not the owner; that will enable him to accept all results like a man, and to talk as quietly and smile as pleasantly while the ribbon goes to his competitor as when it comes his way. This, like raising a show pig, is just a little hard to do, but it can be done.

Sheep at the Royal Counties Show.

For the Hampshires and Southdowns this meeting is the most important show of the year. True, the awards at the Royal Show have a greater value, but those that win them are more often than not winners at this meeting previously. At any rate, the competition at the Royal Counties Show is always far and away keener and stronger in these two breeds than anywhere else. Taking the Hampshire Down breed first, we find that for the six classes into which the section was divided there were no less than one hundred and seven entries; a truly grand and typical lot they were. The yearling rams numbered twenty-four—a strong class; in fact, we have not seen a better one for several years. Mr. James Flower, of Chilmark, led the way with a grand type of Hampshire Down, full of that high quality and true type for which his flock holds so high a record; a typical ram from Lord Rothschild's well-known flock came in for second honors; and one of Mr. R. W. Hudson's secured third; with a big, useful ram from Earl Carnarvon as *ru*. The Old Ram class was another good class. Mr. Cary Coles here led the way with a very grand, good ram with splendid ears and color; Mr. R. W. Hudson's last year's champion ram being a very close second—so close, indeed, that a referee had to give the decision. The Yearling Ewes were the strongest and best class of this age we have seen for years past, and the honor of winning so easily as Mr. James Flower did with his most excellent pair was no small one; this pen also with equal ease secured the champion award as best pair of females of their breed. Whoever from your side are lucky enough to secure these ewes will secure a lot that will not be matched. The second prize went to the worst pen in the whole class—by an error of judgment is the most charitable way to put it. Mr. C. A. Scott-Murray should have won it, and then Mr. James Flower been *ru* with his second pen. The Single Ram Lamb class was a truly grand one, twenty-six entries, and here, after a tremendous sharp struggle, the Earl of Carnarvon went to the top with a wonderfully grand lamb with splendid head and ears, first-class back, loin and legs, securing also at later contests the male champion of the yard, and special prize as best lamb of its breed. Mr. J. Flower came second with a lamb many preferred to the winner, but he had gone over a bit in his joints, and this defect lost him his first prize. Mr. L. H. Baxendale was third, Mr. Cary Coles fourth, and Mr. E. Whalley-Tooker *ru*, besides quite a number honored by *hc* and *c*. Pens of Three Ram Lambs, another exceptionally strong class of sixteen pens, the first and second awards in this class went as in the preceding class, first to Earl of Carnarvon and second to Mr. J. Flower; in fact, the contest all through the present season for premier position has rested with these two excellent breeders, both of which are breeding the best, the latter having the better character of wool and a wee bit more quality; it is hard to judge this year between the merits of their grand exhibits. Mr. C. Coles was third, and T. Palmer *ru*. The Ewe Lamb class was another very excellent class, the Earl of Carnarvon again taking the leading place with a capitally matched trio, and despite of the judges' award, the pen that should have followed these, if it had not ought to have beaten them, was the pen of Mr. J. Flower. However, the judges for some reason or other relegated it to the rear, putting in for second a splendid pen of Mr. Cary Coles' as second, and a very even and taking pen from W. B. Greenfield as third. Mr. Palmer's most typical pen being *ru*.

The Southdowns made a very good entry in respect to numbers, though hardly so large as in former years. There were twenty-five rams in the Yearling Ram class, the first prize falling to a very deep-fleshed typical ram from Mr. W. Toop's flock, which will be sold off in August next; a highly meritorious ram of the Pagham Harbour Company coming in for second honors, a ram of the highest merit and quality. Mr. H. Penfold's old flock was well to the fore, securing third and fourth prizes in this very strong class. The Old Ram class was a wonderfully good class. The Pagham Harbour Co. led the way with a grand ram, whose merit is best proved by the fact that he took the champion prize as best ram, another medal of the Southdown Society, and also that several very high offers were at once made for him, including one on behalf of the Duke of Richmond, to the effect that he was not to be let until His Grace's agent had had the first offer of his services, where he was used last year, his stock being so good they wanted him again. Testimony of this character proves what class of sheep he is. Mr. W. Toop, with a well-developed, good-fleshed sheep, came in for second honors, and Mr. C. R. W. Adeane, with as good a ram, both in respect to fleece and flesh, as one could desire, had to be content with the barren honor of *ru*. The Yearling Ewe class was one of credit to the breed. A grandly matched trio from the Earl of Cadogan's flock won the first prize, these ewes being wonderfully good in their flesh; they also secured the champion prize as best pen of females. The Pagham Harbour Company came in for second honors with a pen of three most excellent individual

ewes, but they did not match, hence why they had to take second place. Mr. W. Toop took the third place with a pen of good-fleshed ewes with very excellent fleeces. In the Single Ram Lamb class, Mr. H. Penfold was an easy winner, showing a lamb which combined size and quality to a marked degree. Col. H. McCalmont, M. P., was second with a grand lamb of high merit and quality, and fourth with another very useful one, whilst the Pagham Harbour Company secured third honors with an excellent lamb of typical character, with a splendid head and eye. In Pens of Three Ram Lambs class, Mr. H. Penfold and Col. H. McCalmont took the same position as in the former class, the former gentleman, it may be remarked, selling one of his winning lambs for New Zealand for \$125; Mr. W. Toop's pen being third, a well matched and even trio, and Mr. A. Heasman being fourth or *ru* with a splendid pen of lambs. In the Ewe Lamb class, Mr. W. Toop had no difficulty in winning first with a very grand pen indeed; Mr. Penfold being second with a useful pen; whilst Mr. A. Heasman had a very good third. We may remark the Pagham Harbour Company only sent one lamb, the ram lamb that came in third, reserving their lambs for the Royal Show at York.

The Kent or Romney Marsh sheep made a very capital display, Mr. C. File being first in the Yearling class with a very capital sheep, Mr. W. Millen following with a nice even-fleeced teg, and Mr. F. Neame came in for third honors. The Old Ram class was a good one, Mr. W. Millen secured both prizes with a pair of grand typical old rams; and in the Yearling Ewe class, this same breeder, with two pens, secured first and third places; the intervening space being filled by a very excellent pen from Mr. F. Neame's noted flock.

Shropshires made a very grand entry. Their Shearling Ram class was a very strong one, Mrs. M. Barrs being at its head with a grand typical ram, followed very closely by one from Mr. A. E. Mansell's noted flock, who pressed the winner very close indeed; Mr. R. P. Cooper's blocky, deep, wide ram having to be content with third honors, with the *ru* going to a very lengthy, deep sheep from Mr. W. F. Inge. The Old Ram class was another grand class, Mr. Cooper's entry leading the way, he being bred by Mr. D. Buttar; the second prize going to Mr. A. E. Mansell for a grand ram of more masculine character than the leader, bred by Mr. J. Bowen-Jones; whilst the *ru* fell to one bred by Mr. A. E. Mansell, and exhibited by Mr. A. Tanner. In the Yearling Ewe class, which was not so strong a class, Mrs. M. Barrs won first with an even and well-matched pen. Mr. A. Tanner being very close up, but had to take second place, there being but little to choose between these two capital pens; Mr. R. P. Cooper's being *ru*. In the Ram Lamb class, Mr. A. E. Mansell was unmistakably first, with a grand trio of most excellent lambs; Mr. R. P. Cooper being second, and Mr. A. Tanner *ru*.

The Oxford Downs made a very disappointing display, only Mr. J. T. Hobbs competing in the Yearling Ram class, wherein his grand rams were of course awarded the premiums; and in the two classes for lambs, Mr. R. W. Hobbs was awarded both first prizes for two most excellent pens of lambs of the highest merit and quality.

English Sheep Notes.

(SPECIAL FOR FARMER'S ADVOCATE.)

The sheep at Nottingham Show were limited to Lincoln Long-wool and Shropshire. In the former breed, in strong competition, Mr. Henry Dudding secured both first and second prizes for Lincoln Long-wool yearling rams, the leading winner of which was a very tiptop specimen of its breed, and there did not appear to be any real objection to its being made champion as well as first-prize winner; but in respect to the second sheep, some thought it a wee bit lucky to secure its place, though the judge seemed to have no doubt about it; but it was very evident that Mr. J. E. Casswell's very excellent sheep, which came in for third honors, was pretty close up to the second winner in very many respects; whilst Mr. Tom Caswell, who came in for R. N., was just about on a par with the preceding sheep; in fact, there was a very close shave between the three rams named above; all the better, for it betokens the very high merit and character of the three noted flocks from whence they came. In the yearling ewes, Mr. H. Dudding's Riby flock once more asserted its pre-eminence and secured both the leading prizes with pens of superior merit, well matched both in respect to type and wool; Mr. J. Pears being third with a very taking pen of nice quality.

In the Shropshire classes, which were of high merit, Mr. P. A. Muntz, M. P., led for rams, with a first-class, blocky sheep, being followed by those exhibited by Mrs. M. Barrs and W. F. Inge, this latter exhibitor taking first for pen of three yearling ewes, a grand, well-matched trio, who were followed by a very excellent and typical pen of Mr. P. L. Mills', particularly good in their skins; and Mrs. M. Barrs, with a well-matched and level trio, came in for third award.

At the Suffolk Agricultural Society's Show, the principal sheep exhibit is that of the Suffolk breed, which at this show are generally seen to the best advantage. Lord Ellesmere, one of their most prominent breeders, secured the principal prizes for old rams, yearling rams, and yearling ewes; whilst Mr. H. E. Smith came in for the premier honors for ram lambs and for untrimmed yearling ewes; and Mr. S. R. Sherwood took the leading honors for ewe lambs. W. W. C.

### Our Scottish Letter.

In these days of victory it is difficult to settle down to the prosaic occupation of writing a letter on agricultural topics. There is no lack of variety in the material lying to our hand, but its very abundance causes embarrassment. The outbreak of foot and mouth disease has been one of the most serious subjects of consideration during the past spring. The Board of Agriculture took a somewhat lax method of dealing with the first outbreak, and in consequence the second and third created great uneasiness. It was a foolish proceeding not to stamp out all affected animals right away, but what happened once is not likely to occur again. There was no fresh outbreak during the whole of May, so that it may be hoped the plague is stayed. Apparently none of the bovine scourges is more insidious than this, and it is interesting to look at the theory advanced to explain the third outbreak. The butchers who came down from London to Norfolk to slaughter the second lot of affected cattle wiped their boots, when finished with their gory task, on the sides of a hay stack, and forthwith this hay was carted away and fed to cattle grazing on the "broads" or meadows along the river banks. These cattle were not near to a steading and consequently were not under daily supervision. Hence the disease had got a firm hold before it was recognized, and a big slaughter had to take place to secure its eradication. Apparently these efforts have been successful, and now we are able to declare that Norfolk and Suffolk are clean. More than a month has passed since the outbreak in Herts, and there is every reason to hope that the disease has been got under control.

A serious feature in the situation is the diseased condition of the cattle in the Argentine republic. A large quantity of heaves have been sent from that quarter in recent years, and the meat being cheap, its importation was of value in keeping down prices here and keeping up the supply. So serious, however, is the state of matters that the importation of Argentine cattle has been prohibited, and certain cargoes having been found affected, landing was refused to them. This led to certain ships putting out to sea, and having got beyond the three-miles limit, the captains jettisoned their cargo, with the result that along the Essex coasts many carcasses are coming ashore. Besides the risk of health, the presence of so many dead animals on their shores entails heavy expense on the counties which require to bury them, and not unnaturally the farmers in these localities are crying out against the dual injustice of having to run risk of getting the disease and at the same time being compelled to bury other people's cattle. I don't know how you would settle such things in Canada, but I have an idea that you would make short work of the difficulty. The upshot of shutting out Argentine heaves here has been to send up the price of beef in the home market. During the past week the average in all reporting markets has been up to 40s. per cwt. of 112 lbs. live weight, a good paying figure, and feeders should be making a little money.

Our present Government is great on Departmental Committees of Inquiry. At present no fewer than three are under way. One is inquiring into the right standard for milk. At present we have no legal standard in this country, but the theory is acted on that all milk showing 2.75 per cent. butter-fat is genuine. The idea is that this figure should be raised to 3 and possibly to 3.5 per cent., and farmers generally expect that this will benefit them. Their idea is that the produce of a fairly sized dairy will always exceed 2.75 per cent., and that at present they do not get full value for their milk, because dealers buy on this basis, whereas the milk actually stands nearer 4 per cent. butter-fat. Some allege that dairymen are well aware of this, and reduce the milk which comes from the cow by the dexterous use of separated milk, so long as it does not go below the standard which is safe. Whether this be so or not I cannot tell: it is certain that an average herd of Ayrshire cattle, well fed and cared for, will yield milk well over the 2.75 limit, and it is a pity the cow does not get credit for all she actually does. This committee have completed the taking of evidence, and are now busy incubating their report. It may be several weeks ere it sees the light.

A second Committee of Inquiry is dealing with the modes of striking and publishing market prices. This is a subject of pressing interest, and the importance of which, fortunately, in a new country like Canada, you can hardly appreciate. Each locality here has its own method of selling grain: the one way not in vogue is that of selling by the pound, as I presume you do in Canada. Possibly the main reason for this is the widely divergent results obtained from grain crops in this country. The Lothians and the high lands of Moray produce grain very different in weight from what is produced in the higher parts of Ayrshire and generally in the west country. A standard applicable to one district could not apply fairly to another, and so long as measure and not weight is the norm, any proposal to have a uniform standard cannot be looked at. What would be useful is the substitution of weight for measure. If grain and ought else were sold by weight, a uniform standard might be hoped for, but I much fear that in any case we are a long way here from the adoption of the desired system.

The third committee is to deal with a most important subject, testing of farm seeds. Alike in regard to this and the method of sale, witnesses from Canada would possibly be more useful than any witness to be called in this country. I understand

you have a system of seed-testing which is simplicity itself: here our farmers are so much beholden to old methods, and so trust their merchants, that they regard as sacrilege any proposal to act independently of them. Fortunately, seedsmen, as a rule, are worthy of the trust reposed in them, and attach great importance to the germination of their seeds. All reputable firms now sell on a guarantee of germinating power, and the work of the committee will be chiefly confined to learning whether better facilities can be afforded to farmers for testing seeds after the manner current in Canada. Much of our seed, especially natural grasses, is imported, and the firms engaged in this business have a big stake in getting wise measures adopted for testing. The laying down of permanent pasture is becoming a great feature in agriculture, and unless the seed used be genuine there can be no guarantee that this important work will be successfully accomplished.

Parliament is endeavoring to do something for agriculture in the way of amending the Agricultural Holdings Act, 1883, but it does not appear as if much success were likely to attend their efforts. Farmers do not seem to be very sure about what they want, and in these circumstances possibly it would be best to leave well alone.

"SCOTLAND YET."

### Artificial Impregnation of Mares.

This method of impregnation has not, to my knowledge, been practiced in Ontario, but has, to a greater or less extent, in some of the States of the Union, with a variable degree of success. Under certain conditions the method is worthy of a trial. In cases where the services of a stallion are in such demand that individual service would be too great a tax upon him, or in cases where mares are vicious or hard to impregnate in the ordinary way: where



THE LATE JOHN HALLAM

the production of jennets (the produce of a stallion and the she ass) is desired and the stallion refuses service (as is sometimes the case), copulation may be performed with a mare, and the above-mentioned method practiced to impregnate the asses. Where sufficient care is practiced, and thorough cleanliness observed, the practice should be followed by reasonable success. Two different methods have been tried: one is as follows: The mares to be bred must be on hand, and, of course, must be in oestrus. A thoroughly sterilized vessel—glass probably the best—must be kept at the normal temperature of the body or nearly so, say between 98 and 100 Fahr., by the use of a water bath or other contrivance. A small syringe, capacity, say, one-half ounce, with a long handle to the plunger, must also be thoroughly sterilized. These may be sterilized with any good antiseptic: a five-per-cent. solution of creolin acts well. They should then be thoroughly washed in boiling water to remove all traces of the antiseptic. The act of copulation is performed on a mare. When the stallion is spending he should be forcibly pulled from the mare, and the man with the glass vessel already mentioned will catch the discharge and immediately set the vessel back into the warm water bath. The operator, who has thoroughly sterilized his hands and arms, will then fill the syringe with the semen and insert into the uterus of one of the mares. It is well to tip the syringe into hot water after each injection in order to destroy any germs that may have become adherent to it from the mare just injected. In this way several mares may be impregnated by one service. Another plan is to use gelatin capsules instead of the syringe. These capsules must be observed as to sterility, and the semen must be put in the same way, but instead of using a syringe, the capsules, say one or two, are inserted into the vagina with semen and the mares are allowed to mate. They should be

kept at the proper temperature by means of dry heat, as warm water might dissolve the gelatin before the capsule be used; then a capsule is carefully introduced into the uterus of each animal; the normal juices of the uterus dissolve the capsule and liberate the semen. Of course it must be understood that it is necessary, in order that impregnation may take place, for the female to be in heat in order that the semen may come in contact with the ova of the female. Of the two methods I consider the latter the more easily practiced, and probably the more successful.

J. HUGO REED, V. S.

[NOTE.—In the August 1st, 1889, issue of the FARMER'S ADVOCATE, page 433, there appears an article upon the subject of artificial impregnation, by a veterinary surgeon, who describes the operation as performed successfully by Mr. O. A. Coates, of Bothwell, Ont. Mr. Coates fills the capsule by means of a syringe, and inserts it into the womb. By this means he has succeeded in causing many mares that were for a long time barren to produce healthy and vigorous foals.—Ed. F. A.]

## FARM.

### Death of Mr. John Hallam.

Thousands of Canadian farmers who knew and respected ex-Alderman John Hallam, of Toronto, will deeply regret to learn of his death, which occurred at his home in that city, June 21st. He was one of the largest wool-buyers in the Dominion, and took a keen interest in sheep-breeding and in agriculture generally. He was for many years a director of the Toronto Industrial Exhibition, and took a great interest in its success. In this capacity he made the acquaintance of a large number of the stock-breeders of the country, and his genial manner and hearty greeting made him a host of friends. Mr. Hallam was distinguished for his public spirit, and was liberal in the gifts of his time, talents and means for the improvement of the city in which he lived. He was for many years chairman of the Parks and Garden Committee of the City Council. His love of nature and knowledge of trees and flowers made his services of inestimable value in that respect. He introduced into Canada many of the rare bulbs and flowering shrubs now found so plentiful on almost every lawn. At his country house, Chorley Park, he conducted valuable experiments with regard to the acclimatization in Canada of rare foreign trees.

The career of Mr. Hallam is one of the romances of business. He was born the son of poor parents, at Chorley, Lancashire, England, in 1833. When but a child he was sent to work in one of the cotton mills of the district, under conditions of labor that were little short of slavery, for humane factory legislation had not yet begun. At every moment's leisure, however, the lad took advantage of the scanty opportunities offered for self-education, and taught himself to read and write. It was a slow and painful process, and mill life was hard and exacting. When Mr. Hallam arrived at man's estate he saw there was no future for him as a mill hand, and came to Canada, arriving in Toronto in 1856. After ten years of general work, he embarked in the hide, wool and leather business on a very modest scale in 1866. The enterprise prospered, and he became one of Toronto's wealthiest merchants. The struggle at first was keen, but Mr. Hallam spared time to continue the education begun in the old land, and developed a passionate love for books, art and the culture that had been denied him in his youth. Thus it was that he became the leader of the free-library movement in Toronto, successfully championed the by-law under which the library was established, and gave his own splendid library to the people.

### Why Women's Institutes Should be Organized.

This is certainly woman's age. We have women taking part in nearly all branches of industry, business, professional and scientific. Again, in all the great reforms of the day we find women taking a leading part.

Why do we look with pleasure and pride at the prominent women of our age? Is it not because they voice the feelings of a large number of women throughout our country—the desire to break away from the old ruts, to reach out to something higher and better? There is a restlessness at the present time with young girls, a dissatisfaction with the humdrum life which they seem to have been living. The result is they are leaving their country homes and crowding into our towns and cities.

But in their anxiety to be something, to make themselves felt in the world, is there not a danger of overlooking the greatest power which a woman wields—the power of making a home? By this I do not mean merely a place in which to eat and sleep, but a place of refinement and culture, a place of rest and enjoyment, where each member of the family, son or daughter, may receive the first start in life that will fit them for any position that they may be called upon to fill. In this democratic country of ours the highest positions are open to everyone.

The future of this country largely depends on the home life. Then, it is not necessary to study a profession or become a politician (in the ordinary sense, in order to benefit humanity. But

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as home makers, nation builders, we have a work before us which may awe even the most ambitious.

A great deal is said about keeping the boys on the farm; but in order to do so, we must first learn how to keep the girls on the farm. The farmer's daughter must be roused to something of the greatness of her work and responsibility in the farm home. But how is this to be done? It is impossible to lay down any hard or fast rules, but let us look at the few of the things that disgust girls with farm life. In the first place, we have the monotony of country life. But can this be compared with the monotony of city life? Men and women go to factories, shops and offices in the city, work all day to the music of machinery, or, what is nearly as bad, the regular tick, tick of the clock, until they almost become machines, doing the same work day after day, or like the seven-day clock, wound up Monday morning, never to run down until, in many cases, late into Saturday night.

Country women know nothing of this. There is a great deal of hard work in the farm home, but instead of the sound of machinery, the singing of birds may ever be heard. All around them nature in its varied beauty may be seen. Generally speaking, I don't think we appreciate these. If we were to spend, say, eight hours a day for even one week in an ill-ventilated room looking out on a blank wall, or back yard, I think we would never again complain of the monotony of the country. The monotony is not so much in the country or in farm work, but in the people. Nature itself is not monotonous: scarcely two trees can be found alike. The same is true of flowers and birds and everything in nature: there are not even two blades of grass exactly alike. And yet how many people who complain of the monotony of the country ever take time to study the wonderful diversity of nature which is all around them.

Another complaint is the drudgery of woman's work on the farm. We used to hear the same cry with regard to men's work on the farm, but since the advent of machinery and scientific knowledge in farm work this cry is no longer heard. But why could not machinery and scientific knowledge benefit the farmer's wife as well as the farmer. Does not the trouble lie largely with the women themselves. The housewife is inclined to look upon new ideas or improved kitchen or dairy utensils rather as an insult to her methods of working. However, this state of things is rapidly changing, women are now becoming as eager to adopt new methods and ideas as men, and as these methods are adopted and as a scientific knowledge—or, in other words, the reason why—of work is understood, the drudgery of the woman's work on the farm will be largely removed.

Another reason why work in the farm home seems such a drudgery is because of the lack of system. In the city where girls have to be at work at a certain hour in the morning and have only one hour at noon in which to go home, have lunch and get back to work, they know how to value every minute. It is generally such girls that find time for visiting and self-improvement. They have been trained to use every moment to the best advantage.

If a reading circle or literary society is suggested in the country, we hear the excuse we have not time, and yet when this excuse is investigated we find that hours and hours are taken in doing that which gives neither pleasure nor profit—making rag mats, for instance. In one room about 12 x 12 I counted, not long ago, seventeen hooked mats covering an already carpeted room.

It is not only the time it takes to make these, but the time and strength it requires to keep them clean. In fact, it is almost impossible to keep them clean, as the dust and dirt will get in under the loose edges. This is only one instance, and yet if this time were taken in nature study, floral culture or reading, or in coming in contact with other women for the mutual exchange of ideas and methods of work, I think the disaffection with farm life would rapidly disappear.

To meet these requirements the organization of Women's Institutes has been suggested. Practical questions, such as home sanitation, domestic economy, poultry-raising and home dairy work are taken up and discussed.

Since the organization of Farmers' Institutes, farming has received a new impetus, men are becoming proud of their profession, and the old cry of drudgery is no longer heard.

What Farmers' Institutes have done for men, Women's Institutes aim to do for women. In order to make these a success the co-operation of every farmer's wife and daughter in the Province is necessary.

Wellington Co., Ont.  
BLANCHE MADDOCK.

Roadmaking on Correct Principles.

By A. W. CAMPBELL, PROVINCIAL ROAD COMMISSIONER.  
The making of a road is a matter which is too often undertaken without a knowledge of the real principles involved, and the result has been that on some sections of many roads labor and material has been lavished, year after year, from time almost forgotten, and still these roads are, each fall and spring, almost impassable. The roadmakers are being discouraged, and wonder why their efforts are not successful. A solution of nearly every difficulty in connection with these bad sections of our roads is to be found in the fact that every good road has two essential features: (a) a thorough-

ly firm and dry foundation, and (b) a smooth, hard, waterproof surface covering.

The foundation of a road is the natural subsoil, the original dirt road, which must be kept dry and firm by means of good drainage. This foundation is firm and strong, capable of supporting any load in dry weather, and the object of the roadmaker must be to maintain dry-weather conditions as far as possible. This cannot be done economically nor effectually by piling up the natural soil in a mound higher and higher. Earth is like a sponge, and will soak up from below the water which softens and weakens it.

This means, then, that water must be cut off before it can be drawn into the road in this way. This can be best accomplished by means of tile underdrains; or deep open drains at the side of the road will accomplish much the same purpose. Whether covered tile underdrains or open drains are employed, they must be real drains, not mere receptacles to hold water. They must have a good fall and free outlet, to remove water from the road as quickly as possible.

The surface covering which protects the subsoil



FIG. 1.—TYPE OF ROAD BEFORE IMPROVEMENT.

from rain and melting snow, and from the action of wheels and the feet of horses, is generally a coating of gravel or broken stone. This should be put on the road in such a way that it will not, in wet weather, be churned up and mixed with the earth beneath. That is, it should form a distinct coating.

To accomplish this, the gravel or stone should be clean, containing little sand or clay. The road should be crowned or rounded in the center so as to shed the water to the open drains. Ruts should be filled up as soon as they form, as they hold water, deepen and enlarge quickly when neglected. The tile and open drains should, as has been said, have a free fall.

Tile underdrains are not needed throughout the length of the road in all cases. They should be laid wherever open drains of a safe depth are not sufficient, where the ground has a moist or wet appearance, with a tendency to rut readily and absorb gravel. In some cases they should be run diagonally to the center of the road if the soil is very spongy; or if a spring appears to exist underneath



FIG. 2.—TYPE OF ROAD AFTER IMPROVEMENT.

the road-bed it can be tapped by this form of blind drain.

The dirt road should be carefully graded and crowned before dirt is placed on it. If a grading machine is available it is well to have all its work performed in the early part of the summer, before the ground, if a clay, is hardened and baked by the heat of the sun.

A fair crown for gravel roads, when newly constructed, is a rise of one inch to each foot of width from side to center. On hills the crown should be greater in proportion to the steepness of the hill, otherwise water will flow down the hill in the at first shallow wheel tracks and quickly deepen them to ruts.

Gravel or stone should not be left on the road just as it falls from the wagon, but should be spread so that travel will at once pass over and consolidate it before the fall rains commence. Gravel or stone should be kept scraped or raked into the wheel and horse tracks until they are thoroughly consolidated. By careful attention to this, in the case of a new

metalled road, the lines subjected to greatest wear will be given almost steel-like strength.

Old gravel roads which have a hard center, but are too flat, with high, square shoulders, should be repaired by cutting off these shoulders with a grading machine, turning the soil and earth of which they are composed ditchward, and across the open ditch if necessary. A new coating of gravel or stone should then be placed in the center of the road, to round it up to a proper crown. The old gravel foundation should never be covered with the sod and soft stuff from the edge of the road; so doing has ruined many fine roads.

The width of the roads of each township should be definitely laid down, and not range from ten to forty feet, as is the rule in most municipalities. A width of twenty-four feet between ditches will meet most conditions, the central eight feet being covered with gravel or broken stone.

Every municipality should make provision for an examination of its roads after heavy rains and during spring freshets. The work of a few minutes in freeing drains from obstructions or diverting a current of water into a proper channel may become the work of days if neglected, as water is very destructive. Surface water should be disposed of in small quantities, not gathered into one long drain, as great accumulations of water are difficult to handle, and do much injury. Circumstances must govern each case, but outlets should be obtained into natural watercourses as frequently as possible. Culverts should have a good fall and free outlet, so that water will not stand and freeze in them. Deep open drains by the roadside are unsafe, and where deep drainage is needed it is better to use tile underdrains, which may be placed below the existing open drains.

A degree of moisture is necessary in the summer season in keeping sand roads or roads over sandy ground in their best condition. In an excessively dry season, roads of this kind are apt to "unravel," the gravel or stone covering becoming broken up. Drains are necessary, but they should not be deeper, in ordinary cases, than will provide suitable drainage in spring and fall. One of the most lasting and beneficial improvements to sand roads is the planting of rows of trees on each side of the road, and close enough to provide a continuous shade. Evergreens are not suitable for this purpose, as they shade the roads in fall and spring; but maples, oaks, white elms or similar trees should be selected, which shade the roads in summer only, and do so more effectually than will most evergreens.

A study of the foregoing will point to three main faults commonly to be found in the roads. These are: bad drainage, poor gravel, and improper methods of placing the metal (gravel or broken stone) on the roads. It is doubtful if any of these evils can be fully remedied under the statute labor system. To overcome bad drainage it is essential that there should be a constant system of repairs, keeping the road well crowned, free from ruts, the gravel or broken stone raked into place, and the side drains and culverts open and without stoppages. The use of poor road metal (gravel or stone) is likely to continue until there is someone who, by experience, is able to select the best material available, and is provided with proper implements to screen and crush it when necessary. Nor can statute labor ever provide the means necessary for putting metal on the roads in the right way, first preparing the road by the use of machinery, then properly spreading the metal and rolling it.

Whenever statute labor is employed, however, it is advisable to employ it as far as possible in hauling gravel and spreading it properly on the road. The grading machine should be operated by men employed by the council, before statute labor commences, and the work of ditching, grading, building of culverts, the preparation of gravel or stone, should all be performed under the council by contract.

[NOTE. Fig. I. and Fig. II. represent types of roads in Massachusetts before and after improvement. The illustrations are taken from the Year-book of the U. S. Department of Agriculture, 1899.—Ed. F. A.]

Black Rot of Tomato.

Of the tomato blight, or black rot, which affects the fruit, beginning at the blossom end, and from which some growers have lost a large proportion of their crop, Dr. James Fletcher, of the Experimental Farm at Ottawa, says: "It is generally most abundant in dry seasons, and has been treated successfully by spraying the tomatoes with the Bordeaux mixture, from early in the season. Some specialists maintain that this disease is not due to a parasitic fungus primarily, but the black velvety fungus merely develops on the tissues after they have become diseased from some other cause. We spray for it very early, at the time they begin to show flowers. In fact, with ours we spray from the time they are put out in the beds; we keep them covered with the Bordeaux mixture. There is another kind of fungous disease which destroys the leaves, and the Bordeaux mixture is also the best remedy for that."

A Credit to the Artist.

I have received the beautiful engraving, "Canada's Ideal," and I think it is great. It should be in the hands of all stock-raisers as a type to breed to. It is indeed a credit to the artist.

Bothwell, Ont. A. G. BURRIDGE.

### The 1900 Graduating Class from the Ontario Agricultural College.

We present in this issue a group portrait of the 1900 Guelph College graduates, being considerably the largest class of Bachelors of the Science of Agriculture taking their degree in any single year at that institution of growing popularity. The group lacks one portrait of being complete, that of J. M. Reade, B. S. A., of Toronto. His place is occupied, however, by M. Cumming, who took special work, but did not take the university examinations along with the others. He is a graduate of Dalhousie College, N. S. He proposes however, to take the B. S. A. examinations at a later date. We regret that at the time of going to press we had not been able to learn something of a number of the graduates, regarding their birthplaces, early education, future occupation, etc. It is gratifying to know that so many of the class return to their farms to pursue their selected calling, for which they have had a special training, and in which we wish them marked success.

#### T. D. JARVIS, B. S. A.

is the third son of Mr. L. G. Jarvis, Baltimore, Maryland, formerly Poultry Manager at the O. A. C., and well known as a judge for the different poultry associations throughout Canada and the United States. Mr. Jarvis was born in the City of London, in the year 1878, and received his early education in that city, after which he took a six-months course in the Western Ontario Shorthand Academy, completing his course in 1895. As a student at the O. A. C., Mr. Jarvis was successful, both in the general course of the first two years, and in his graduating year, taking the Biology option, giving attention more especially to Plant Pathology and Entomology. Since completing his course he has taken a position on the experimental department. It is his intention to follow along biological lines.

#### FRED W. GOBLE, B. S. A.

was born in the village of Gobles, in the township of Bleaheim, Oxford County, Ont. His mother and father are Canadian born. After passing the High School entrance examinations he entered the second-year course at Woodstock College, and nearly completed his year, which was interfered with by illness. In the fall of '97 he entered the Ontario Agricultural College, and during that year secured a \$20 scholarship in Mathematics. In his second year he was Sec'y-Treasurer of the Athletic Association, and was on the Athletic Committee in his third year. He took a keen interest in sports, and won the championship gold medal in his third year. Mr. Goble's intention at present is to follow mixed farming as an occupation, near the town of Woodstock, Ont.

#### E. J. McMILLAN, B. S. A.

was born at New Haven, P. E. I., of parents of Scottish descent. Received his early education at the New Haven public school. Leaving school, spent several years in work on his father's farm. Entered the Ontario Agricultural College on Oct. 1st, 1897, where, during his first year, he took first place in General Proficiency, and scholarship in Natural Science. In second year held first place in General Proficiency, winning prize and Governor-General's medal. In final year stood first place, with first class honors in Proficiency of general course, second class honors in Chemistry and Physics (special course). During the College year 1899-00, was Managing Editor of the O. A. C. Review. His future occupation is uncertain, and he will engage in further study.

#### GEO. A. PUTNAM, B. S. A.

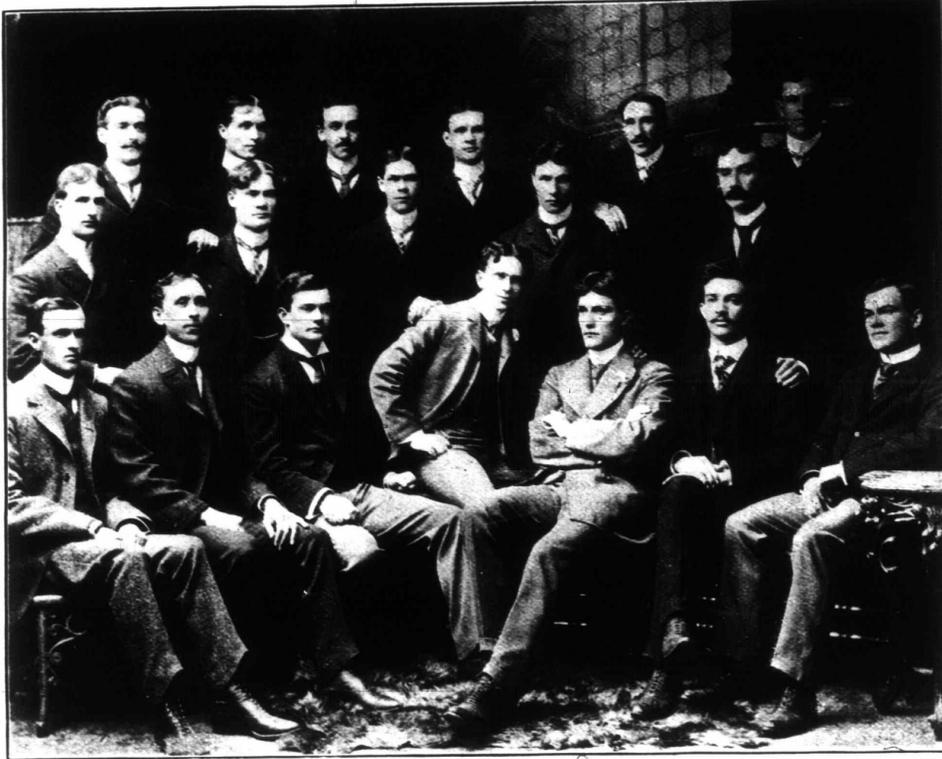
was born in the village of Lyons, county of Elgin, Ont. He worked on his father's farm until 16 years of age, then attended a high school in Aylmer for about two years, subsequently taking a full course in the Forest City Business College and Cook's Shorthand School, London. He came to Guelph in

the spring of 1890, since which time he has acted as Private Secretary to President Mills.

In the fall of 1898 he decided to take the College course in addition to performing his duties as Secretary, so, with the consent of the President, he hired an assistant to do a part of his work. Among a class of thirty (second year students) he stood fifth in Proficiency for the College year of 1898-99, and during the summer of 1899 took supplemental examinations on first-year work. Mr. Putnam obtained first-class honors in his special—Agriculture—in his third year work, and stood fifth in General Proficiency. He also stood at the head of his class in judging beef cattle, dairy cattle, swine and sheep. Mr. Putnam continues in his position at the College, and is now prepared to do better work than before taking the course.

#### WILLIAM A. LINKLATER, B. S. A.

was born near Goderich, July 9th, 1877. His parents, while born in this country, were of Scotch-English descent, and were among the earliest settlers of Colborne township. He passed the entrance examination at the age of twelve, but only attended the high school for a few months. After an absence from school of about seven years, he entered the Ontario Agr. College, at the opening of the fall session, 1896. During his first and second years he stood second in General Proficiency, and succeeded in winning the Veterinary Science scholarship. In his final year he took his special course in agriculture, and had the satisfaction of taking a first-class standing in his special subjects. In his second year he was Vice-President and in his final year President of the College Athletic Association. He also had charge of the Athletic department of the O. A.



A. J. Wagg. T. D. Jarvis. C. E. Mertureux. G. A. Putnam. F. W. Goble. W. A. Linklater.  
J. M. Livingstone. G. A. McIntyre. J. A. Robertson. A. H. Crerar. D. J. McCarthy.  
M. Cumming. E. J. McMILLAN. E. C. Drury. J. H. Hollis. J. B. Anderson. J. R. Hutchison. G. H. Hutton.

#### GRADUATING CLASS OF 1900 AT O. A. C.

C. Review during fall of 1897. After finishing his course at the College, Mr. Linklater returned home to farm.

#### JOHN M. LIVINGSTONE, B. S. A.

was born in the township of Sarnia, of Scotch-Irish parentage, and has spent the greater part of his life on a farm. He began the course at the O. A. C. in the fall of 1896, and, after completing the two years' course, engaged to work in a cheese factory for the summer. The following winter and summer he was in the employ of the St. Mary's Creamery Co. When the College opened in the fall of 1898 he returned to further his knowledge of dairying and general agriculture. Last winter he secured a 1st prize of \$50 in a written competition in buttermaking. It is his intention to follow the dairy pursuit and to further prosecute his studies in that line.

#### D. J. MCCARTHY, B. S. A.

was born in the township of Asphodel, in the county of Peterboro, and received his education in the neighboring public school and the Norwood high school. His parents were Irish, and were among the pioneer settlers of that part of the country. After leaving school, Mr. McCarthy continued agricultural pursuits, mixed farming, until 1897. Entered the O. A. C. in October, 1897. Received Associate diploma in 1899, and graduated in 1900. His intention is to follow agriculture.

#### C. E. MORTUREUX, B. S. A.

entered the College in his 21st year, in the fall of 1897, and remained three successive years. He took in his third year the Agricultural option, and won honors in his special subjects. He won the English scholarship in his first year, and the valedictory prize in his second year, prize given for best thesis written on a subject assigned. Mr. Mertureux belonged to the O. A. C. Review staff for 2 years, and to the Athletic Committee for one year. He was born in France, came to Canada in his thirteenth year, and followed farming, the occupation he still intends to pursue.

#### E. C. DRURY, B. S. A.

was born at Crown Hill in 1878, of English parentage, being the only son of Hon. Chas. Drury, Sheriff of Simcoe, who was the first Minister of Agriculture for Ontario. As to education before going to the O. A. C., he entered the Barrie Collegiate Institute, and obtained from there a Senior Leaving certificate, in 1897. He entered the O. A. C. in 1898, taking the work of the first two years of the course in one year. He won the prize given by the O. A. C. Literary Society for speaking, in 1899, and was Agricultural Editor of the O. A. C. Review in 1900. Mr. Drury intends to follow farming on his father's farm.

#### J. R. HUTCHISON, B. S. A.

was born in the year 1878, in the township of Leeds, in the Province of Ontario. His father (David Hutchison, Esq.) is of English descent, of the U. E. Loyalist class; his mother is of Irish descent. Mr. Hutchison's younger days were spent on the farm at home. In the year 1894 he wrote on the examination prescribed for entrance to the High School, standing first among a large number of candidates. After that he stayed on the home farm until 1897, when he entered the Ontario Agricultural College, took the full course, and specialized in Dairying. At present he is in a large cheese factory at St. George, Ontario, and intends to follow the occupation of dairying.

#### G. H. HUTTON, B. S. A.

was born in Grenville, the county of his present residence, in the year 1878. His grandparents came to America from Ireland and settled in the New England States. They joined the general movement of loyal hearts, and leaving the Union came to reside under the old flag, settling in Grenville County. At the end of a satisfactory public school career, Mr. Hutton entered the Brockville Business College. In September of the same year he joined the Freshman class at the Ontario Agricultural College. Was sent as the delegate from the College Y. M. C. A. to the Northfield Student Conference in '98, and later became President of the Association. He was a member of the business and editorial staff of the

Review for two years. Won third place in the oratorical contest in '99. He won honors in several subjects in his final examination. In the future Mr. Hutton intends to devote his attention to agricultural pursuits, especially to stock-raising.

The remaining members of the class are the following: J. H. Hollis, Shelly Bay, Bermuda; A. J. Wagg, Mindemoya, Manitoulin Island; A. H. Crerar, Molesworth, Ont.; J. B. Anderson, St. Mary's, Ont.; J. A. Robertson, Blantyre, Ont.; G. A. McIntyre, Renfrew, Ont.; and J. M. Reade, Toronto, Ont.

The following mixture is what we used last year for flies on cattle, and began using again, three times a week, on June 12th this year: Half gallon fish or seal oil, 1 gallon crude petroleum, 1 gallon coal oil, 1 cup crude carbolic acid. Applied with a coarse-spray hand pump, the most of the flies get wet in spraying, and it kills them entirely.

Oxford Co., Ont. W. C. SHEARER.

The inventor of the popular Oliver Chilled Plow, Mr. James Oliver, of South Bend, Indiana, commenced life at the bottom rung of the ladder by digging ditches and other humble honest toil. By the manufacture and sale of his famous plow he amassed an enormous fortune, out of which he gave to his city of South Bend a million-dollar hotel, which surpasses the best hotels of any city of similar size in America. On May 30th, which was the 57th anniversary of his wedding, he and his wife were entertained by the citizens of South Bend, in the hotel bearing his name, with an address and a loving cup of superb execution as a token of their appreciation of his generosity and good will.

**Pasturing Work Horses.**

There is evidently a difference of opinion in the minds of farmers throughout the country with regard to the practice of allowing the working teams to pasture at nights, Sundays, and idle times during the summer season. A recent issue of the *Jowa Homestead* contains a discussion of the subject by level-headed western farmers who speak from their own experience. Below we publish extracts from a number of the letters which set forth various phases of the subject.

**PREVENTING SORE NECKS.**

The advantages of pasturing work horses during the working season are far in advance of the disadvantages, in my opinion. In the first place, it is better for the horse than keeping him in the barn. A horse will do as much work and keep in better condition on pasture, with less grain. He will be much more comfortable during the hot nights, lying out in the cool, clean grass, than in the barn in a well-bedded stall. If you do not believe it, try it, and see which places he prefers. I have been pasturing my horses nights and in the daytime, also during the warm weather, when not at work, and am well pleased with the result. When the horses are brought from the field in the evening they are watered, put in the barn, fed some hay, in a short time given their grain, and left in the barn until all the other chores are done, when they are let out. The first thing they usually do is to roll, which they seem to enjoy a great deal more than being curried, and then go to the tank and take a little more water. The first thing in the morning they are taken in and fed, unless it is too wet to work in the field, or if for some other reason they are not needed, when they are left in the pasture. I never take them in to feed them unless they are wanted for work. Horses that are pastured are not as liable to be overcome with the heat, for the reason that they will sweat more freely. I think, too, they are not as apt to get sore necks or shoulders, for the blood is kept in better condition. By the way, while I think of it, the best preventive I know of for sore necks is to rub a little sulphur on the top of the neck every morning before putting on the collar. I honestly believe there are a great many farm horses rendered almost worthless by being kept in the barn too much and having too much grain and dusty work. I am not in favor of starving horses nor overworking them, but I do believe in using good common sense in handling them. I believe my neighbors will testify to the fact that my horses do as much work and keep in as good condition as the majority of the horses in this community. I will say, too, that I do not believe in a man wearing himself out in order to save his horses. A. E. BLINKS.  
Iowa.

**A SAVING OF LABOR.**

This is a subject of great importance to the farmer in several respects. Under the present price of labor it behooves everyone to economize on the farm. This can be done to some extent by pasturing the work horses, letting them do the mowing in the cool of the night, which they will enjoy very much. After the day's work is done, feed grain, and then let them out in the pasture near the barn lot. The pasture should be near the barn, as it will save time in getting the horses up early in the morning for the grain. After being let out in the evening they will roll on the green grass, which seems to answer for grooming. It also saves bedding them, and is much more comfortable for them than the stable with plank floor. Grass is the natural food for horses in its time. It is a renovator of the system. In the fifteen years that I have handled my work horses this way I have not had a sick horse. In this region where we depend mostly on corn as a grain ration, the grass ration is not so heating as dry hay. The old theory, that horses will not stand the labor as well as when fed on dry feed, is a mistake, as they will do all that the farm requires of them, and be in better condition when winter comes to stand another siege of dry feed. By all means, pasture the horses in summer while raising a crop. J. M. FENN.  
Iowa.

**HORSES ENJOY THEMSELVES.**

There are several advantages in pasturing work horses. In the first place, I would say that we like to take good care of our horses and keep them in good flesh, and after plowing, disking and harrowing over 90 acres of corn, in addition to 100 acres of small grain, with two teams of three or four horses each, according to the kind of work, they are still in pretty good shape. We have practiced turning them out nights only for a number of years during the hot weather, beginning about May 20th and continuing throughout the summer and fall if we have enough grass near by. One advantage, my boys think, is not having so much stable work to do, as it only takes one man ten minutes to bring in six of them, if the pasture is close by. Another advantage to the horses, I think, is that they enjoy themselves immensely, going out in the field after a hard day's work and rolling to their heart's content. I think they are healthier during the hot weather to have some grass as a part of their diet. We bring them in and give them grain and a little hay the first thing in the morning, and feed grain and hay at night before turning them out. I think they stand the work better than when confined to the stable and dry feed during the hot weather. If horses are worked as hard as ours, they have to be fed well on grain to keep in flesh, and as corn

especially is very heating to the system, I think a part grass diet cooling, and that they will get along with less grain. I know that one of the disadvantages, as claimed by some, is that they will sweat more and be soft when running on grass, but I have never found that it made much difference, and I think not to be compared with the advantages.  
Iowa. E. P. PEPOON.

**COMBINE THE TWO METHODS.**

The horse pasture should be regarded more from a hygienic point of view than its feeding value. A working horse requires concentrated, easily digested, carbonaceous feeds—feeds that will supply the needed muscular energy. Oats make the ideal horse feed. Corn is fairly good, only the corn fed horse lacks the mettle and spirit of the oats-fed horse. Oats and corn mixed make quite a satisfactory feed. For roughness, sweet, early cut hay is as good as anything. It is probably true, as often claimed, that a horse given such feeds as these can stand harder and more work, sweats less and keeps in better flesh than the average pastured horse, provided he is given a cool, pleasant stable and the proper care; but this is where the rub comes with so many farmers—the stable and care. So I am in favor of combining the two methods. Let a liberal grain ration and a limited amount of good hay be the main source of work energy. Then, after the horse has finished his evening meal, which should be the most liberal of the three, turn him out on the pasture lot, where he can take a roll, have a fresh drink, enjoy the pure evening air and relish a few mouthfuls of grass. Such a practice will be found satisfactory to both the horse and the farmer.  
Kansas. L. E. ALEXANDER.

**A WOMAN SCORES A POINT.**

In my opinion, there are many advantages to be gained by pasturing work horses during the work season. Some claim that the horse that runs on grass is soft. That may be so when he has no grain, or until he gets used to it, but if he gets sick for the want of it, he will be softer.

We all know how much we long for something green in the early spring, lettuce, radishes, onions, green vegetables of any kind, rhubarb pie or sauce, and we enjoy them all. A big garden saves a big doctor bill, so we are told.

Now, common sense, it seems to me, ought to teach us that the horse, being a strictly herbivorous animal, suffers a hundredfold more than does man, if deprived of green food in summer. His health, comfort and pleasure all demand it in a greater degree than does that of man.

When his day's work is done, take off the hot harness, let him roll on the cool, green grass. When possible, feed him his grain under a shed, then let him enjoy picking grass, all he wishes until time for his early breakfast. If treated well, he will be on hand, or can be called to his oats, fed and easily caught. The catching in the morning is the only disadvantage that I can think of, and if you do not try to persuade him with rocks, clubs, etc., as I have seen men do when trying to catch a horse, but try salt, sugar, apples or grain, something the horse considers a luxury, almost any horse will follow instead of having to be chased around the pasture like a wild animal. Often a man has such a harsh, disagreeable way of handling horses that they dread the sight of him, and no wonder. Such a person generally keeps his team in a stable where it cannot get away from him. If he does lose fifteen horses in ten or twelve years it is easier than running from two to five miles a day to get them, or behaving himself like a rational creature should.  
Missouri. MRS. G. H. WATSON.

**DAIRY.**

**Separators: Their Construction, Care, and Operation.**

BY MISS LAURA ROSE.

Owing to the increased interest taken in separators, and the vast amount of good a more general use of these machines would bring to the farmers, I have been requested to write more fully of their construction and operation.

Where a person has a herd of eight cows or more, I strongly advise investing in a separator. A good machine properly handled, and the dairy products profitably disposed of, should pay for itself in a year's time by the increased returns it would bring. An agent told me he sold more machines to farmers having less than eight cows, and they found them a paying investment. Whether the herd be large or small, I, myself, have never yet met a person who has used a separator who would appreciate the thought of returning to the old method of skimming the milk. They seem to give universal satisfaction.

Many times am I asked which is the best separator. There is really no best separator. Each make has some marked characteristic good point; one make may be simple in construction, another very easy to run, another quickly cleaned, and so on, but you will not find a machine in which all the good qualities are combined. In buying, aim at securing as many of the following points as possible:

- Strong and simple in construction.
- Thorough skimming.

- Easiest run, with large capacity.
- Quickly and easily cleaned.
- Durable and safe.
- Convenient in construction, with regard to height of handle, height for pouring in milk and for receiving the outflow of cream and milk.
- Strong foundation and steady motion.

There are belt separators, turbine or steam separators, and hand separators. The readers of the *ADVOCATE* will probably have more of the hand separators to deal with, so I shall speak more especially of them, although my remarks are largely applicable to all kinds. The foundation on which the separator is to stand should be firm and solid. It is a good plan before screwing the machine to the floor to tack down a square of good oilcloth or linoleum. It is easier kept sweet and clean than wood. The top of the frame which holds the bowl should stand level in all directions.

Clean thoroughly with coal oil all the running parts before putting together, and repeat this cleaning with oil about once a month. It will add greatly to the life of the machine.

Bowls with a spindle should be carefully handled, so as not to bend the spindle or injure the thread.

Supply all the necessary parts with oil, seeing that the oil cups are kept filled and in working order when the machine is in operation.

Too much attention cannot be given to the directions furnished with each machine. In starting a machine, get up speed *slowly* and *gradually*, and when it is up, be careful not to exceed the specified speed of the machine. Few have little idea at what velocity the bowl revolves. We think a train is going fast at a mile a minute, but a separator bowl travels at the rate of from two to five miles a minute, according to its diameter, and has a pressure of from fifteen to twenty tons to the square inch on the inside of the bowl. If it were not made of the very best and strongest material, it would fly all to pieces. It is a wonder more bowls do not burst, when we think of the extra speed they are often ignorantly subjected to.

So many wonder why such high speed is necessary. It is the speed which does the skimming. In constructing separators, man has utilized that power in nature that that which is heaviest flies farther away from the center of motion. When milk is brought under the influence of the separator speed, the dirt in the milk, being the heaviest, is thrown with great force against the sides of the bowl, and sticks there. Then the skim milk, being next in weight, is thrown outward, and finds an outlet, and the cream, being the lightest part, is crowded towards the center of the bowl until it too finds a way of escape. The skimming devices found in nearly all makes of separators are so arranged as to assist in making the separation of the cream from the milk more complete.

When speed is up, put through some hot water to wet and warm the bowl, which will prevent the cream from sticking to the bowl.

Turn in milk to full flow until the milk and cream start to run, after which regulate the flow of milk. Milk as it comes from the cow is in the best condition for skimming. If the night's milk be held over till morning, it should be heated to about 90° before separating. Cold milk does not give such thorough skimming, and makes frothy cream. When all the milk has been separated, run through a couple of quarts of hot water or skim milk to flush the cream out of the bowl. If you have occasion to leave the machine when separating, shut off the milk and close the oil cups. When resuming work, get up speed slowly, as at first, then turn on milk.

The best time to wash the machine is immediately after the bowl has stopped revolving, and it should be let run down without any force applied to it. First wipe out or scrape off the separator "mud," or refuse, which gathers inside the bowl, then wash *thoroughly* in warm water and rinse in clear boiling water, and place where the parts will drain and dry and be free from dust and dirt.

All machines have some device for regulating the richness of the cream, usually a skim milk or cream screw; still, other conditions influence the cream. High speed and low feed will give a richer cream; slow speed and more feed give a thinner cream. Variations in the speed and feed often account for the fluctuations of the butter-fat when tested with the Babcock tester or oil-test churn.

If the supply of milk be great, it is advisable to have some power to run the separator, as even the easiest machine if turned by hand for any length of time becomes tiresome. A small gasoline engine does the work well and cheaply, and may be utilized for churning, pumping water, etc., etc. I saw one working recently, and the farmer told me it only cost 25 cents a week to run it twice a day. Tread power does nicely, and is not so expensive to procure. Windmill power cannot be depended upon, and is not regular enough in its motion.

In placing a machine, have it convenient to the cows and calves, so as not to necessitate carrying the milk any distance, but at the same time, every precaution should be used to keep the milk from unfavorable surroundings. Farmers setting up a machine in a stable should partition off a small room; should have it well floored, whitewashed, and a window in it to let in sunshine and fresh air. The place must not be damp, or the machine will rust.

O. A. C., Guelph, Ont.

**How the Separator Separates.**

Notwithstanding that separators have now been in use in the country for over 20 years, and that there are very few districts in which they are not at present employed, there is still not a little lack of knowledge among ordinary farmers as to the manner in which these appliances work in abstracting the cream from the watery fluid in which it is suspended in the milk. The separator depends for its efficiency on the application of the well-known mechanical principle known as centrifugal force. The cream or butter-fat exists in the milk in the form of very minute globules, which, because of their lighter weight, float on the watery portion of the milk in which they are suspended. When the milk is allowed to stand undisturbed for some time, these globules, under the influence of the law of gravity, have a tendency to rise to the surface and accumulate in the upper part of the milk. When the separator is brought into play, however, centrifugal force is substituted for gravity, and it is in this way that the butter-fat and the watery portions of the milk are separated. An excellent illustration of the principle on which the separator works is afforded by swinging a bucket of water rapidly round the body at arm's length. When so swung the bucket exercises a very distinct pull or pressure upon the arm; this pressure is the result of the centrifugal force, which has a tendency to make a revolving body move away from the center of motion. The faster the pail is swung the greater is the pull upon the arm, and accurate experiments have shown that the centrifugal force increases as the square of the velocity—that is to say, if the bucket is swung twice as fast the pull becomes four times as great. If we were to put milk in the bucket in place of water and swing it very fast, the centrifugal force would pull the milk against the bottom of the bucket just as gravity does when the bucket is at rest, the only difference being that, if the bucket were swung very rapidly the centrifugal force would be much greater than gravity, and the pull on the milk correspondingly greater. The result would be that the cream would rise to the surface of the milk just as it would under the influence of gravity, and more rapidly in proportion as the centrifugal force was greater than the force of gravity. The earliest centrifugal separator was constructed exactly on this plan, the milk being revolved rapidly in small buckets by means of suitable mechanical contrivances. In this apparatus the cream could be raised in from fifteen to twenty minutes. The next step in the development of the machine was to replace the series of buckets by a bowl rotating about a vertical axis. Then followed the famous discovery of De Laval, who just 21 years ago—in 1879—introduced a machine for continuous separation—that is, one into which milk could be run at a regular rate as long as desired and separated into cream and skim milk. Great improvements have been made in the details of machines since then, but the principle employed is still the same and always will be so long as the separation of the cream and skim milk are effected by mechanical means.—*Farmers' Gazette.*

**Judges' Report of Jersey Butter Test at the Royal Counties Show, Winchester.**

There were eighteen entries received for the test, out of which three were absent, so that fifteen cows were tested. They were milked out on Wednesday evening, June 6th, at 5.10, the milk of the next twenty-four hours being taken for the test at 7.10 on Thursday morning and 5.10 in the evening.

The milk was separated through a Farmer's Alfa turbine machine on Thursday evening: separation began at 7.00, and finished at 8.15.

Churning began at 6.42 on Friday morning, Champion churns being used, and the awards, which were as follows, were exhibited to the public at half-past one:—

	No. of days in milk.	Milk yield, lb. oz.	Butter yield, lb. oz.	Butter ratio.	Points.
Gold medal to Dr. Watney's Sherbet	32	41 10	2 27	19.16	39.95
Silver medal and £5 to Mr. Buckley Roderick's Granville Lily 2nd	24	32 6	1 10	19.73	38.25
Bronze medal and £3 to Mr. Buckley Roderick's Cloud 3rd	120	38 12	1 12	21.75	36.50

The £1 prize for the best butter was awarded to the gold medal cow Sherbet.

The following is a summary of the results obtained:

	No. of days in milk.	Milk, lb. oz.	Butter, lb. oz.	Ratio.	Points.
6 prizewinners average	126	35 6	1 11	20.77	34.68
15 cows tested average	39	31 2	1 8	22.52	28.82

**What Four Cows Did Under a Woman's Management.**

To the Editor FARMER'S ADVOCATE:

SIR, Regarding the question dealt with in your issue for June 15th, "How do your cows pay?" I will tell you what 3 grade and 1 pure bred Jersey have done for me, from Sept. 15th, 1899, to June 30th, 1900. On Sept. 15th I had only two cows milking; one had been milking six months, the other a heifer, not two years old till Oct., had been milking

2 months. The other two cows calved Sept. 23rd and 26th, respectively. They are all still milking, 2 are due to calve in August, and 2 in September. I sell butter, new milk, skim milk, buttermilk, and manure. The following table shows the receipts for these products sold from Sept. 15th, 1899, to June 30th, 1900:

Month	Butter	New Milk	Skim Milk	Butter-milk	Cream	Manure	Total
September 1899	1 82	5 42	0 11	1 00	0 18	0 80	8 33
October	1 11	14 84	0 08	0 98	0 00	1 00	20 06
November	11 20	16 95	0 77	0 72	1 28	1 50	33 43
December	11 72	14 80	0 72	0 72	1 28	1 50	33 44
January 1900	13 20	13 53	0 46	0 46	1 41	1 25	30 87
February	10 75	13 13	0 51	0 51	1 38	1 00	27 80
March	7 80	10 07	0 50	0 50	1 40	1 00	20 45
April	1 60	10 14	0 41	0 41	1 25	1 00	20 35
May	7 81	13 80	0 83	0 83	1 25	1 00	25 47
June	3 81	13 00	0 72	0 72	1 13	1 00	23 47
Total	\$ 90 00	\$ 148 28	\$ 5 00	\$ 5 00	\$ 11 08	\$ 8 75	\$ 273 11

I have no land except a small city lot, so that I have to purchase all feed and bedding. In addition to the four cows, I also have four heifers from 9 to 15 months old, and a horse. The food purchased for these and the 4 cows for the 9 1/2 months cost \$195, and \$8 was paid out for hired help. So that the four cows have fed this amount of stock, supplied my own family with milk, cream and butter, at about \$6 a month, and returned for my own labor \$70 in profit. MRS. E. LAWRENCE.

London West, Ont.

**Influence of Food on the Quality of Milk.**

In the course of the article which he contributes to the last issue of the *Transactions* of the Highland and Agricultural Society of Scotland, Mr. R. Shanks, of Woodend, Biggrigg, Cumberland, gives some interesting illustrations of the influence exercised by feeding upon the quality of milk. The extent to which the percentage of butter-fat and other solids in milk is determined by the nature of the food upon which the animals producing it are kept, is still a matter of much dispute, for while there are those who contend that the quality of milk cannot be improved beyond a certain degree (which varies considerably even with cows of the same breed), there are others who hold that the food so very largely determines the quality of the milk that they would undertake to produce milk of varying degrees of quality by the employment of different kinds of food.

The experiments and observations of Mr. Shanks, as recorded in the article referred to, go to show that no change in the food produces what may be described as a "lasting effect" on the quality of milk. During the month of March, 1888, when the cows with which Mr. Shanks experimented were fed on a concentrated diet of crushed oats and de-oiled cotton cake, the average percentage of butter-fat in their milk was 3.35 per cent. In the following month (April) maize meal was substituted for the oats, with the result that the milk yields during the month showed an increase in quantity of about 15 per cent., but a falling-off in the quantity of butter-fat contained in the milk of quite 3 per cent. After the animals had been kept for two or three weeks on the second combination of foods, it was found that the quality of the milk resumed its normal condition.

As corroborative of the contention of those who hold that food does not permanently influence the percentage of butter-fat in the milk, Mr. Shanks supplies a return showing the average percentages of butter in the whole of the milk yielded by a herd of dairy cows for the last four years. In the months of April, May, September, and October the figures were:

April	3.23 per cent.
May	3.16 "
September	3.75 "
October	3.91 "

These figures show an increase for May over April of .23 per cent., and an increase for October over September of .26 per cent. Mr. Shanks specially selected those months for his illustration, because during April and October the cattle were stall fed, and in May and September they were on splendid pasture, so that these cases afforded examples of animals kept on the two extremes of feeding. These averages, taken for purposes of comparison from a large number of tests, tend to confirm what is now believed by many of our leading authorities on dairying, namely, that food has little or no permanent influence on the quality of milk.

**Rules and Regulations for the Test of Dairy Cattle at the Pan-American Exposition.**

It is proposed to hold a test of dairy cattle at the Pan-American Exposition, beginning June 3rd, 1901, and continuing for fourteen consecutive days. The Exposition Company will, if the test is held, provide, free of charge, suitable buildings for the care of the animals entered in such test, and will arrange for a commission to take charge of the test, as hereafter explained.

The Exposition Company will not, however, hold such a test unless three or more dairy breeds agree to enter therein. Notice of the decision of dairy cattle associations in this regard must be filed with the Superintendent of Live Stock not later than August 1st, 1901.

The following general rules will govern the test:

1. There will be two tests. First, one composed of cows over three years of age; this will be known as the "Mature Herd Test." Second, one composed of heifers two and one-half years or under, with their first calf; this will be known as the "Young Herd Test." The ages of the animals entered will be computed to June 1st, 1901. Entries may be made in either or both of these tests.

2. Not more nor less than fifteen animals of any one breed can compete in either test. Animals must be entered before May 15th, 1901. Entry blanks will be furnished by the Superintendent of Live Stock.

A statement must accompany or follow each entry, giving the pedigree of each cow or heifer offered for entry, the number of calves produced, the date of birth of her last calf, and such other information as may be requested by the Superintendent of Live Stock. Also, a statement covering the method of feeding and the character of food given each animal during the month prior to the date of entry; and, if any change in the said method of feeding or in the character of food is made after the entry, a statement covering such change must be furnished the Superintendent of Live Stock at the beginning of the test.

3. The test will be conducted under the direction and supervision of a commission, to be composed of five persons to be selected from the staff of the Agricultural Colleges or Experiment Stations of the United States and Canada, each member of said commission to be a specialist in the dairy department of the institution he represents. No member shall be chosen who is not acceptable to each breeders' association represented in the tests. On June 1st, 1901, the commission will take charge of all animals in these tests, in accordance with the rules and regulations then in force to govern the tests.

4. Animals entered in these tests shall be cared for by herdsmen selected by the associations representing the breed to which the animal belongs. Feeds of all kinds, including ensilage, clover hay, and grain, will be supplied by the Exposition Company on the grounds at nominal prices upon requisition being made therefor by the representative of each association represented in the tests. The representative of each association may use such kinds of food as he may decide upon from time to time, but no drug, stimulant or medicine of any kind, except Epsom or Glauber salts, shall be given an animal, unless provided by and given under the direction of the veterinary, who will be selected for the tests by the Superintendent of Live Stock. All feeds used will be weighed and samples thereof analyzed under the direction of the commission.

5. A separate account will be kept with each animal taking part in these tests. Each animal will be charged in this account with the kind, amount and cost of the food she consumes; the cost to be the market value thereof; she shall be equally credited in said account with her milk product, but the loss or gain in weight of such animal during the tests will not be considered. The price at which all foods will be charged in said account shall be made known to the representative of each breed participating in the tests at least two months previous to beginning the tests. The value at which all milk products shall be credited in said account—except for those for which provision is specially made herein—shall be equally made known to the representative of each breed at least two months previous to beginning the tests. The commission will prepare special rules to govern milking and the care, custody and disposition of the milk produced by each animal. These special rules will be given to the representative of each breed not later than April 15th, 1901.

The method of ascertaining the amount and value of total solids shall be determined by the commission, subject to the approval of the Director-General.

6. The following awards will be made by the Exposition upon the certification of the commission and of the Superintendent of Live Stock:

Award No. 1. For the herd producing the greatest net profit during the test, butter-fat being the only product to be credited to the herd. The quantity of butter-fat to be credited each herd to be determined by the "Babcock Test," the value of such butter-fat to be based on the highest average price quoted for butter on April 15th, 1901, at New York, Philadelphia and Buffalo, on the basis of 35 fat.

Award No. 2. For the cow in each herd produc-

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ing the greatest net profit in the competition for Award No. 1.

Award No. 3. For the group of ten cows of any competing breed producing the greatest net profit in churned butter, the quantity of such butter to be determined by chemical analysis upon the basis of 85% fat, and its value to be credited as provided under Award No. 1 above.

The group of ten competing for Award No. 3 must be designated not later than June 1st, 1901, by the representative of each association, from the herd of fifteen representing such association in the competition for Award No. 1.

Award No. 4. For the cow in each group producing the greatest net profit in the competition for Award No. 3.

Award No. 5. For the herd producing the greatest net profit, total solids alone considered.

Award No. 6. For the cow in each herd producing the greatest net profit, total solids alone considered.

Award No. 7.—Sweepstakes. For the cow producing the greatest net profit.

7. If in the opinion of the commission it becomes necessary during the tests to withdraw any animal on account of sickness, the loss to her breed, by reason of such withdrawal, will be credited on the basis of her product while in the test—provided she has taken part for five days, other, wise no credit will be given her.

8. If any association entering animals in these tests purposes placing upon the exhibition grounds, prior to the beginning of these tests, a greater number of animals than is herein specified as permissible to compete in the tests, notice of such fact shall be given the Superintendent of Live Stock not later than September 1st, 1900.

9. If any misunderstanding shall arise regarding the application or interpretation of any of the rules governing these tests, the subject matter in dispute shall be submitted to the Director-General, whose decision shall be final.

All records kept by the commission during these tests will be published by the Exposition.

(Signed) F. A. CONVERSE, Superintendent of Live Stock. (Approved) WILLIAM I. BUCHANAN, Director-General.

The Season's Ontario Cheese Trade.

The make of cheese in Ontario west of Toronto, according to Mr. J. R. Brodie, a travelling instructor for a portion of that district, is quite equal to if not greater than up to the same period last year. The pastures have been more luxuriant than usual up to this season, and greater provision for soiling than usual having been made, the make is likely to keep up fairly well during the summer months when herbage usually fails. The factories are reported as being in fair to good condition, while there is a general movement towards a better class of curing rooms. The ice rack and sub-earth duct are coming more and more into use, which enables the cheesemaker to cure his cheese in the model temperature of about 65 degrees. Throughout a large portion of this district there has been a prevalence of a certain class of bitter flavor in the milk. Its cause is not well understood, nor is it easily gotten rid of. The most effective remedial treatment is a better cooking of the curd. The tendency is for this objectionable flavor to disappear in well-made cheese when properly cured. Throughout all Ontario the trade has been very active to date, a good deal of June make going off at over 10 cents per pound.

Regarding the condition of the cheese trade generally, the *New York Producer Review* has the following to say in its issue for June 20th:

"The situation of the cheese trade presents features which are both interesting and gratifying. Since the first of May, and up to the present writing, the receipts of cheese at New York made an increase of over 60,000 boxes, compared with the same period last year, and the increase in our export clearances was no less than 90,000 boxes. This is certainly a most gratifying enlargement of trade, and would be especially so if encouraged by conditions which might be lasting, and under which we might anticipate a continued growth toward the great volume which some years ago characterized the cheese trade of our city and State.

"But considering the causes which have led to the increase in the movement of cheese to and from New York, the most important factor was undoubtedly developed during the summer and fall of 1899, when the make of English cheese was shown to be unusually light, and in the closing months of marketing the American crop of 1899. The great consuming markets of Great Britain were more closely cleared of cheese last spring than they had been for a number of years; reserve stocks in this country and Canada, which were comparatively light at the turn of the year, were depleted with unusual rapidity by the excess of export demand incident to the lightly-stocked condition of British markets. Doubtless the world's stock of cheddar cheese at the opening of the present trade year was smaller than for many years, and British markets were more than usually dependent upon the early product of Canada and the States. And this dependence was made the greater by an unusually cold and backward season abroad, in consequence of which the early English make of this year has been materially curtailed.

The total volume of export trade from Canada and the States has exceeded that of last year over 50 per cent, up to the present time, and the relatively

high values prevailing in consequence have been most satisfactory to all selling interests, except to those Canadian operators who, failing to anticipate the strength of the demand, are said to have made large contracts with European buyers for June delivery at prices lower than they were able to cover themselves.

"The high prices resulting from the conditions before referred to have left many local operators in a quandary as to the future. There is usually a considerable storage of surplus June cheese here; but no one cares to pile up stock at present prices, and, in fact, up to this time there has been no surplus to accumulate. It is only very recently that Canada has been shipping very heavily, and it is to be expected that as soon as British markets feel the weight of supply on the basis of present shipments from this side of the water, together with the natural effects of a growing local production, softer markets will ensue, which can hardly fail to produce a corresponding weakening on this side."

APIARY.

Taking Comb and Extracted Honey.

BY MORLEY PETTIT.

Apparatus for taking comb and extracted honey is described on page 97 of February 15th FARMER'S ADVOCATE. Sections are not given to the bees until the beginning of the clover flow, as early or spring honey is usually dark and not plentiful enough to produce more than a few second or third rate sections. Where the brood chamber becomes full to the outside combs with honey and brood during the spring flow, put on an extracting super and mark the hive "For Comb," as it is strong and best fitted for that purpose. About one-third to one-half the number to be run for comb may in this way be chosen. For the remainder, put sections on all swarms which issue from extracting hives after clover starts, instead of transferring the extracting super from the parent hive. Get supers on all the hives as fast as they are ready for them. As soon as honey begins to come in from white clover, insert wedges in all hives except very weak ones, remove supers from those hives marked "For Comb," and put on sections. Extract spring honey from all the supers, that it may not color the clover.

To extract rapidly one requires a wheelbarrow containing a comb box full of empty combs, two or three goose or turkey quills to brush bees, some pry, like a screwdriver, for loosening combs, and a lighted smoker. Smoke at the entrance, then remove the cover and blow smoke between the frames, giving the bees time to run down. Examine the middle comb, and, if it is ready, give it two or three quick shakes before the entrance, jarring off most of the bees onto the alighting board, and set it on the ground behind the hive. In the same way quickly remove all combs that are ready. Honey should not be extracted before it is at least partly capped, unless it is dark and must be got out of the way of white honey. Even then it is a question whether unsalable thin honey is preferable to darkened clover honey to be sold at a reduction. Having removed all combs that are ready, shift the remainder to one side, complete the set with empties from the wheelbarrow, and close the hive. By practice this exchange may be made before the bees have time to recover from their first smoking and assume the offensive. Now pick up the combs one by one, from behind the hive, brush off the remaining bees and hang them in the comb box. On the back of the hive record the date of extracting. Thus X-7-240-R. means that the right side was extracted on July 2nd, 1900. On the next extracting day the cloth may be turned back from the left side, where the full combs will be found.

After clover honey comes that from linden or basswood. If much is to be sold, it is well to keep this separate, as the clover was kept separate from spring honey; although linden and clover are both first grade and command the same price in the market. These are the most reliable sources in this section; but often linden is followed by thistle honey, also a first grade article, and then, in some parts, buckwheat, whose redeeming feature is that it comes late and helps fill the brood chambers for winter.

Comb honey should not be removed until the close of the honey season; but wherever one super is filled and partly capped, lift it up and put a fresh one under next the brood chamber, and so tier up until they will just have time to finish the lot before the close of the flow. When a fresh super is put under, bees usually stop work on the others until they bring the new one up to the same stage, and then finish them all simultaneously. Now, if the flow stops before that time you have a lot of unfinished and unsalable sections. On the other hand, if you wait until the first super is completely finished before giving another, the bees will nearly stop work, lose valuable time and probable swarm. Thus a great deal of care must be exercised, and even the best keepers are sometimes caught with a lot of unfinished sections when the flow stops suddenly, as it often does.

To take off sections, blow smoke into the top of the super to drive most of the bees down, then lift it off and set on end near the entrance. By looking between the sections you can see where clusters of bees are, smoke these from one side and brush them off the other as they run out. Do not continue this too long, as the smoke may taint and discolor the honey; but leave the super standing a few minutes

and more of the bees will fly home. When several supers have been removed pile them one upon another, at various angles, in the extracting room near the door, and the remaining bees will fly to the screen.

By another method, supers are cleared of bees and removed with very little smoke. This requires a "bee-escape," of which there are several kinds, all involving the principle of separating the bees from their brood so they will leave the super and at the same time be unable to return. The queen-bar between super and brood chamber is replaced by a board of the same size, and having the same rim for bee space. In the center of this board is the "escape" proper. The Reese and Lareese escapes consist of wirecloth cones whose bases open into the super. The bees escape through the small end into the brood chamber, but do not find their way back. With the Porter escape every bee has to pass between the points of two very sensitive springs that readily yield as each one passes outward, closing up and absolutely preventing its return.

The best time to put on bee-escapes is in the evening, and by nine o'clock the next morning you may expect the bees to be all out.

GARDEN AND ORCHARD.

Fruit Prospects in Nova Scotia.

Never before in the history of fruit-growing in Nova Scotia has there been a better promise for fruit at this season of the year than at present. The weather was ideal throughout the blossoming period. There were only two rainy days in the whole time, the rest being bright and sunny, so that insects were out in full force. As a result, fruit of all kinds has set well, except in the case of sorts like Baldwin and Gravenstein, which bear heavy crops only biennially, and which last year bore heavily. The few peaches which are grown in the Province have come through remarkably well, with little winter-killing, and have set a very good crop.

Canker worms are very scarce indeed—unusually so, in fact—but in some districts the forest tent caterpillar (*Climacampa disstria*) has been a veritable scourge. This has usually occurred in the vicinity of villages and towns, where there are many small orchards or a few trees in the yards of town lots. In such cases the owners often neglect to spray, and the result has been that their trees have been stripped of leaves and they have furnished enough of the insects to stock the whole town the following year. But where spraying has been thorough and timely, there has been no difficulty in keeping them in check, even though abundant.

Thinning of fruit has not been practiced very generally, but in the few cases where it has been tried, it has been very successful. One grower with whom the writer is acquainted has been in the habit for several years past of thinning his apples, and is satisfied that it is money in his pocket. He thins when the fruit is about the size of hen eggs, so that he can tell which fruits give promise of making the best apples. All inferior ones are removed, and while this means going over the tree twice, once to thin and once to harvest, the grower claims that it does not require much more time, and the trees are thus relieved of the burden of maturing all this inferior fruit, and are consequently more vigorous and bear more regularly. Another orchardist, who grows a large number of Burbank plums, has thinned them for several years past. The first year he thinned the fruit on only a few trees to test the matter, and found that he had more fruit per tree on the average and much finer fruit from the thinned than from the trees not thinned. Not only that, but the following year those trees which had been thinned were again full of blossoms, while the unthinned trees, having exhausted themselves the previous year, bore few blossoms and less fruit. While this matter undoubtedly needs further investigation as to methods and results, my own opinion is that it unquestionably pays, especially if one has a market for choice fruit.

Wolfville, N. S.

F. C. SEARS.

The Onion Crop.

The onion patch should be kept clear of weeds and have the soil frequently stirred, especially after rains, in order to keep the crop growing well. The weight of crops depends to a great extent upon the care they will receive within the next few weeks. Cut off the seed tops wherever they appear. The bulbs of such plants should be first used, as they do not develop nor keep satisfactorily. Seedling onions, unless wanted for sets next year, should be thinned to give the plants a chance to fully develop. Good sized onions can be grown from seeds in one season if they get proper care, and they have better keeping qualities than those grown from sets.

To Increase and Improve the Potato Crop.

An expert potato grower points out, in *American Gardening*, that thinning the plants to a single stock in a hill, and then well apart, will materially increase the size and quality of the potatoes. It has been proven to be equally effective with the early and late crops. A test of this treatment may yet be made with a few rows of the late-planted crop which may have been put in up to the middle of June. The writer says he has procured as much as half a bushel from 7 single stalks. Three feet by 18 inches is recommended as a suitable distance apart for the single stalks.

### Thorough Cultivation in the Garden.

BY MRS. ANNIE RODD.

Thorough cultivation is necessary in order to attain success in farming. It requires some time and patience, but pays in the end. Here is a bit of experience in gardening. Our garden was plowed last fall and again this spring. Then it was thoroughly harrowed time and again, first with the disk, then with the spring-tooth, and at last with the spike-tooth harrows. Then it was dug up with the spade, the roots of the weeds taken out, drills made, and plenty of manure placed in each drill. Then we planted our vegetables—beans, peas, corn, onions, carrots, parsnips, squash, pumpkin, melons, tomatoes, and cabbage. The land was in good condition, and the garden is looking well. We have been agreeably surprised to see the garden so free of weeds. I expected to see them come up in a hurry, as if trying to get ahead of the vegetables, but the vegetables are ahead of them this time all right. Of course, this is the result of thorough cultivation. It is far better to keep the weeds from starting, if possible, than to have so much trouble trying to get rid of them after they have started. Of course, there are some weeds in our garden, but not half as many as I expected to see. But they need to be exterminated quickly, or they will soon choke the plants.

"O weeds, how very fast ye grow!  
But here comes a determined foe,  
It is the woman with the hoe."

Like a soldier going to battle, she starts out, armed with her hoe, and with a brave heart and willing hands she goes to work resolutely to conquer those hateful weeds that threaten to destroy her vegetables. She perseveres, she does not gain the victory all at once, for the enemy is very persistent, but at last she comes off victorious, and has the satisfaction of seeing her garden "a thing of beauty," and of filling her purse with welcome dollars from the proceeds of her industry and thrift.

The farmer has battles to fight also. He must have courage and perseverance, if he would succeed. Neglect means failure. General Potato Bug will soon muster his forces together and take possession of the field if he is allowed to. But the wide-awake, thrifty farmer is on the lookout for him, and gets his ammunition ready for the first attack of the invader. He does not conquer at once, but he perseveres, and after repeated skirmishes he generally comes off victorious, and General Bug has to relinquish the field.

Queen's, West, P. E. Island.

### QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

#### Veterinary.

##### LAME HORSE—PSORIASIS (MALLENDERS).

SUBSCRIBER, Carlyle, Assa.:—"1. Horse, 5 years old, ran finger bar of mower in hind foot, just above hoof. Washed it with carbolic soap, and it healed in a few days. Shortly afterwards it swelled for about 3 inches each side of sore along hoof. I blistered it, but it seems to have gotten worse. Unable to use hind leg at all. Can it be cured, and what should be done for him?"

"2. Two-year-old filly ran out all winter, and when I got her in I noticed sores on back of both knees, and a couple of days ago I noticed a fresh one bleeding. State cause and treatment."

[You have not mentioned what part of the coronet was wounded, nor how long it is since the injury was received. It is probable that a portion of detached or dead tissue, or some other foreign substance, is acting as an irritant, causing inflammation, which will terminate in suppuration. Foment and poultice the foot until the pus is drawn near the surface, which will be indicated by a portion becoming elevated and softened at the top. Open with a sharp knife, making opening large enough to allow the pus to escape freely. Keep the parts thoroughly clean, and dress twice daily by syringing into the opening the following lotion: Perchloride of mercury, 1 dram; dilute hydrocyanic acid, 1 ounce; glycerine, 4 ounces. Add sufficient water to make 1½ pints. Saturate cotton batting with the lotion and apply over the coronet at each dressing. It will be advisable to give the animal a dose of purgative medicine. Such cases are sometimes difficult to treat successfully, and require the personal attention of a skillful veterinary surgeon.

2. Your colt is affected with a skin disease called psoriasis, better known as "malleanders." Some horses appear to be predisposed to this affection. The existing causes are: Bad care, exposure to wet and cold, impure state of the blood, etc. Prepare the colt for physic by feeding exclusively on bran-mash diet for at least 16 hours, and then administer the following doses: Barbadoes aloes, 4 drams; calomel, 15 grains; powdered ginger, 2 drams; soap sufficient to form a ball. When the physic has ceased to operate, give morning and evening for ten days, Fowler's solution of arsenic, 1 table-spoonful. Apply once daily the following ointment to the sore parts: Oxide of zinc, 1 ounce; croton, 1 dram; powdered opium, 2 drams; vaseline, 4 ounces. Mix.

W. A. DUNBAR, V. S.]

#### UMBILICAL HERNIA IN COLT.

SUBSCRIBER, Ontario Co., Ont.:—"I have a colt, two weeks old, with enlargement or rupture at navel. The enlargement is quite soft and seems to be loose skin with navel string attached. The navel is healed and does not seem to be sore. The colt was born without an attendant, so nothing was done with navel. Kindly give treatment."

[In many cases of umbilical hernia in colts, nature will effect a cure by shortening of the omentum (the weborstring by which the intestines are suspended in abdomen), drawing the protruded intestine up into the abdominal cavity. I would advise giving nature a chance in this case. Watch the colt closely, and if the enlargement is not becoming larger, or is becoming less, leave it alone. But if it is gradually or quickly becoming larger, remedial measures must be observed. Probably the safest form of treatment is the application of a truss. This must be a bandage of either leather, cotton or cloth passing around the body of the colt, with a protuberance in the center which fits into the opening through which the intestines protrude, keeping them in the cavity. The truss must be tolerably tight, but not tight enough to scarify the colt's body. It must be kept in position by straps or bands passing forward and attached to a strap or band around the colt's neck. There is no danger of the truss working forward off the proper place, the tendency is to work backwards. A person must exercise his own ingenuity to keep truss in place. This, if truss be properly applied, will usually effect a cure in about two weeks, and the colt in the meantime can run along with its dam. There are other methods of treatment, such as applying clamps, skewers, ligatures, etc., but these operations need to be performed by a professional man, and they are to a certain extent dangerous, as there is a danger of them being followed by tetanus (lockjaw). Unless the rupture is becoming larger, I would advise you to let it alone, at all events until fall; then, if necessary, try treatment or employ a veterinarian.

J. H. REED, V. S.]

#### ENLARGED JOINTS IN CALF.

A. Langenburg, Assa.:—"A calf 3 months old was let out of the stable for the first time, and at once ran as fast as it could run for several miles. The result was swollen joints and inability to walk for some time. It can walk and run now, but limbs are somewhat stiff and swelling in joints has remained. What can I do for it? I have applied a liniment, which relieved it of pain, but did not reduce the enlargement of the joints."

[The swelling of the joints will gradually disappear without any special treatment. You may, however, apply three times a week, with smart rubbing, the following liniment: Soap liniment, 2 ounces; spirits of camphor, 3 ounces; tincture of cantharides and tincture of opium, of each 1 ounce. Mix.

W. A. DUNBAR, V. S.]

#### Miscellaneous.

##### RUSSELL FENCE.

W. M. S., Ontario Co., Ont.:—"Will you please tell me, if you can, in the columns of the Advocate, the quantity of wire required per rod in the Russell fence? Some, I believe, use two or three numbers of wire in this fence. Can you tell me a suitable number or numbers of wire, in such a case, and the quantities per rod, or say per 10 rods. The 12-foot rail to be used."

[After seeing considerable of the Russell fence, we do not incline to the opinion that it is by any means the best sort of rail and wire fence that can be constructed. It seems to do fairly well for a short time, if well built and encounters no strong wind storms, unruly hogs or other stock. When such a fence gets badly out of order, as it soon does, it is almost a hopeless task to reconstruct it with the same wire. We desire to hear from those who have had experience with Russell fence regarding the best means of constructing it, the quantity and best size of wire required per rod, and opinions as to its utility.]

##### HOLSTEIN CROSS ON AYRSHIRE GRADE.

SUBSCRIBER, Oxford Co.:—"I have a herd of good Ayrshire grade cows. Would I get better milkers if I would cross them with a good thoroughbred Holstein bull, and would I have as good, saleable dairy cows? Perhaps some of the readers of the FARMER'S ADVOCATE have already experimented on this line."

[Here is a good subject for dairymen to discuss. We cannot speak with authority on the merits of the Holstein cross on the grade Ayrshire. Mr. E. D. Tillson has reaped wonderful success from the Holstein cross on the grade Shorthorn. We will be pleased to hear from dairy farmers who have experimented with the cross referred to by Subscriber, Oxford Co.]

##### CANADIAN REGISTRATION NOT ACCEPTED.

Subscriber, Wayne Co., Mich.:—"Will you please inform me, through your valuable paper, if Canadian-bred Clydesdales and Shires can come to the United States free of duty if purely bred and registered in the Canadian Clyde and Shire Stud Books and showing a certificate of registry?"

[In order that live stock be admitted duty free into the United States from Canada, they must be accompanied by a certificate of registration in a recognized United States Record for the breed which they represent. Certificates of registration in Canadian records are not accepted.]

#### FALSE FLAX.

(*Camelina sativa*).

AN OLD SUBSCRIBER, Middlesex Co., Ont.:—"I enclose a specimen of weed which I believe to be false flax. Is it likely to have been introduced with grass or clover seed? Will the seed maintain its vitality in the soil more than a year? What is the best method of destroying it?"

[The plant received is undoubtedly false flax (*Camelina sativa*). It may grow to a height of 18 or 20 inches when not crowded and in good land. In the early stages of its growth the plant is somewhat leafy, but after its blossoming stage is past the upper portion of the plant consists mainly of stems and seed pods. The blossoms are small and of a pale yellow color. The seed pods are pear shaped, with small pointed projections from the upper end. They grow on slender stems for several inches along the upper portion of the branches. The seed is brown, somewhat resembling common flax, but



FALSE FLAX (*Camelina sativa*).

much smaller. An average well-developed plant produces about 40,000 seeds. It flowers during June, July and August, and commences to seed in July. It is generally introduced as an impurity in flax, clover or grass seed, or uncleaned grain. It grows on all sorts of soil and infests winter wheat, rye meadows and pastures.

Where the plants are few, hand pulling will destroy it, but where it is more plentiful the rotation should be modified so as to drop as far as possible the crops it infests. Harrow stubble land early after harvest, or gang-plow and harrow. As soon as the seeds have had time to sprout, cultivate; repeat the cultivation and rib up the land the last thing in the fall, so as to leave as much as possible of exposed surface. Put in a hoed crop the following spring and cultivate it thoroughly throughout the growing season. Cultivate after the hoed crop, sow a crop of spring grain and seed down with clover. Stray weeds in the grain crop can be pulled by hand. Take one or two crops of hay or pasture and break up in the summer shallowly, cultivate till fall and rib up before winter. Cultivate and harrow in the spring for a grain or hoed crop. The seed of wild flax will retain its vitality in the soil for years.]

##### THE BEETLE ON YOUNG TURNIPS.

QUERY:—"What is a good remedy for the insect that eats the young turnips at this season?"

[The best remedy is to dust the young plants with land plaster and Paris green as soon as they appear above the ground. That has been found very good by all who have tried it. We use it at the Experimental Farm every year and find it pays as.

JAS. FLETCHER,  
Central Ex. Farm. Entomologist.]

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**FORAGE CROPS VALUABLE IN ONTARIO.**  
G. W. P. Peterboro Co., Ont.: "I would like to ask you how many of the forage plants in the various seed lists are of practical use in Ontario? They give glowing accounts in the catalogues of 'Bromus inermis,' teosinte, Kafir corn, Japanese millet, Jerusalem corn, amber sugar cane. If you can answer this in your paper, I shall be glad, and also tell where I can get a report of the doings of the Dominion Experimental Farms."

[Bromus inermis is a particularly favorable grass for Manitoba and other north-western countries where a hardy grass is needed, and where timothy, blue grass and clovers are unsatisfactory. In Ontario, however, these latter varieties are more productive and suitable in various ways. Teosinte resembles Indian corn, and grows to a height of 8 or 10 feet in the Southern States. It has been grown at the Guelph Experimental Farm for three years, producing a slow growth, reaching a height of about three feet. From knowledge gained from these tests, it is believed to be entirely unsuited to Ontario conditions. Kafir corn is also a southern plant, and suitable only for hot climates, and therefore of no particular value in Ontario. Of the various millets tested at the Guelph Experimental Farm, Japanese has given the largest yield of fodder per acre, and that of a valuable sort for green fodder or for hay. It is well suited to Ontario conditions, and answers a good purpose as a catch crop or as a substitute for hay when the latter is a failure. We have no information at hand as to the characteristics of Jerusalem corn. Amber sugar cane has had several trials at Guelph, and proves to possess no qualifications to warrant its use in the place of Indian corn. Being a southern plant, it germinates poorly and makes slow growth, except in continuous warm weather. The twenty-fifth annual report of the Agricultural College and Experimental Farm, being for 1899, gives the results of experiments, with a long list of such crops as those we have referred to. The report can be secured from the Ontario Department of Agriculture, Toronto. The Ottawa reports are procurable from the Department of Agriculture at Ottawa, Ont.]

**FORMULA FOR WHITEWASH—TRANSPLANTING TREES—COOKED WHEY FOR HOGS.**

W. F. B., King's Co., P. E. I.: "Please give me the best recipe for putting on whitewash, that it may stay on well and retain a good appearance."

"2. If maple or poplar trees be transplanted in June or July, are they liable to grow?"

"3. Is whey from factory better food for hogs if boiled than if fed in its raw state?"

1. A formula for whitewashing that is recommended by the Spramotor Co., of London, Ontario, and which we believe is satisfactory, is as follows: Take 40 pounds of lime, slack it by pouring boiling water over it and in sufficient quantity to cover it five inches deep in a barrel. Stir it briskly until thoroughly slacked. When the lime has been slacked dissolve it in water and add 2 1/2 pounds of sulphate of zinc and 5 pounds of common salt. A beautiful cream color may be given to the work by adding 3 pounds of yellow ochre, or a good pearl or lead color by adding lamp or iron black. For fawn color add 4 pounds of umber, 1 pound of Indian red and 1 pound of common black. For stone color add 4 pounds of raw umber and 2 pounds of lamp black. When applied to outside of houses or to fences, it is rendered more durable by adding about a pint of sweet milk to a gallon of wash.

2. In our experience maples may be planted as late as the first week in June with fair chances of living, provided it is carefully done and the ground is kept moist by rain, watering, mulching or cultivation until the trees have become well established. We would not recommend transplanting at a later date. Poplars, as a rule, more tenacious of life than many other trees, and if transplanted into moist soil at almost any season their chances of living are good.

3. There is no advantage gained in boiling whey for hogs, but it is well to have it heated up to 100 or 170 degrees while sweet in order to maintain it in that condition. Considerable of the feeding value of whey is due to the milk sugar contained in it. The process of souring or fermentation changes the sugar into alcohol, rendering it useless as food. It therefore follows that if whey cannot be fed raw in a sweet condition it should be heated to the temperature we have mentioned before it leaves the factory in order to give best results in feeding.]

**MARKETS.**

**FARM GOSSIP.**

**South Perth.**

June, the month of growth, is with us again in all its glorious luxuriance, and the favorable weather of the last few weeks has certainly made the face of the earth to blossom like the rose. All vegetation in this section is booming by leaps and bounds, though the drought in May was too much for the hay crop, yet alfalfa and white clover is all that could be desired. Beans and some other spring crops poorly put in, or on very hard, stony soil, has suffered severely. Roots are doing well. Apples likely to be abundant, with cherries fair, and plums a little probably due to cool weather during blossoming of the fruit, which prevented bees from fertilizing the blossoms. Strawberries are giving good promise, and vegetables making rapid growth. The work of "spoiling the roads" especially in the township where the system of statute labor still exists, is being pushed. Many hard townships, which abolished the system this year, has been using the grader on some roads and filling the ruts with gravel. Where properly done, the former

method has left a good road, but the latter, being left to irresponsible or incompetent contractors, is worse than the statute system. The Council, to save the expense of a competent road commissioner, resolved themselves into a general managing committee, but apparently what is everybody's business is nobody's, and the contractors are allowed to do the work as they like, the greatest faults being a poor quality of material and a slipshod method of applying it.

Hogs have taken another slight drop, and the general market rules as follows: Wheat, 65c.; hay, \$7.; butter, 12c.; eggs, 10c.; live hogs, \$6.25; bran, \$16. J. H. BURNS, June 23rd.

**Prince Edward Island.**

Crop all in and growing well. Hay will not be a full crop if we do not have more rain soon. Pastures also want rain, as they are somewhat short yet. Early turnips have come up finely, but late planted want more moisture to start them right.

The bloom has just gone off apples, and every body is spraying for codling moth. There is a fine appearance of fruit, especially apples.

The P. E. Island Exhibition will be open to the Maritime Provinces this year. The date fixed for it is from September 24th to 28th. The Provincial Government has voted \$6,000 to it, and the City of Charlottetown \$1,000. New buildings are being put up by the Association to accommodate a greatly increased exhibit.

The dairy output is large for June, and prices are good. June cheese are mostly sold for 9c. to 10c. Oats and potatoes are very low, the former selling for 28c., and the latter for 12c. Potatoes are so cheap and plenty that some of the starch factories have started up to manufacture them.

Beef sells for five cents live weight for the best, and from that down so 4 cents for poorer quality. Hay, pressed, sells from \$7 to \$8, and is abundant.

Horse-raising is booming more than formerly. A great many mares are being bred this spring. Good work horses and drivers are 25 higher in price than last year. W. S. June 23rd.

**Oxford Co., Ont.**

I do not remember seeing the spring grain look so well, especially the oats, which are generally of a rich dark green and very even, and if we get such showers as we have had, I think the prospects for a good crop of oats are good. Our own oats are really splendid. Barley and peas are not quite so good. Our fall wheat is about as nice and equal a crop as possibly could stand up, and on the best of it there are both straw and length of heads to carry 40 bushels to the acre, if we get suitable weather for filling. But the wheat crop is very variable, and in our County there is a large acreage of wheat of a very indifferent crop. The rains we have had are keeping the pasturage nice and green, and the cows are milking fairly well. The meadows for cutting are filling up nicely, but very few farmers have any of last year's seeding down, which was generally a failure. I have not seen any meadow that will yield more than two tons to the acre. Our hood crops are doing well. The mangels and carrots that were sown on ground twice cultivated this spring without plowing are doing well; the best we ever had at this season. Corn is doing well, and has been cultivated three times already and won't require much hoeing. The turnips are just coming up; we don't care to sow very early. Potatoes are doing well, but the bugs are still in evidence, although not so plentiful as in former years. Sheep are doing well. Wool is selling here at 16 cents. Live hogs have fluctuated a little in price lately, and were as high as \$8.50, but are now about \$6.25, and threatening to come down. Cheese has also been uncertain in price; our last shipment went off at 10c. cents, but we have sold some lots as low as 9 cents. Wheat has taken an upward tendency, and our miller is now paying 75 cents, and his stock of flour, which was very heavy, is now nearly cleaned out. Hired help is very scarce and difficult to procure at any price, and those farmers are well off who have help enough in their own families. The bees are apparently very busy, and if the nights would keep warm, so that the industrious little people could carry on their work, there would be a good crop of honey. The bees don't require any electric light, but a certain amount of heat is a necessity with them. Altogether, the prospects for the farmer have seldom been much better than at present, and he ought to praise God and be thankful. D. L.

**Horses for South Africa.**

The first shipment of 713 Canadian horses for South Africa left Montreal a short time ago on the British steamer Lugano, and were pronounced a fine, rugged lot of animals. The Devono followed with about 875 head, the latter having 40 stockmen in attendance.

**Chatty Stock Letter from Chicago.**

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

Beef cattle.	Top Prices			
	Extreme prices now.	Two weeks ago.	1899	1898
1500 lbs. up.....	\$5 25 to 5 75	\$5 90	\$5 50	\$5 15
1350 to 1500 lbs.....	5 00 to 5 85	5 85	5 55	5 25
1200 to 1350 lbs.....	4 80 to 5 75	5 80	5 50	5 20
1050 to 1200 lbs.....	65 to 6 50	6 50	5 40	4 10
900 to 1050 lbs.....	4 50 to 5 30	5 50	5 25	4 90
Fed Westerns.....	4 90 to 5 70	5 80	5 50	4 90
Stillers.....	5 00 to 5 40	5 40	5 15	4 75
Hogs.				
Mixed.....	4 90 to 5 30	5 25	3 92	4 12
Heavy.....	4 85 to 5 30	5 25	3 92	4 15
Light.....	4 90 to 5 30	5 25	3 95	4 05
Pigs.....	4 00 to 5 10	5 10	3 85	3 90
Sheep.				
Natives.....	3 25 to 5 40	5 35	5 40	5 25
Western.....	4 50 to 5 15	5 20	5 15	5 25
Yearlings.....	5 50 to 6 75	6 00	6 40	6 35
Lambs.....	6 00 to 6 75	6 00	6 40	6 75
Colorado lambs.....	6 75 to 7 00	6 80	7 00	7 00
Spring lambs.....	4 50 to 7 50	6 80	7 65	6 85

More cheerful reports come from the ranges of South Dakota and Montana. Rain has fallen in that section in volume of 2 1/2 to 4 inches. Rivers are reported banks full and water holes on the open ranges well filled. A letter from Glen Ullin, North Dakota, says: "Grass has dried up on the ranges already, and cattle will be shipped from that region much earlier than usual, showing fair beef condition already."

M. R. Murphy, head hog-buyer for the Cudahy Packing Co. at Omaha, says hogs coming to that market are of very good quality, weighing 15 lbs. less than a year ago. They are mostly young hogs, showing that farmers are marketing them pretty close. He is of the opinion that July, August and September receipts will be decidedly lighter than a year ago, and that prices at Missouri River points will reach \$6 before September 1.

Although 6,840 cattle were shipped for export this week, lower markets abroad caused a marked dullness in this branch of the trade, and at the close of this week, such cattle showed a decline of 10c. to 20c. from prevailing prices a week ago.

Stock cattle, grass fed, and of light weight, have been exceedingly hard to sell all this week at a reduction of 25c. Grass stock is coming more freely, and is being discriminated against in every department.

Combined receipts of hogs at eleven markets this week were 47,000, or 67,000 less than the previous week, and 121,000 less than the corresponding week last year. Since January 1, 1900, the eleven markets received 11,351,000, or 16,000 less than a year ago, and 28,900 more than two years ago. Thus far this year Chicago alone received 3,970,000, or over a third of the combined receipts at eleven markets. Since January 1, 1900, Kansas City received 1,610,000, Omaha 1,080,000, and St. Louis 950,000, making a total of 7,627,000 at the four leading western markets.

The sheep trade has lately been badly demoralized through

liberal receipts of grassy stock and a bad outlet for dressed mutton. Sheep have declined during the past week 25c. to 40c., while spring lambs show a reduction of 30c. to 75c.

Some of the boats used in the South African transport service are now back in the regular trade, and exporters from now on will not be so cramped.

The flight of the wheat market has put farmers in good humor, especially those in the middle west who are blessed with good crops.

The hog situation has kept the trade guessing for some time, but most dealers feel that values are bound to go higher.

**Toronto Markets.**

The quality of fat cattle was good, and a large number of choice exporters were on sale, but the stall-fed cattle are about cleared up. The market was very firm, with a rise of from 10c. to 15c. per cwt. on all choice animals. This was supposed to be due to the rise in cheese, but what that had to do with the rise in export cattle is not quite clear. Hogs fell 50c. per cwt. on heavy supplies. Milk cows and calves lower.

Export Cattle.—Choice export cattle weighing 1,300 pounds sold at \$5.25 per cwt.; very choice animals fetched \$5.35 per cwt. Light export sold at \$4.75 to \$4.90 per cwt. Export and butchers' cattle mixed sold at \$4.40 to \$4.60. Mr. W. H. Dean bought three carloads of exporters at from \$5 to \$5.25 per cwt., average 1,300 lbs. each. Dunn Bros. received five carloads of fat export cattle from Wellington Co. Mr. Wm. McLelland bought one load of export cattle at \$4.80 per cwt., average 1,300 pounds.

Butchers' Cattle.—Butchers' cattle advanced; loads of good butchers' cattle sold at \$4.40 to \$4.55 per cwt. Several loads were on offer; amongst them were some Shorthorns and Herefords, thoroughbred, but they were not ripe—that is, smooth and level. Common butchers' cattle sold at \$3.75 to \$3.90 per cwt. Mr. John Scott sold 63 butchers' cattle, 1,100 lbs. average, at \$3. These were brought here as shippers, but were light. The freight, 65 shillings per head, kills this class of trade.

Bulls.—Heavy export bulls in good demand, and sold at \$4.10 to \$4.65 per cwt. Light export sold at from \$3.75 to \$4, not many on offer.

Feeders.—Mr. J. Sheridan has purchased in the immediate district of Toronto over 200 head of choice exporters for delivery in July. From the districts of Woodstock and St. Thomas he has also secured some fine export cattle. A few steers, weighing 1,100 lbs. to 1,200 lbs., were bought up by farmers at \$4.60 to \$4.75 per cwt. Those weighing 1,200 lbs. are worth \$4.80 per cwt. Light steers weighing from 800 to 1,000 lbs. sold at \$4 to \$4.25 per cwt.

Stockers.—Yearling steers, 500 lbs. to 600 lbs., were sold at \$3.50 to \$3.75 per cwt. Heifers, black and white steers of the same weight, were sold at \$2.75 to \$3.25 per cwt. Mr. H. P. Kennedy, of Buffalo, purchased two carloads at the above prices, and was prepared to take more, but none offered. Mr. Chas. Zeigman bought 30 stockers at \$3.50 to \$3.80 per cwt.

Sheep.—Deliveries fair, prices about firm, at \$3.75 to \$4.25 for ewes, and at \$3.25 to \$3.50 for bucks. Not a wether sheep on the market out of 350 offered. Mr. John Featherstone sold 52 sheep at \$4.25 per cwt. for ewes.

Lambs.—Spring lambs sold at from \$2.50 to \$4.25 per head. Mr. W. B. Levack bought 200 sheep at \$3.75 to \$4.12 per cwt.; 75 lambs at \$4 per head.

Culvers.—About 60 on offer, not sufficient for the Buffalo trade, sold at from \$2 to \$8 per head, the bulk going at from \$6 to \$8 per head.

Milk Cows.—About 20 cows on offer, and only medium quality, but prices ruled high, from \$35 to \$48 per head. Mr. James Armstrong bought seven cows at an average of \$40 per head.

Hogs.—The top price, \$7 per hundred, did not last very long, only one week, and then very few were able to take advantage. London, Ingersoll and Harrison closed down, and determined to wait until they fell to a more reasonable price; they went off 25c. last week, with the promise of a further decline of 12c. next week. Deliveries very high, about enough to swamp this market, with all the other packing houses closed. The price for best select bacon hogs, 160 lbs. to 200 lbs., not more or less, unfed or watered off cars, are quoted to-day at \$6.50 per cwt. Thick fat and light are \$5.75 for next week, sows \$5, and stags \$2. Our opinion is that they are still too high to remain in their present position more than two weeks. Following table shows current and comparative prices:

	Extreme to-day.	Two weeks ago.
	Per cwt.	Per cwt.
Export cattle.....	\$5 30	\$5 12 1/2
Butchers'.....	4 65	4 50
Bulls.....	4 65	4 30
Feeders.....	4 80	4 50
Stockers.....	4 25	3 75
Sheep.....	4 25	4 25
Lambs.....	5 25	5 25
Hogs.....	6 50	7 00
Milk cows.....	Per head.	Per head.
	48 00	54 00
Calves.....	8 00	10 00

Grain Market.—Receipts of farm produce were 650 bushels of grain. One load of white wheat sold at 70c. per bushel.

Goose Wheat.—There is a strong demand for goose wheat by exporters. Two hundred bushels sold at 60c. to 72c.

Oats.—Firm, at 32c. to 33c. per bushel; about 100 bushels on offer.

Hay.—Twenty loads sold at from \$10 to \$12 per ton.

Straw.—Four loads sold at from \$8 to \$9 per ton.

Dressed Hogs.—About 100 hogs received, at prices ranging from \$7.50 to \$8 per cwt.

Fruit Market.—Receipts of fruit were the largest for this season. Trade brisk at the following prices: Strawberries, 5c. to 8c. per basket for choice Canadian; cherries at from \$1 to \$1.25 per 12-quart basket; green peas at from 25c. to 30c. per basket.

Bran.—City mills quote bran at \$14.50 per ton, shorts at \$15.50 in car lots, f. o. b. Toronto.

Hides and Wool.—We have with great regret to record the death of ex-Alderman John Hallam, the well-known and respected hide and wool dealer, of Front street, Toronto. Hides, No. 1, green, per lb., 8c.; hides, No. 1, steers, per lb., 8c.; hides, cured, per lb., 8c.; calfskins, 9c.; sheepskins, each, \$1.20; lambskins, each, 30c.

Butter.—In good demand. Choice dairy rolls at from 15c. to 19c. per lb.

Eggs.—New laid at from 12c. to 16c. per dozen.

Poultry.—In good demand. Chickens, per pair, 60c. to \$1. Turkeys, per lb., 10c. to 12c.; ducks, per pair, \$1 to \$1.25.

**Wheat Crop Prospects and Prices.**

At the present writing, advices from the leading wheat-growing States, as well as the condition of the crops in Manitoba and the Northwest, are decidedly unfavorable, and for some time past there has been a steady advance in prices. Wheat holds a decidedly strong position, with a favorable outlook for high prices, though official reports do not yet support the idea of holding on to present stock in the hope of extravagant gains.

**Price of Fat Sheep in England.**

In the prices of fat sheep in London (Eng.) the record of the year and several recent years was broken on a recent Monday, when wethers sold up to 9 1/2d. per lb. carcass weight, sinking the offer. But for some weeks the top price has been higher at Liverpool than in London, 10 1/2d. per lb. having been the top price all through May in the latter market.

Dr. William Saunders, on behalf of the staff of the Central Experimental Farm, Ottawa, presented Mr. J. H. Grisdale, the Agriculturist, with a cabinet of silverware on the occasion of his recent marriage to Miss Vipond, of Hudson.



### Belinda and the Boy.

BY MELICENT COOPER.

"And it's my belief as he's seen a lot of trouble, young as he is." And Sarah shook her head sadly, being of a sentimental, tender nature, that loves to weep with the weeping.

"Nonsense! There never was a trouble yet that a man couldn't cure with a bottle of whiskey and a pack of cards." Belinda, from much study of single male lodgers, took a pessimistic view of human nature.

"And those are his boots, poor young man!"

Belinda snorted.

"Yes, here are his boots, though why poor young man I don't see." Sarah feebly pointed to the worn soles, frayed tops, and general decrepit appearance of the said boots.

"Well, these ain't the only ones he's got! Maybe he has corns, and likes 'em easy."

"Ah, Belinda! you're hard on him, you are; and he so nice-looking, and speaking so polite like."

"Hard on him? Stuff! Boots must be cleaned, no matter how old they are. There goes the first-floor's bell; wants his dinner sharp, I suppose; let's hope he'll get it. You'd better hurry up."

Belinda whisked off, carrying the despised boots.

The single gentlemen who resided at 16, Balliol Street, had a wholesome dread of Belinda, for, though small in person, she was perilously sharp with her tongue. Woe betide the foolish man who tried conclusions with her; he was bound to retire ignominiously before a flood of caustic London wit. The landlady knew and respected her value. Sarah, her fellow-servant, admired but feared her bristling, managing ways. So Belinda carried all before her, and ruled despotically at 16, Balliol Street, to her own satisfaction and the comfort of the lodgers. Dinner was generally at six, and it took all Belinda's and Sarah's time to cater for the various appetites. But when all were fairly settled, Belinda carried up a small tray to the third-floor back, and no other person ever dared to interfere. The fare was simple, but the chop was done to a turn; a neat cloth covered the tray, the knife and fork were bright as elbow-grease could make them. Evidently this particular meal was for some person especially favored by the astute Belinda. She had even taken some pains to improve her personal appearance; her face, though small, contrived to collect an astonishing quantity of smuts, but these were not wasted, being carefully smoothed into corners, where they served to accentuate the lines put there by Nature.

Carrying the tray with care, she tapped at the door, and, on a genial permission being given, entered. The room looked mean and shabby, for furniture deteriorates as it mounts in lodging-houses. American cloth of a shiny, slippery appearance covered chairs and table; the window had a single curtain draped scantily across, the effect being better from the outside view. But in Belinda's eyes the occupant glorified all these petty details, and yet he was only a boy—a brown-faced, bright-eyed boy.

He was standing by the empty fireplace reading a note which seemed to cause him no little perplexity.

Belinda proceeded to arrange the table quickly, fearing that her cookery might get cold; and the Boy seated himself with evident appreciation.

Belinda lingered, watching him wistfully. He had placed the note beside him, and, while eating his dinner, often glanced at it.

"Was this brought by hand, Belinda?" indicating the disturbing piece of paper.

"Rather! Young man brought it, all buttons. I don't hold with them buttons fellows." And Belinda frowned. Something was evidently worrying her favorite, and she resented it accordingly.

"Belinda, where are my boots?" The question was apprehensive.

"I'm just shining them up a bit, Sir. Do you want them?"

"No, I'm in no hurry. The fact is, Belinda, I'm in a fix."

Again Belinda frowned.

"I've just received an invitation. I should so much like to accept—but, Belinda, it's the boots."

Belinda shook her head dolefully—the boots were certainly in a bad way.

"My other things are fairly good, but a man can't go out to dinner in shabby boots."

He looked appealingly at Belinda's sharp face.

"Ain't you got any of them shiny, sticking-plaster things?" she said.

The Boy laughed.

"Patents! No, Belinda, I can't run to patents. What can I do, I wonder?" and he went on eating, thoughtfully.

"You couldn't buy a pair?" The question was hesitatingly put.

"Buy a pair! No, indeed! I'm utterly stony-broke."

"Well, I've overdrawn my account at the bank myself," said Belinda, with a wink. "Can't you borrow?"

"Who'd lend? No, Belinda. Friends and empty pockets have a natural antipathy to each other."

"It's odd how it takes people," moralized Belinda. "Since I gave up keeping my kerridge, it's curious how the swells look shy at me. But there's another way, Mr. Lennox."

"Another way?"

"Yes, I could manage it," and Belinda blushed scarlet. "If there was anything," she said rapidly, "just a something you didn't happen to want just now, such as— and her eye, wandering round, lighted on a coat hanging upon a nail. The Boy also looked at the coat, then at Belinda.

"It's getting warmer," he said, staring at his empty plate.

"One doesn't exactly want that kind of coat in the summer, and I shall get some money in a week or so." Again he looked at Belinda. She nodded.

"All right, Sir, you leave it to me; you shall have the shoes, no fear!"

"Then I shall accept," he said, joyfully. "Belinda, you can clear away; I'll write a note and post it at once."

Belinda gathered up the tray slowly; this was her one pleasure in the day, and must not be hurried. Her sharp tongue was tipped with honey in the shabby little room. The bright, sunny-faced lad, in her eyes, was the incorporation of everything that was heroic and manly; he never knew how much extra comfort he owed to her admiration. At last, having no possible excuse for prolonging her stay, she found herself obliged to retire down-stairs to her numerous duties. In time the coat disappeared, and a pair of patent shoes took its place. Belinda was in a state of suppressed excitement. She brushed the dress-coat until it was in danger of absolute destruction. She threatened the frowsy landlady with untold pains if the shirt was not as stiff as the heart of man could desire; the collar and tie were new. And when the Boy appeared arrayed in these spotless garments, beaming with satisfaction, she could only gaze in speechless delight.

"Now, don't you hurry home, Mr. Lennox," she said, giving a final polish to the patents. "Bless you, I'll sit up! Just you have a good time."

As those who inhabited the upper rooms at 16, Balliol Street, were not all provided with latch-keys, this offer of Belinda's was not to be despised. So the Boy departed in a pleasant fever of anticipation. Had Belinda been so inclined, she might have had good reason to repent her good nature, as the neighborly clocks struck two before she heard the modest ring at the bell. If the Boy looked happy before going, he was positively radiant when he returned, and Belinda retired to her much-needed rest well satisfied that her favorite had had a good time. It was the beginning of many such; the new patents had a lot of work during the next three or four weeks. The Boy, so long a stranger in the vast city, was making friends.

The hot July sun was bleaching the dusty roads when Belinda made a great discovery. She was dusting the third-floor back sitting-room, and came upon a photograph in a frame. The sight made her frown. She took it up and surveyed it critically. It was a girl's face, and a most beautiful one; but there was about it an indescribable something that defied Belinda's scrutiny; the great, solemn eyes, shaded by the long lashes, had a curious, appealing, warning look that balanced her; they would follow her about the room until, in sheer mutual need, she would throw something over the frame to avoid looking at them. She fancied all sorts of things about the face, and would even talk to it, as if the slightly stern lips could reply. One day she was caught by the Boy, who was much amused with her scared face and stammered apology.

"You may well admire her, Belinda," he said. "She is my most particular friend and cousin, Catherine Lennox."

Belinda felt aggressive—she did not approve of particular friends; but the Boy looked so happy that her momentary vexation vanished.

"Yes," he said, taking the picture up tenderly, "we are cousins, and—but this is a great secret, Belinda, only her own people know of it—we are engaged."

Belinda gasped. This was more than she bargained for; friendship was had enough—but—

"Of course," he went on, not noticing her look of dismay, "we must wait until I can get on better, but her father is going to help me. Do you remember those patent shoes, Belinda? Well, that was what did it. When my poor old father failed and died, I came to London, to find that all my relations seemed to have dropped me, and I had a hard time of it; in fact, at times, Belinda, if it had not been for you, I should have given up in despair. But, one day, I saw my cousin Catherine driving in the park; we had been such good friends as children that she stopped the carriage and spoke to me. It was she who made her mother send that invitation, which I could not have accepted but for you. And, oh Belinda! you can't think how happy I am; her people are so nice about it, and so kind! Is she not a beauty?"

Belinda felt stupefied. The Boy had always been her particular property; she had waited on him, and in many ways been able to make things comfortable, she being a power in the house. The picture now had a greater fascination than ever. She, in her mind's eye, mounted the beautiful face on a queenly figure, haughty and proud. She doubled her attentions to the Boy, as if hoping by these means to retain her hold over him, and if it had not been for you, I should have given up in despair. But, one day, I saw my cousin Catherine driving in the park; we had been such good friends as children that she stopped the carriage and spoke to me. It was she who made her mother send that invitation, which I could not have accepted but for you. And, oh Belinda! you can't think how happy I am; her people are so nice about it, and so kind! Is she not a beauty?"

Belinda stared. Coming to tea! How shabby the little room looked! What would so grand a lady think? The Boy was too excited to notice her bewilderment.

"You will see," he said, being nice, "don't you, Belinda?—and I'll get some flowers." Here he glanced round, and a shade came over his face. Belinda was up in arms at once.

"You leave it all to me, Sir," she said; "I'll have a tea fit for Queen Victoria. Don't you bother about it. You'll see!"

The next set of rooms were empty, so Belinda contrived to remove into the third-floor back sundry articles of furniture, with a view to rendering the room more comfortable. In her eyes the room looked a dream of beauty; the table was arranged with fruit and flowers and cake, the chairs placed stiffly at regular intervals, and Belinda stood at the door trying to imagine herself beautiful Catherine Lennox, wondering what would be the effect of all this splendor on a stranger.

"Stuck-up, proud thing!" she muttered, altering the table for the third time. "I don't wonder it was so nice to face with her. If she goes and makes him unhappy, she'll be good enough for her."

Belinda shook her fist at the picture which surveyed the room with solemn, watchful eyes. Belinda's duties did not permit her to be on the spot when the visitor arrived, escorted by the Boy. But when the bell rang, not in the weak, hesitating manner that generally belonged to the third-floor back, but in a strong, ringing tone, she entered the room, and found her beautiful, more beautiful than Belinda had thought it possible! But—where was the tall, queenly figure? Seated in the most comfortable chair was a little misshapen dwarf, the face of an angel on the body of a gnomelike creature, Belinda felt faint—the shock was overpowering, but a great deal of relief seemed to paralyze her ready tongue.

"This is Belinda, Kathie," said the Boy. "You know, I have told you about her. Belinda, will you bring some more hot water?"

The great, sad, solemn eyes were fixed on Belinda's face—she understood that look now—but the lips smiled cheerfully.

"How nice your room looks, Godfrey!" she said. "That is Belinda's doing, is it not?"

Belinda stammered, seized the jug, and bolted; but she had to sit down on the stairs to recover her presence of mind before encountering Sarah's eager questioning.

This was by no means the only time that Catherine Lennox came to her cousin's rooms, sometimes with her sisters, more often alone. To one so terribly afflicted, the conventionalities of society were unnecessary; and Belinda began to look for her talk of her Mr. Lennox to one who so dearly loved to listen, for Catherine never wearied of hearing his praises sung, of looking at his few belongings, but always with a face so sad that Belinda would slip away to the hidden recesses of the scullery and have a sharp, indignant cry all to herself. There was no sadness about the Boy, however. Before him Catherine's face would brighten, and they would laugh and talk and make impossible plans for the future by the hour together; then, when the carriage came to take her home, how tenderly he helped her down the steep stairs, and how carefully he wrapped the rug around her chilly little person!

What a contrast they made—he, in his well-grown, athletic youth, to her stunted frailty! Yet he seemed never to notice the difference; and she, who knows the secret anguish, the hours of night spent in tears and prayers that somehow his eyes might be opened to the hopelessness of it all, that the blow of his love lies in the grave with his little deformed cousin. He never missed seeing remittances to Belinda, who grows more managing every year, but who never forgets to place fresh flowers on the grass that lies over what was Catherine Lennox; and Belinda knows that the time is coming very soon when the Boy—a boy no longer—will return, and his first visit will be to the lodging-house servant, the friend who from first to last has been true and faithful, though such a friendship might be scorned in the eyes of a world that did not know the bond between Belinda and the Boy.

"We like the idea of simplified spelling," says the editor of the Perkins Junction Palladium, "but we don't think we could ever become used to writing it. He waddled down the ile, leaving the trax of his larj and muddle shuze on the flore. [The marx ar vizzib] yet."—Chicago Tribune.

"Yes, indeed you do! but I fear he will miss me."

"Well, you wouldn't like him not to miss you, would you?" Belinda's tone was not intentionally disrespectful, so Catherine laughed.

"You are right, Belinda. I should not, certainly"; then under her breath she added, "Oh, my poor boy, my poor boy!"

Belinda stared.

"Now don't you take on about him, Miss—he'll be all right; and there, why the time will just fly like winking!"

Catherine sighed, then turned eagerly to the door, for up the stairs came the Boy, three at a time.

Belinda slipped out of the room; she felt that this meeting was not meant for other eyes to witness. When she brought up the tea, they were sitting hand-in-hand, talking quietly.

"And we will write every day, Kathie," said the Boy, trying to speak gaily; "I expect to have such volumes of good advice. Trust me, I'll read every word!"

"We have been happy, Godfrey; have we not?"

"Happy, darling!" he said, fervently; "I've had a fore-taste of Heaven these last few months. Oh, Kathie, things are going so well with me that, perhaps, when we meet again we can choose our wedding-day."

She withdrew her hand quickly and shivered.

"Cold! Kathie dear, 'tis warm day!"

"No, no, not cold; but Godfrey, it's not too late to reconsider now what you have done. I—Oh, why did God make me so different from the others?" And the lovely face was hidden by her hands, to hide the tears that streamed forth.

"Kathie! oh, my Kathie! don't talk like that! You are more beautiful to me than all creation. Don't cry to-day, dear last day together. You are my life, my soul; all that can be good in me belongs to you!"

Here, Belinda, fearing to listen longer, dropped a tea-cup, and they realized that they were not alone. When she left the room, her last vision was that of the Boy tenderly soothing his still weeping cousin.

So they parted, and time went on every day bringing clever, amusing letters full of interest to the Boy, who was a trifle and a droll. And her mother and sisters smiled at the whole affair—it was so pretty and childlike. Of course, it could come to nothing; but it made poor Kathie happy, and Godfrey Lennox was such a charming boy.

But one day, a foggy, dull November day, the Boy came home before his time, looking scared and troubled.

He had had a telegram from her people. She had not been well, and they wanted him to go to her at once.

In his vague terror of coming trouble, he, as usual, came to Belinda for sympathy, fearing, boy-like, to arrange for himself. She packed his things, and saw him start with cheery words of hope, but No. 16 looked very dull and forlorn when she closed the door and realized that the Boy had gone. Yes, he had gone, to return a boy no more. He did not come back the next day, or the next, and when he did, there was no need to ask for news—a glance at his face was sufficient. Beautiful Catherine Lennox was dead—had died in his arms; her last word and look were for him, and, broken-hearted, the Boy, so strangely old, came home alone. They were bringing her back to lay her among her kin. Before such sorrow, Belinda could but keep silence. At the funeral, people looked kindly but curiously at the lad who had engaged himself to the poor little dwarf—"a beautiful idyll," they called it, "mercifully cut short, before the rough world ruined it." So youth, happiness, and hope, for the time, departed from the Boy.

It was Belinda who would place white flowers by the portrait, so that those great, sad eyes looked through the blossoms she had so loved; who in silence, which was the greatest comfort, waited on him hand and foot. Others tried to sympathize, but only made the wound hurt more. Poor Catherine's father, realizing how deep the affection had been, at last came to the rescue and offered him a post abroad, which would give him change of scene and life, and the Boy was wise enough to accept, knowing how she would wish him to be of use in the world. And Belinda had to see him go. At parting, he put a sum of money into her hand.

"You won't forget, Belinda? I'd like you to do it for her whenever you can. Just a few white flowers. She was so fond of flowers!"

Poor Belinda was drowned in tears.

"No, Mr. Lennox! I'll never, never forget as long as I live! But you will come back, Sir, won't you?"

Some day, Belinda. She would like me to come back; you have been such a good friend to me. I will come back some day."

So the Boy departed, and Belinda, hidden from Sarah's watchful eyes, wept bitter, bitter tears.

He has not come back yet, but his cousins talk most respectfully of their handsome cousin, who is getting on so splendidly, and whom poor Kathie loved so dearly. Some day he will marry, and make a kind and loving husband; but all the best of his love lies in the grave with his little deformed cousin. He never misses sending remittances to Belinda, who grows more managing every year, but who never forgets to place fresh flowers on the grass that lies over what was Catherine Lennox; and Belinda knows that the time is coming very soon when the Boy—a boy no longer—will return, and his first visit will be to the lodging-house servant, the friend who from first to last has been true and faithful, though such a friendship might be scorned in the eyes of a world that did not know the bond between Belinda and the Boy.

### Penitent Crow.

This is the story of a tame crow named Richie, who once showed a feeling of penitence, or at least a disposition to "make up." He was in the habit of receiving cracker and water from his mistress' window, but sometimes required the kindness by seizing the tumbler in his bill and hurling it to the ground.

At other times he would enter the room unobserved and commit such havoc as only crows are capable of—removing the corks from bottles and emptying the contents in perfect torrents over the floor, plucking the pins from the pin-cushions, and scattering writing materials, letters and bric-a-brac in every direction.

One day he entered the window, seized an unused lead pencil, and, before the indignant servant could snatch it away from him, flew off with it to a neighboring tree.

His mistress, incensed by this theft, refused to recognize him in any way, and pushed him away from her window when he came for his food. He flew off, and within five minutes appeared again, bearing in his bill the stolen pencil, bereft of its rubber end piece, but otherwise uninjured. He deposited it with all solemnity on the window sill, and then bowed and cooed in his most captivating manner, evidently begging for a restoration to favor.

"We like the idea of simplified spelling," says the editor of the Perkins Junction Palladium, "but we don't think we could ever become used to writing it. He waddled down the ile, leaving the trax of his larj and muddle shuze on the flore. [The marx ar vizzib] yet."—Chicago Tribune.



**The Lookout Regiment.**

Names are already beginning to come in, although it is only a few days since the Regiment was organized. I am glad to see so many boys in the ranks, and hope there will be plenty more soon. Surely with Nelson in the van our army should be invincible.

Here are the names of the first recruits: (1) Nelson M. Rittenhouse, (2) George E. Ronald, (3) Annie Adams, (4) Arthur Morris, (5) Julia C. Grey, (6) Tom Simpson, (7) George T. Rogers.

One of the soldiers writes:  
DEAR GENERAL—  
I think the idea of the Lookout Regiment is just great. Why, if a fellow has to do odd jobs for everybody on the place when he wants to go fishing, it is pretty tough, I tell you. Now when I have to run errands or chop kindling I can just think it is orderly duty. When mother wants me to mind the kid, that can be sentry work. I am an awful unlucky chap, and get wounded pretty often. Just now I am laid up with a lame leg—really in hospital, you know—and, you bet, everybody is pretty good to me, so I have a pencil handy, and make notes on the fly. It won't do to tell the real names, though, for I guess mother and the rest wouldn't like it. The badge will help me to remember that I am a soldier, and must be jolly even if things are uncomfortable. Say, don't you think I might be a corporal or sergeant, or something? I'm in hospital, you know, so I must have seen active service.

Yours to command— (Private) BEN.

P. S.—That's not my real name, of course; we know what that is, don't we, General? But mum's the word.—B.

So I have suddenly become a general, have I, and you want to be promoted too? Well, Ben, my lad, promotion generally comes to the men who deserve it. The question is, how did you get your lame leg? Were you climbing a barbed wire fence to steal berries, or were you playing truant and running barefoot without leave? Perhaps you were helping that kind mother of yours and spilt some boiling water over your foot, or possibly you got hurt in trying to keep "the kid" out of danger. In that case, you may deserve the Victoria cross.

I hope you will all like the badges. The shield means faith; the anchor, hope; and the cross, love. If you don't get your badges promptly, let me know, but remember that you will have to wait a week or two before your names can appear in the paper. The number of prizes given will depend partly on the quality of the work sent in. Be as neat as you can. Blots are very unsoldierly. You will find full directions for enlistment in the ADVOCATE for June 15th.

COUSIN DOROTHY.

**To Go A-Fishing.**

It's time to put the lessons by;  
The fields are full of daisies;  
When summer blue is in the sky,  
Who cares for suns and phrases?  
Deep in his heart, his highest joy,  
The boy, I know, is wishing  
To leave the schoolroom's strict employ  
And just to go a-fishing.  
He'll find a grand old willow tree,  
Above brown waters dipping,  
Where catfish glide and minnows be,  
And dainty birds are sipping.  
There, waiting long with earnest pluck,  
At last his line will quiver,  
And you and I will wish him luck  
Beside that bonny river.

**A Pen Portrait.**

A saucy, brown head, with fine, tossing curls,  
Putting red lips that shut over pearls,  
Laughing blue eyes, and a tip-tinted nose,  
Fat dimpled fingers, and pink-tinted toes,  
There's a "proof" of my baby; for you must know  
The photo's not finished—'Tis not yet for show—  
She's only two years, and not yet "developed."  
In short, white dresses she still is enveloped.  
She's a rollicsome, frolicsome, mischievous sprite,  
Off giving her mamma a terrible fright;  
First, spilling the ink, upsetting the jam,  
Then finding the "squeak" in her toy woolly lamb.  
Now tearing the leaf from a valuable book;  
Again, knocking a statue from its place in a nook;  
Then smashing a vase of fine Dresden, rare,  
And scratching the crystal and oxidized ware.  
And then in the kitchen, annoying the maid;  
Entering the pantry to there make a raid,  
She'll climb a chair and the sweetmeats will find—  
Eat lemons and oranges regardless of rind.  
There, now! What next! As I sit here and write,  
She and the puppy are having a fight,  
Dear me, how vexatious! He's torn her best frock,  
'Twill take me a week to get over that shock  
(And darn up the rent).

**The Making of Pins.**

One hundred years ago it was considered a wonderful achievement for ten men to manufacture 48,000 pins in a day. Now, three men make 7,500,000 pins in the same time.

**Origin of Brown Bread.**

Even before coming to Plymouth, the Pilgrims, in November, 1620, found in sandheaps on Cape Cod "diverse faire Indian baskets filled with corn, and some in eares faire and good, of diverse colours, which seemed to them a very goodly sight, having never seen any such before." And soon after "ther was found more of their corne, & of their beans of various colours," as Bradford relates in his history. This corn the Indians well knew how to make into bread, for in the first embassy to Massasoit, made in the early summer of 1621, the Pilgrim deputies came to a body of Indians who were fishing near the present Middleboro. "Thither we came" (as is set out in the Relation published at London in 1622) "about three a clock after noon, the inhabitants entertaining us with joy in the best manner they could: giving a kind of bread, called by them maizium."

It would be interesting to ascertain what was the composition of this "maizium" bread, whether it was like hoe-cake or analogous to our brown bread. If the Indians had anything proper to mix with the corn meal, in the way of other grain, they were all fitted to make brown bread, since nothing yet has been invented to cook it in that can compare with the old-fashioned earthen beanpot, and these pots (it seems) the Indians had; when "Massasowat was like to die" (relates Governor Winslow in his "Good News from New England," in telling how he went to succor the sick sachem) "I caused a woman to bruise some corne and take the flour from it; and we set the grut or broken corne in a pitkin; for they have earthen pots of all sizes." Furthermore, they knew the best method to cook such things as bread and beans, for no oven, Dutch or other, has yet been invented that can equal setting the pitkins in a hole in the ground and building a fire over them, or covering them with the embers of an expiring fire.—Boston Transcript.

**"Orphans."**

This is a beautiful, yet sad, picture. The artist, W. Frank Calderon, has managed to convey an amount of expression to this noble dog's face and attitude which denotes accurate observation and



"ORPHANS."

sympathy with animal nature. The exact meaning of "Orphans" may be read in different ways. Either those little tumbling mites are really the orphans of some dog chums, both dead, or is it the one parent who is gone, and the other one carefully watching them and thinking of the lost one gone away to leave these three so lonely? The mingled look of strength and tenderness on this dog's face is most beautiful, and also the curve of the protecting right paw, whilst the left one forms a cushion for the pathetically helpless puppy heads.

**The Bishop and the Bushman.**

During the ten years he was in Australia as Bishop of Melbourne, Dr. Moorhouse, the present Bishop of Manchester, made himself very popular through his geniality, tolerance, and common-sense.

One night the Bishop was about to lecture in a little township perched on a plateau in the Australian Alps. The hall was packed, but a young bushman, attired in a striped shirt and moleskin trousers, and wearing a flaming red comforter, was determined to push his way to the front.

He though he saw a vacant seat on the platform, and made for it.  
"Would you mind shoving up a bit, missus?" he said to a quiet, homely-looking lady.  
"No, no; you mustn't sit there," interposed the local clergyman; "that's the Bishop's wife."  
"Nonsense!" exclaimed the Bishop, who had overheard the remark. "Squeeze up a bit, Mary."

**The Development of the Walking-Stick.**

Probably the patriarch's staff was the first adaptation of the walking-stick, and from its first inception to the present day it has undergone almost endless changes. In 1701 footmen attending gentlemen were forbidden to carry swords, these being replaced by a porter's staff. Thirty years later gentlemen were forbidden to carry swords, but allowed to carry large oak sticks. Before many years varnished and polished woods with ornamental heads came into use, and in one form or another have held their own in public popularity. Washington Star.

**Recipes.**

**STRAWBERRY SAUCE, NO. 1.**

Stir half a cup of butter until it is soft and creamy, then gradually stir in one generous cupful of powdered sugar. Beat in, one at a time, half a dozen mashed strawberries. Place the sauce on the ice until needed.

**STRAWBERRY SAUCE, NO. 2.**

Cream together the same amount of butter and sugar as in the foregoing recipe, then stir in the beaten white of an egg and a cupful of berries mashed fine. Cool on the ice as for strawberry sauce No. 1.

**STRAWBERRY SAUCE, NO. 3.**

Mash one quart of berries with one cupful of granulated sugar until the berries are a pulp, and let them stand two hours. Just before the sauce is required, stand the dish containing the fruit over the fire in a pan of boiling water and let it come to almost the boiling point and it is ready.

Any of these sauces are very nice served with cottage pudding, boiled rice or plain tapioca pudding.

**STRAWBERRY MOUSSE.**

Mash well in a bowl with a spoon one quart of strawberries and one pint of granulated sugar. Let this stand a couple of hours and at the same time have a quarter of a package of gelatine soaking in half a cup of cold water. Rub the crushed berries through a coarse sieve. Pour a third of a cup of boiling water over the soaked gelatine, and when it is dissolved stir it into the strained fruit. Stand the basin containing this mixture into a pan of ice water and stir until the contents begin to thicken. Then add three quarts of whipped and drained cream. Stir the mixture gently from the bottom of the dish until the cream is well blended with the berry mixture. Pack in a freezer, using more salt than for ice cream.

**STRAWBERRY BAVARIAN CREAM.**

Soak half a package of gelatine in half a cup of cold water two hours. Mash together one quart of berries and one cup of sugar and let them stand an hour. Then press them through a fine sieve, taking as much of the pulp as possible, but rejecting the seeds. Pour half a cup of boiling water on the soaked gelatine, and when it is dissolved, add the strained berries. Stand the pan containing the mixture in a basin of ice water and beat until it begins to thicken; then stir in one pint of cream that has been whipped light and dry. Stir gently from the bottom of the dish until it is quite thick, then pour into a mould and set on ice.

**RHUBARB JELLY.**

Delicious rhubarb jelly may be made by cutting rhubarb into pieces an inch in length and then placing it in a dish, with a cupful of sugar, one of water, a little ginger root and lemon peel, and baking until the rhubarb is tender. Dissolve some gelatine in hot water, strain into the rhubarb, add the juice of a lemon. Pour into a mould and chill. Serve with whipped cream.

**JELLIED HAM SALAD.**

Soak one-quarter of a box of gelatine in one-quarter of a cupful of cold water, add three-quarters of a cupful of boiling chicken stock, and strain. Add one cupful of chopped ham which has been highly seasoned with cayenne and a little lemon juice. Let stand until it begins to thicken, then add one cupful of cream whipped to a stiff froth, and turn into a wetted mould. When firm turn out on a bed of blanched lettuce leaves and garnish with mayonnaise.

**UNCLE TOM'S DEPARTMENT.**

**MY DEAR NEPHEWS AND NIECES,—**

The victorious entry of the British troops into Pretoria and other important strongholds of the Boers gives us every reason to hope that the war will soon terminate, and our brave Canadian boys return to their well-loved land. How proud we feel to read of their brave deeds, and know that they are receiving from those in authority their proper meed of praise. We think the old couplet might appropriately be changed to read as follows:

"No land has sons like Canada's,  
Such valiant sons as they be."

No thought of home or loved ones do they allow to sadden them while fighting remains to be done for the flag of Victoria; but when Peace again spreads her wings o'er the once-turbulent scene, we know that many eager eyes and longing hearts will lovingly turn in the direction of the fairest and best of Her Majesty's colonies—our own dear Canada, and a right royal welcome will we give them.

Never before has our Dominion witnessed such an outburst of patriotism as has been evoked by the present war. The songs of our country are sung by multitudes, and we hope they will continue to hold the prominent place they deserve, and not die away too soon, for—

"Like severed locks that keep their light  
When all the treasured form is dust,  
A nation's songs preserve from blight  
A nation's name—their sacred trust."

If, as we are told, "The shivering tenant of the frigid zone proudly proclaims the happiest spot his

own," how much more should we extol our beautiful country!

The instilling of love for our native land has heretofore received but meagre attention in our schools, where, above all places, it should be most thoroughly inculcated.

No matter how happy one may have been in other places, the return home is fraught with a purer, holier pleasure, particularly after sojourning in a foreign land.

"Long may we ever be Sons of the brave and free, Faithful to God and thee, Fair Canada."

Your loving— UNCLE TOM.

THE QUIET HOUR.

Keeping the Citadel.

"O thou who chooseth for thy share The world, and what the world calls fair, Take all that it can give or lend! But know that death is at the end!"

You are all Christians in reality, as well as in name. I speak rather confidently, perhaps, but then I take it for granted that anyone who doesn't care about these things will not take the trouble to read this column at all.

My dear friends, I don't know much about farming, but still it seems to me that this paper must help you to earn far more than the dollar you pay for it.

Now, what do you think this long preface is leading up to? Just this, the daring statement that I don't believe you do accept all of our Lord's words as truth.

But, you may say, if wealth is such a dangerous thing, why did God bestow it as a valuable gift on the men who pleased Him; on Abraham, Job, Joseph, and others? You are very willing to accept such a gift, and are quite willing to run the risk.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c.

is a delusion. If we don't do any good now, it is likely the possession of wealth would only result in harm to ourselves and others. Wealth is like fire—"A good servant, but a bad master."

is a delusion. If we don't do any good now, it is likely the possession of wealth would only result in harm to ourselves and others. Wealth is like fire—"A good servant, but a bad master."

We have all need to be very careful. The love of money is such an insidious disease. It creeps into the soul unnoticed and spreads like leprosy, hardening the heart, drying up the springs of love and generosity, slowly killing the spiritual life.

I do not mean that a reasonable desire to make money is wrong. That seems to be a part of our nature, and is as natural as a woman's desire to be beautiful.

Keep the citadel for God, for He only is your rightful King; let no one else usurp the throne.

HOPE.

Don'ts for the Nursery.

Don't hang curtains around the cot. Children need plenty of air, especially when sleeping.

Don't place the cot in a position where the light will fall on the child's eyes; nor in a draught.

Don't forget that children's clothing should be warm, but light.

Don't forget to remove the child to a cot, with a hair mattress, when it is old enough to leave the cradle.

Don't forget to air the children's bed clothes every day, taking them in about noon.

Don't allow a child to sleep with an elder person it's rest will be less disturbed and more beneficial alone.

Don't neglect any of the foregoing hints.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c.

1—A GROVE.

Come now, my friends, let's see the ease With which you guess these well known trees.

The first with which you have to grapple Is an old, gnarled and knotted x x x x x.

With the fruit of the next one folks make merry; I mean the slim and tall x x x x x x x x x x. Here stands a tree, a market staple.

(Example: Sweetmeats—sweet meets.)

I never meet upon the street Two lovers idly prating, But that I see in phantasy Another scene elating.

Two huntsmen tall, late in the fall, With cautious tread approaching, Each with his gun is out for fun, With ne'er a thought of poaching.

Now, these two views might well confuse A mind unused to guessing; But they're the same, at least in name, As you'll be soon confessing.

3—NUMERICAL ENIGMA.

I am composed of ten letters, and name a recent battle. 1, 8, 2, 4 is a hardy fruit. 7, 6, 3, 4 is a small ornament. 10, 4, 6, 7, 8 is a bird. 2, 3, 9 is a river in Europe.

4—DOUBLE ACROSTIC.

- 1—One who kills his master. 2—A beetle that lives on flowers. 3—Power of seeing. 4—A small planet between the orbits of Mars and Jupiter. 5—The scum of metals. 6—An insect we all try to avoid. 7—Without polarity. 8—A bridge over the Grand Canal in Venice. 9—A vault under the choir or chancel of a church. 10—Whitemetal.

5—CROSS AND SQUARE COMBINED.

Across—1, are hostile to another; 2, a girl's name; 3, parts of volcanoes; 4, a well-known place; 5, upon which; 6, a metal; 7, an animal. Square—From 1 to 2, preterite of a common verb; from 3 to 4, a sailor; from 5 to 6, sooner than.

Centrals—7 to 8, an agricultural country. IKE ICICLE.

6—BEHEADMENT.

Last night our parlor magician— A puzzler, to be more exact— Gave us an exhibition of "A queer beheadment in one act."

You may think that I'm quite lazy. Because each day I lie in bed: You may wonder how I ruffle my face. Since my mouth is larger than my head. What am I! IKK ICICLE.

8—METAGRAM.

Whole, I am to inflame; change my head several times, and I become to trade, to cure, ground grain, a loud sound, not imaginary, a stamp, a young animal, happiness, passionate ardor. NOTA BENE.

Answers to June 1st Puzzles.

- 1—Mink, link, rink, pink, sink, kink, wink. 2—forte, ogham, rhyme, tamer, emery. 3—Heat. 4—instant, natalis, stage, tags, ale, n, t, d, u, r, o, c, n, o, r, i, m, o, n, r, o, m, a, n, c, o, n, n. 5—Insert the word "know" in every space. 6—Farewell.

SOLVERS TO JUNE 1ST PUZZLES. "Diana," "McGinty," "Sartor," "Ike Icicle," "M. R. G." ADDITIONAL SOLVERS TO MAY 15TH PUZZLES. Sila Jackson, Edna McKinnon.

SHOWS AND SHOWING.

Trotting and Pacing at the Industrial.

The entries for the trotting and pacing competitions at the Toronto Industrial have to be made not later than August 15th.

The Toronto Exhibition.

The prize list for the Industrial Exhibition at Toronto, to be held this year from August 27th to September 8th, will be out in a few days.

The Western Fair, London, Ont.

The closing year of the century gives every prospect of developing the most successful show yet held by this Association, which was first organized in 1867.

GOSSIP.

H. Gee & Sons, Fisherville, Ont., write: "We have had a very successful season with our Barred Rocks, and have a lot of promising youngsters coming on."

James Bowman, Guelph, Ont., writes: "We have lately sold four head of very good Aberdeen Angus stock to Col. Jay L. Torry of the Embarras Cattle Co., Wyoming."

Less than a year ago Mr. J. J. Ferguson, B.S. A., of Smith's Falls, Ont., accepted a position on the staff of the Michigan Agricultural College.

YORKSHIRES.

A limited number of choice young pigs of either sex, from two to four months old, at mod-rate prices.

Alex. Hume & Co., Menie P. O. Breeders of Ayrshire Cattle and Yorkshire Hogs.

fort and pleasure of the visitors. Some of the largest manufacturers of agricultural implements in the United States are inquiring for space, with a view to introducing their goods into Canada.

Apart from the usual horse-speeding and exhibition of prize animals in the ring, the attraction committee have this year eclipsed all previous efforts in the way of providing thrilling and sensational acrobatic features.

Fairs of 1900.

Table listing fairs across Canada and the United States with dates and locations.

Exhibitions as Educators.

There is probably no better method of improving agricultural education than that of regularly visiting the fall fairs. Here the agriculturist finds a breed of horses or cattle—or, in fact, any sort of live stock—of which he has read or heard.

In our issue for June 15th, page 359, reference was made to a list of special prizes donated by the Massey-Harris Co., of Toronto, to be competed for at the Toronto Industrial.

As predicted recently, the attendance at many of the large British agricultural shows this year shows a falling-off, largely on account of the South African war.

THE MARITIME EXHIBITIONS.

It is unfortunate that the directors of the three leading exhibitions in the Maritime Provinces have failed to agree upon dates which would afford exhibitors the opportunity of taking them in on a circuit.

CHICAGO LIVE STOCK EXPOSITION.

A pamphlet containing preliminary classification, also general rules and regulations of the International Live Stock Exposition to be held in Chicago, Dec. 1 to 8, 1900, has been issued by the Secretary, Mortimer Meyering.

various ages, the premiums for which run about \$15 and \$10, and \$20 for champions and herds.

In addition to the meat stock classes, there are classes for draft horses of the various breeds, Percheron, Clydesdale, Shire, Suffolk, Belgian, and French draft.

Holstein-Friesian Breeders Meet.

The fifteenth annual meeting of the Holstein-Friesian Association of America was held in Buffalo on June 6th.

The appropriation of a sum not to exceed \$2,000 was made for distribution as special prizes in the discretion of the Board of Officers.

President, W. A. Matteson, Utica, N. Y.; First Vice-President, W. J. Gillet, Rosedale, Wis.; Second Vice-President, A. A. Cortelyou, Wis.; Third Vice-President, S. Burchard, Hamilton, N. Y.

HORSEMENT! THE ONLY GENUINE IS GOMBAULT'S CAUSTIC BALSAM.

The Safest, Best BLISTER EVER USED. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle.

Introduced, and spoke briefly of the proposed live stock show and dairy tests, in which the co-operation of seven breeds was hoped for.

At a meeting of the Board of Officers \$5,000 was appropriated for the Pan-American test, all details to be in the hands of E. A. Powell.

American Clydesdale Stud Book.—Vol. IX. of the stud book of the American Clydesdale Association contains 1,000 pedigrees, numbering 8,001 to 9,000, inclusive.

**GOSSIP.**

Out of the shipments of live stock arriving during one week in England from the Argentine Republic, where foot and mouth disease is now prevalent, there died on shipboard 330 cattle and 290 sheep.

For the show of horses to be held at the Paris Exposition from September 2nd to 10th, the entries received from British exhibitors total sixty-six, comprising English Thoroughbreds, pure Arabs, Hackneys, Cleveland Bays, Yorkshire Coach horses, Ponies, Shires, Clydesdales, and Suffolks.

**A GREAT HORSE SALE.**

During the past two years the prices for horses have been gradually advancing. Horse buyers have had extreme difficulty in finding marketable horses, and livery stables have been obliged to work their horses overtime in many localities because of the actual scarcity. These conditions have led to a movement of western range horses eastward. The ranchmen, being fully aware of the advance in values, have not been backward in holding these range-bred horses at good figures. The first cost of these horses to the purchasers, with the freight covering a long shipment added, rendered it necessary to sell them at good round figures or conduct a losing business. It remained for Thuet Bros. to inaugurate a plan whereby the cost of the purchase was greatly reduced, the sales to the ranchman increased, and more and better horses sent at a minimum cost to the consumer. For some time this firm has been conducting large auction sales at South St. Paul, Minn., and Sioux City, Iowa. Their method has been to encourage large shipments from the Northwest country, in which section the best blood of the various breeds has been employed. These horses are shipped to the selling points in train loads just previous to the advertised day of sale. On June 7th, at the South St. Paul Stock Yards, a phenomenal sale record of thirty-one cars per hour was made, a fraction less than two minutes being required for the sale of each car. The horses were sorted up according to age, color and conformation, the colors being chiefly bays, browns and blacks, with an occasional carload of grays and a few sorrels; the number of off-colored horses was reduced to the minimum. There was a large number of mares with colts at side. One car contained twenty-two mares and twenty-two colts. The yearlings and colts that were sold were none of them branded. A good many of the consignments showed a large per cent. of draft breeding and others were equally strong in Coach and Roadster blood. The attendance was very good and comfortable seats were provided. Prices ranged as high as \$75 per head per carload. These were high-grade Percherons and of first-class quality. At the close of the first hour thirty-one cars had been sold, which record was kept up, or nearly so, throughout the day. A goodly number of horses were sold at private treaty, one carload going at \$70 per head, and those sold at retail, being a high class, went for appropriate prices. These sales in all probability will be continued.

**WANTED** to buy one or a team of jet black carriage horses (with little or no white), about 16 hands 1 inch high; weight, 1,200 pounds. Young and sound. Send full particulars and price to F. J. GALLOWAY, V. S., THORNHILL, ONT.

**THORNCLIFFE Stock Farm**

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages,

"LYON MACGREGOR."



**Stallions and Colts**

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats. Terms reasonable. A visit to Thorncliffe will well repay you.

**ROBT. DAVIES,**  
on Thorncliffe Stock Farm, TORONTO.

Important to Breeders and Horsemen.  
Eureka Veterinary **CAUSTIC BALSAM.**



A reliable and speedy remedy for Curbs, Splints, Spavins, Swellings, etc., in Horses, and Lump Jaw in Cattle. See pamphlet which accompanies every bottle, giving scientific treatment in the various diseases. It can be used in every case of veterinary practice where stimulating applications and blisters are prescribed. It has no equal. Every bottle sold is guaranteed to give satisfaction. Price 75c. per bottle. Sold by all druggists. Guaranteed remedy for sterility in cows, with full instructions. Price, \$2. Prepared by **THE EUREKA VETERINARY MEDICINE COMPANY, London, Ont.**

**FOR SALE: Valuable Windmill Patent.**

For full particulars apply to  
33 PRINCESS STREET, KINGSTON, ONT.

**ROBT. NESS & SONS, HOWICK, QUE.**  
BREEDERS AND IMPORTERS OF  
**Clydesdale Horses & Ayrshire Cattle**  
Also the leading breeds for fowls the farmers.

**Shropshires...**

Ram lambs for sale, at reasonable prices.  
**GEORGE HINDMARSH,**  
AILSIA CRAIG, ONT.

**EGGS** From Plymouth Rocks, Wyandottes, Leghorns, Brahmas, Cochins, Langshans, R. Minorcas, Spanish, S. Dorkings, Hoodlans, B. E. Pile and Indian Game, Hamburgs, Red Caps, Bantams, Pekin, Rouen, Aylesbury ducks, at \$1 per 13. **R. J. & A. LAURIE, Wolverson, Ont.**

**W. D. FLATT,**

Hamilton, Ontario, Can.,  
Importer and breeder of

**Shorthorn Cattle.**



**GOLDEN FAME (IMP.)—26056—(72610).**  
My herd is one of the largest in America, both imported and Canadian-bred. A very choice selection of both sexes always on hand for sale. Personal inspection invited. Address all communications:

**JAMES SMITH, Mgr., Millgrove, Ont.**  
R. R. Station and Telegraph, Hamilton, on main line Grand Trunk RR.

**Bonnie Burn Stock Farm**

Forty rods north of Stouffville station, Ont., offers for sale Shorthorn bull calves and yearling heifers, Shropshire lambs and shearings (both sexes), on **D. E. RUSSELL, Stouffville, Ont.**

**SCOTCH SHORTHORN BULLS AND HEIFERS**

**HERD ESTABLISHED IN 1872.**  
Such sires as imported Royal George and imported Warfare have put us where we are. Imported Blue Ribbon now heads herd.  
**A. & D. BROWN,**  
ELGIN COUNTY, ONT. IONA, ONTARIO.

**H. SMITH, - Hay, Ont.**

**Shorthorn Cattle.**

Two good roan bulls and a fine bunch of heifers  
**FOR SALE.**  
Exeter Station on G. T. R., half a mile from farm.

**CONTAGIOUS ABORTION**

HAS BEEN CURED BY  
**WEST'S FLUID.**

In several of the finest herds of prize stock in the country; but as it would injure the reputation of the breeders, they will not give written testimonials. These statements are facts.

Write for circular on this disease, specially prepared by a V. S.  
Headquarters for "STANDARD" Sheep Dip.  
Manufacturers: **The West Chemical Company,**  
Agents Wanted, on **TORONTO, ONT.**

**Hillhurst Farm.**

ESTABLISHED 1861.

**Scotch Shorthorns.**

SIXES IN SERVICE:

**Scottish Hero and Joy of Morning.**

BRED BY W. DUTHIE, COLLYNIE.  
Oldest Stud of Hackneys in America.  
Shropshire, Dorset Horn and Hampshire Down Sheep.

**M. H. COCHRANE.**

Hillhurst Station, Compton Co., P. Q.

PLEASE MENTION FARMER'S ADVOCATE.

**"POST" FOUNTAIN PEN**

SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute to the greatest invention in fountain-pen construction of the age.  
THE PRICE OF **\$3.00** IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

**A Great Offer:** We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.



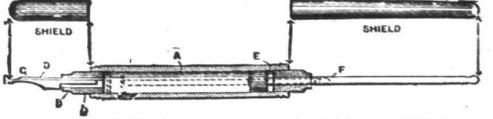
General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. "I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

*Lew Wallace*

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. It is a factory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.



THE only self-feeding and self-cleaning pen manufactured in the world. To fill the pen, put the nib in ink and draw the piston rod up. To clean, put the nib in water and draw the piston rod backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.



The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.  
Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

*Frank Sankey*

**The William Weld Co., Ltd., London, Ont.**

**FARM FOR SALE**

Adjoining corporation of Streetsville, 20 miles west of Toronto; 200 acres, in high state of cultivation; well fenced; 20 acres good timber; well watered by never-failing springs; soil clay and clay loam; 6 acres orchard; splendid brick house, 14 rooms, 4-roomed cellar; new bank barn, 30x72; cement floor; 2 other barns, tub silo, sheep house, hog pen, and driving house; suitable for dairy or stock farm. Ten minutes' walk from station. This is a rare opportunity to secure a choice farm, as the estate must be sold. Apply

**JOHN DOUGLAS,**  
STREETSVILLE, ONT.

**NOTICES.**

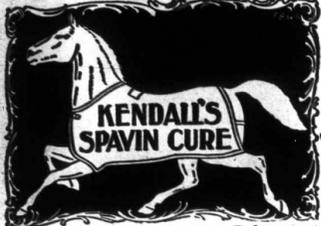
**Hampshire Down Flock Book.** Vol. XI of this Record has come to hand from the secretary, J. E. Lawrence, 19 Canal, Salisbury, England. The pedigrees contained are of rams, Nos. 3225 to 3260. The volume also contains records of flocks registered in the ten preceding volumes. It is well bound and systematically compiled.

**Hemp—Crotalaria sativa,** which produces the standard fiber of the world, is dealt with in a practical treatise by S. S. Boyce. The work of 112 pages is divided into 13 chapters, dealing with the history, composition, cultivation, suitable soil and climate, harvesting the crops, etc. The work is issued by The Orange Judd Co., New York, or can be obtained through this office, at the usual price of 50 cents.

**Devon Long-wooled Sheep.** The first volume issued by the Devon Long-wooled Sheep Breeders' Society has been issued by the Secre-

tary, John Risdon, Jr., Wiveliscombe, Somerset, Eng. It gives information as to breeding, etc., of flocks Nos. 1 to 22, rams Nos. 1 to 455, and ewes Nos. 1 to 17, as well as list of breeders, by-laws, and a brief history of the breed. The Devon Long-wooled breed is claimed to be of great antiquity. They derive their name from the County of Devon, where they are supposed to have first been bred. The modern sheep of this breed is considerably like the Lincoln, and somewhat like the Leicester, but larger and stronger boned than the latter. Like several other breeds of sheep, it has been improved by the infusion of Leicester blood. Early in the present century mature sheep of this breed attained to great weights, dressing in some instances 40 pounds per quarter. At present many are slaughtered at from 8 to 10 months old, weighing from ordinary grazing 15 to 18 pounds per quarter. A pen of fitted wethers 40 months old averaged 214 pounds, a wether 18 months old weighed 226, while a pen of the same age dressed 30 pounds per quarter each. Devon Long-wooled shear heavy fleeces. Shearing rams shorn as lambs with 10 months' growth of wool give fleeces 15 to 18 pounds each of washed wool, and rams with 12 months' growth of wool yield 23 to 25 pounds of washed wool each. The breed has the reputation of having produced the heaviest sheep ever slaughtered in Great Britain. The quality of the carcass when judiciously bred is eminently satisfactory, carrying a great preponderance of lean meat. They do well on a great variety of soils. The brief history of the breed, given in the first volume of the Flock Book, concludes as follows: "A greater uniformity of fleece should be aimed at; in fact, were this to be secured these sheep would be hard to beat for export for crossing purposes, where size of carcass, lean meat, and heavy fleece are the desired objects to secure."

Spavins, Ringbones, Splints, Curbs, and All Forms of Lameness Yield to



Works thousands of cures annually. Endorsed by the best breeders and horsemen everywhere. Price, \$1.50 per bottle. As a liniment for family use it has no equal.

DR. R. J. KENDALL CO. Dear Sirs:—A year ago I had a valuable horse which got lame.

A. D. MCGUGAN, RODNEY, ONTARIO. Shorthorn Cattle and Lincoln Sheep

Shorthorns and Leicesters. Herd Established 1855.

JAMES DOUGLAS, CALEDONIA, ONT. SPRING GROVE STOCK FARM

T. E. ROBSON, Ilderton, Ont. SHORTHORN CATTLE AND LINCOLN SHEEP.

J. T. GIBSON, DENFIELD, ONT. SPRINGBANK FARM.

JAS. TOLTON, WALKERTON, ONT. Shorthorns, Cotswolds, & Berkshires

F. BONNYCASTLE & SONS, Campbellford, Ontario.

SPRINGFIELD FARM HERD OF Shorthorns, Oxfords, and Berkshires.

CHAS. RANKIN, Wyebridge, Ont. JOHN DRYDEN, BROOKLIN, ONTARIO.

Scotch Shorthorns and Choice Shropshire Sheep.

GOSSIP.

Her Majesty the Queen won both Shorthorn championships at the Royal Counties Show, held at Winchester, June 6-8, for best bull with the 2-year-old roan bull, Royal Duke, and for best female with the 2-year-old roan heifer, Cicely.

Mr. Robert Graham, Claremont, Ont., returned home from South Africa last week. He was employed by the Government to superintend the transportation of horses that went with the second contingent.

Berkshire.—Boar over twelve months—1, Russell Swanwick; 2, Earl of Carnarvon; r, J. Jefferson. Boar under twelve months—1, Russell Swanwick; 2, J. Jefferson; r, Nathaniel Benjafield.

Large Breeds (other than Berkshire or Tamworth).—Boar under 2 years—1, Sanders Spencer; 2 and r, Frank Allmand. Breeding sow, any age—1, Frank Allmand; 2, Arthur Hiscock; r, Frank Allmand.

Other Breeds.—Boar under two years—1, Sanders Spencer; 2, Arthur Hiscock. Breeding sow, any age—1, Sanders Spencer; 2, Arthur Hiscock, jun.

Following are awards at the above show, held at Winchester, June 6-9:

Southdown.—Shearling ram—1, W. Toop; 2, Paghman Harbour Co; 3, Hugh Penfold. Ram of any age—1, Paghman Harbour Co; 2, W. Toop; r, C. R. W. Adeane. Pen of three shearling ewes—1, Earl Cadogan; 2, Paghman Harbour Co; r, W. Toop.

Shropshire.—Shearling ram—1, Mrs. M. Mansell; 2, Andrew E. Mansell; 3, R. P. Cooper. Ram of any age—1, R. P. Cooper; 2, Andrew E. Mansell; r, Alfred Tanner.

Oxford Down.—Shearling ram, 1, r, and he, James T. Hobbs. Pen of three ram lambs—1, Robert W. Hobbs. Pen of three ewe lambs—1, Robert W. Hobbs.

Down ram or ram lamb—Earl of Carnarvon; r, Mr. James Flower. Pen of Hampshire Down ewes or ewe lambs—James Flower; r, Earl of Carnarvon. Pen of Hampshire Down lambs—Earl of Carnarvon.

Southdown ram or ram lamb—Paghman Harbour Co; r, W. Toop. Pen of Southdown ewes or ewe lambs—Earl Cadogan; r, Paghman Harbour Co.

On the occasion of a recent visit, the excellent herd of Scotch-bred Shorthorns owned by Mr. Harry Smith, of Hay P. O., near Exeter, Ont., was looked over and found in capital condition.

The imported roan 3-year-old bull, Knuckle Duster, owned jointly by Mr. Smith and his brother-in-law, A. W. Smith, of Maple Lodge, was seen quietly grazing with the cows in the pasture, looking well in his everyday condition, and he is such a kindly feeder, that a few weeks' preparation would fit him to win in the showing as he did last year, capturing the highest honors in the 2-year-old class at London and defeating the 1st-prize winner at the Toronto Exhibition the previous week.

He is smooth and straight in his lines and has a grand head, showing ideal Shorthorn character. His quality of flesh and hair is right, and his calves are coming strong and full of quality and good form.

In the list of females are nine of the favorite Village Blossom tribe, descended from the imported cow of that name, bred by Amos Cruickshank, and worthy representatives of the family. Six of the descendants of imp. Queen of Beauty, also bred at Sittyton, enrich the herd.

The imported cow, Lady Bell 3rd, by Denmark, and dam by Gravesend, is a typical Scotch-bred cow and has a handsome heifer calf at foot, sired by members of the fine old Strathallan family, by imp. Vice Consul, a Sittyton-bred bull and a sweepstakes winner.

Other popular families represented are Duchesses of Gloster, Fair Queens, Buckinghams, Red Roses, and Matchless, besides daughters of the 1st-prize cow, Vanity, and of Bonnie Brae, dam of Bruce, the championship winner at the Provincial Winter Show, and other noted at the show.

Most of the young things over six months are the get of the grand old show bull, Abbot's Ford, and among these are some charming heifers and sappy young bulls of the proper type, while the younger calves own Knuckle Duster for their sire, and promise to maintain the high character of the herd.

Springhurst has produced a large share of the prize winners at the principal shows in Canada, and there is a showyard material in it now and cows that are calculated to produce winners in any company.

H. CARGILL & SON, CARGILL, ONTARIO.

The largest herd of Imported Scotch Shorthorn Cattle in Canada.

SEVENTY-SIX HEAD IMPORTED DURING 1899.

13 BULLS.

63 FEMALES.

ALL imported females of suitable age bred before leaving Scotland. Catalogue free. Correspondence or personal inspection invited.

W. G. Pettit & Son, FREEMAN, ONT.

IMPORTERS AND BREEDERS OF Scotch Shorthorns and Shropshire Sheep

OFFER FOR SALE: 1 imported bull, extra good; 3 imported cows, with calves at their side and in calf again; 6 home-bred bulls, from 5 to 15 months; 40 home-bred cows and heifers.

Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm.

Southdown Sheep

GREAT UNRESERVED SALE AND FINAL DISPERSAL OF ONE OF THE MOST NOTED PRIZEWINNING FLOCKS IN EXISTENCE.

Mr. William Toop, of Church Farm, Westergate, Chichester, Sussex, England,

has instructed CHARLES STRIDE to sell by public auction, at the farm, on Tuesday, August 7th, 1900.

THE WHOLE OF HIS SOUTHDOWN FLOCK, consisting of between 400 and 500 registered pedigree SOUTHDOWN RAMS AND EWES. This famous flock (No. 9 in Flock Book) has for many years past been highly successful in the principal showyards of every civilized country, and many years past been highly successful in the principal showyards of every civilized country, and many years past been highly successful in the principal showyards of every civilized country.

SHORTHORNS FOR SALE

Cows and heifers, also a few young bulls. I have employed sons of Lord Lovel, Royal Member, Perfection, Indian Chief, and Clan Campbell, on Lord Lovel and Abbot's Burn females.

WM. HAY, TARA, ONT.

Shorthorn Bulls

FROM 8 to 17 months old. Red; in good condition. Also thick young cows, bred to imp. Prince William.



R. MITCHELL & SON, Burlington Jct. Station, Nelson, Ont.

SHORTHORNS

Cows, heifers and bulls ready for service, by Scottish Chief = 2724 =, by Scottish Pride (imp.). Dam Fancy's Gem, by Guardsman (imp.).

BERKSHIRES

Modern type, well-bred boars and sows, all ages.

ALEXANDER LOVE, EAGLE, ELGIN CO., ONT.

FOR 50 Shorthorns of all ages and both sexes. SALE: 50 Shorthorns of all ages and both sexes. Found on good Scotch-bred cows, upon DAVID MILNE, which have been employed SCOTCH BULLS FOR 20 YEARS. -o- ETHEL, ONT.

Maple Lodge Stock Farm

ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best.

ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

SHORTHORNS. One red bull, 21 months old; one 6 months old; also a number of heifers.

A. P. ALTON & SON, Burlington Jct. Station, Appleby P. O., Ont.

Kicking Cows.

Stop your cows kicking, increase the flow of milk by the use of

SORE TEAT SALVE.

Positively prevents chapped teats, warts, and caked bag or udder. Price, 25c., 50c., and \$1. per tin.

WM. MOLE, Veterinary Surgeon, 443 Bathurst St., TORONTO.

Pure Scotch Shorthorns for Sale.

Two bulls and fifteen months old, and three two-year-old and two one-year-old heifers. All right. Good ones. Meadows' station, C. P. R. B. J. PEARSON & SON, Meadowvale, Ont.

5-- Shorthorn Bulls--5

From 9 to 15 months. Also a few choice yearling and 2-yr.-old heifers, among which are grand, thick-fleshed and choicely bred animals, mostly solid red colors. Speak quick, for they will not last long.

STOUFFVILLE STATION, G. A. BRODIE, G. T. R. BETHESDA, ONT.

R. & S. NICHOLSON

SYLVAN P. O., PARKHILL STATION.

Scotch Shorthorns, imp. and home-bred.

The imp. Clipper bull, Chief of Stars, heads the herd. Eight extra good 2-year-old heifers for sale, in calf to Chief of Stars (72215). Inspection invited.

Scotch Shorthorns.

100 head to select from.

Imp. Diamond Jubilee = 18861 =, at the head of the herd. Eight grand yearling bulls, and cows and heifers of all ages of the most approved breeding.

T. DOUGLAS & SONS, Strathroy Station and P. O. Farm 1 mile north of the town.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

We are offering 5 young bulls for sale, of first-class quality, and AI breeding.

Wm. Grainger & Son, - London, Ont.

GUERNSEYS.

This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.

Address— SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.

Herefords for Sale.

Three or four one-year-old bulls. Cows and heifers.

The Plains Farm, Arkell; Moreton Lodge, next the O.A.C. College; containing 200 to 250 acres each.

The F. W. Stone Stock Co., Guelph, Ont., Can.

N PEN

DMAN,



of the greatest book of India, "Commodus," writing: "I have taken please accept the excuse

and on the market, and me to the Post. It not has the immeasurable g the fingers. I do all

Wallen.

n, we will send you one receipt of \$1.00, which, if you can return to us \$1.00 paid us. It will include name and address of additional cash.

Shield

Plunger; F. Rod.

has thrilled thousands in praise of the Post.

etter: have had great satisfac-

One can at least have may be."

Hardy.

don, Ont.

leveliscombe, Somerton as to breeding. rams Nos. 1 to 453, well as list of months of the breed. need is claimed to be derive their name where they are supposed. The modern considerably like the e Leicester, but than the latter. Like ep, it has been im- of Leicester blood. try mature sheep of at weights, dressing At per quarter. At from 8 to 10 ordinary grazing 15 pounds, a aged 2 1/2, while a pen pounds per quarter shear heavy fleeces. mbs with 10 months' ces. 15 to 18 months' 25 pounds of washed as the reputation of aviciest sheep ever in. The quality of ly bred is eminently at preponderance of the breed, given in ck Book, concludes uniformity of fleece met, were this to be be hard to beat for - where size of car- fleece are the desired



75 HEAD High-quality, Early maturing Herefords Prizewinners, Producers of Money-makers in the feed lot.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue.

H. D. SMITH, COMPTON, QUE.

FOR SALE:

Jersey bulls from tested and prizewinning dams, and sired by our champion bull. They are fit to head any show and dairy herd. Also a number of young A. J. C. C. cows, and a few unregistered cows and heifers—grand family cows. Write now for prices, stating what you want.

B. H. BULL & SON, Brampton, Ont. G. T. R. & C. P. R. Stations. 20 miles from Toronto.

JERSEYS:

- 1 pure-bred cow, 5 yrs. old; tests 5.20. 1 3-bred cow, 6 yrs. old; tests 5 1/2. 1 1-bred heifer, 3 yrs. old; tests 4 1/2. 1 1-bred " " 3 " " 4 1/2.

They are all gentle, quiet, easy milkers, and would make excellent family cows. For prices write—

W. C. SHEARER, BRIGHT, ONTARIO.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right.

JERSEY CATTLE

That will put

Money in your pocket.

MRS. E. M. JONES,

Brockville, Ontario, Can.

Box 324.

For Sale:

The Holstein bull calf, Keyes Count Pietertje, now 3 months old. Price, \$75. His dam is Maggie Keyes. She has the second largest three-year-old milk record for one year in the world; also a butter record of 26 1/2 lbs. in 7 days. Also a bull calf from a daughter of Manor De Kol.

A. D. FOSTER, Halloway, Ont.

BROOKBANK

Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred.

GEO. RICE, Carrie's Crossing, Ont. Oxford Co.

LYNNFIELD HOLSTEIN HERD.

WE HAVE PURCHASED

a stock farm at Lynn, Ont., where we have removed our famous herd of Holsteins. We can give you a special bargain in the 9-months-old heifer, "Ione Jewel Sylvia," winner of 4th prize in a large class at Toronto this year. If you want choice cows, two-year-old heifers, or heifer calves, write or visit us.

C. M. KEELEK, Lya, Ont.

3 Holstein-Friesian Yearling Bulls FOR SALE. Prices right. Apply to WILLIAM SUHRING, Sebringville, Ont.

Maple Glen Stock Farm.

The home of officially tested, Advanced Registry, dairy test and showing-winning herd of SYLVIA HOLSTEINS. A grandson of Sylvia now for sale. Price is in keeping with breeding and performance.

C. J. GILROY & SON, Brockville, on C.P.R. or G.T.R. Glen Buell, Ont.

MAPLE HILL HOLSTEIN-FRIESIANS

Three Yearling Heifers, sired by Colanthus Abbecker 2nd, and in calf to Daisy Teake's King (brother to Daisy Meake's Queen, the great test and show cow).

Three Bull Calves, sired by De Kol 2nd's Paul De Kol Duke, the great butter-bred bull; dams, the fine show cows, Lady Akkrum 2nd, Cornelia Artis, and Madge Merton.

G. W. CLEMONS, St. George, Ont.

Cooper Sheep Dip.—A few weeks after shearing do not neglect to dip both the sheep and lambs in one of the reputable dips. The practice of dipping is most general where sheep-raising is longest established, a fact which proves its benefits. The Cooper Sheep Dip has a world-wide record of sixty years standing, and it is used on no less than 15,000,000 sheep every year. Its patrons concede that it effects its purpose without the least harm to the animal. It puts the flock in splendid condition, and has a decidedly beneficial influence on the growth of the fleece, increasing both the weight and marketable condition.

GOSSIP.

R. Gibson, Delaware, Ont., writes: "Shropshires are on the move. Have sold many head flocks. Prices are sacred, but satisfactory, from \$15 to \$30."

Mr. Richard Gibson, Delaware, Ont., informs us that the carload of Shorthorns reported in our last issue as shipped by him to W. E. Cochrane, were for Reid Bros., of Cochrane, Alta.

At a combination auction sale of Hereford cattle, contributed by three breeders, held at Dexter Park, Chicago, June 20th, 43 animals brought an average of \$118.67 each, the highest price being \$300 for a 4-year-old cow. The highest price for a bull was \$200.

Capt. T. E. Robson, Ilderton, Ont., has recently purchased from Mr. W. D. Platt, Hamilton, the imported Shorthorn cow, Bella 3rd, by Martin (61467), a son of the Dutch bull, Star of Morning, and of Marjorie, by the Royal champion, Mario, by Field Marshal. Bella 3rd is a large roan cow of fine finish, and has proved an extra good breeder. Her roan 3-months bull calf, a very promising youngster, by imp. Precious Stone (the bull sold for \$800 at Mr. Platt's last sale), goes with her. Bella 3rd is the dam of the heifer, Bella 2nd, sold for \$510 to Mr. Cargill at Mr. Platt's sale, and is sister to Bella, winner of first prize at the London (Eng.) dairy show last year, both in the milking test and by inspection.

"W. J. Howson, of Wingham, Ont., has a Jersey cow whose record is worth noting. She bears the name of 'Millie Beach,' and is registered No. 106735 in the American Jersey Cattle Club. During a week of seven days, from June 2nd to 8th, she gave 259 pounds of milk. This made eighteen pounds and ten ounces of butter, when weighed ready for the market. This was thirty-seven pounds of milk per day; fourteen pounds of the milk making one pound of butter. She had been milking sixty-one days; is four years old, and weighs 820 pounds. Mr. Howson says that she would have tested better, only that the circus camped near by, and during the excitement she dropped four pounds of milk a day. This shows the necessity of quiet for milk cows, if the best results are to be obtained. During the time mentioned, the Jersey was on pasture, and was fed 35 pounds of chopped oats and 35 pounds of bran in the seven days."—Wingham Advertiser.

Canadian sheep-breeders cannot well afford to miss the opportunity of making a show at the International Live Stock Exposition to be held at Chicago, Dec. 1 to 8. Although the cattlemen have evidently the weight of influence in the management of the show, and have captured for this year the lion's share of the prize money, leaving rather a slim apportionment to the sheep department, yet the supplementary list of prizes offered by the various breeders' associations are liberal, and these, in addition to the offerings of the Show Association, make it possible for exhibitors to win a good share of money, while the opportunity of advertising where the breeders and ranchmen of the great Western States and Territories are wont to congregate will be such an occasion as has not for a long time opened, and will doubtless lead to much business for Canadian sheepmen who avail themselves of it. To make the best of the occasion our breeders should hold their best stock and take in the Chicago show with their strongest contingents. It is important that Canada hold her place of pre-eminence as a sheep-breeding country on this western continent.

The combination auction sale of Shorthorn cattle, held at Indianapolis, Ind., June 6th, in which entries were made by 21 breeders, while fairly successful, compares not very favorably with the sales made by individual breeders in the United States in the last few months, and a prominent breeder, who was interested in the sale, gives it as his opinion that such sales are not likely to grow in favor, for the reason that "what is everybody's business is nobody's business," and that the responsibility is not so definitely fixed and placed in this class of sales as where one man only is responsible, and he can carry out his own views of the best way of conducting a sale. In the case of the Indianapolis sale, cash prizes were offered the highest priced animal, the two highest priced and the three highest priced animals from one contributor, all of which were won by J. G. Robbins & Sons, Horace, Ind. The highest price was \$250 for the roan 8-year-old cow Sunflower, by Gay Monarch; the second highest \$496 for Mamie Marshall, a red yearling, by Marshal Abbotsburn; and the average for 11 females, \$221.60. Thirteen bulls sold for an average of \$173.75, the highest price, \$500, being made for the red 4-year-old Cherub of Ashburn, by Britain Cup. The 31 head sold averaged \$212.40.

DISPERSAL SALE OF MR. W. TOOP'S REGISTERED SOUTHDOWN FLOCK.

Our readers will notice in our advertisement columns a notification that the above world renowned flock of Southdown sheep is to be dispersed without reserve, by auction, on Aug. 17th next. We need not call the attention of our Southdown breeders to the importance of this sale, for it forms an opportunity to secure stock of the highest merit and quality that only occurs at very long intervals. The flock to be dispersed represents that which Mr. W. Toop and his noted shepherd, Jack, have with consummate knowledge and skill produced; its showyard record has been an unbroken line of success, and the results of the present year to date clearly show that its present numbers are fully equal to those which in previous years have been so exceptionally successful. Only one show up to date has the flock been exhibited during the present year, namely, at the Royal Counties Show at Winchester, when, in the strongest competition we shall see this year, a yearling ram won first in a class of twenty-five, beating the Pagham Harbor Co. and Mr. H. Penfold and C. R. W. Adair. A two-shear ram took second honors, a pen of yearling ewes came in for R. X., a pen of three ram lambs secured third, and a pen of three ewe lambs secured an easy first, one of the finest and best matched pens seen out for a long while. This record shows what class of sheep are at present in the flock, and also proves that the present flock is of the highest possible merit and quality. Attend the sale or send your orders if you desire to secure some of the finest sheep of the day.

Ayrshires, Guernseys, Yorkshires and Shropshires are our leaders.



ALL high-class, pedigreed stock. Those desirous of purchasing thoroughbred animals should write for particulars at once. Orders booked now in rotation for present and future deliveries. Address—

ISALEIGH GRANGE FARM, Danville, Quebec. J. N. GREENSHIELDS, PROP. T. D. MCCALLUM, Mgr.

WE WANT TO SELL A FEW

Holstein Heifers, coming 2 years old THEY are of the richest and largest producing strains, fine individuals, and bred to as good bulls as there are living. We have a few bull calves and yearling bulls also for sale.

HENRY STEVENS & SONS. LACONA, OSWEGO CO., N. Y.

5 Ayrshire Bulls Fit for service this spring, by Victor of Maplecliff, and out of Snowball, Strawberry, and other noted dams, tracing through Tom Brown and such sires.

DONALD CUMMINGS, LANCASTER, ONT.

For Sale: Six Ayrshire bulls, ranging from 5 months to 1 year past. Also a few cows and heifers, thoroughbred fowls, and Scotch collie dogs.

WM. STEWART & SON, MENIK, ONT.

SHOW AYRSHIRES FOR SALE.

As we are not going to show any cattle at the fair this year, we will sell the imported prizewinning bull, Napoleon of Auchenbrain, champion and head of first prize herd at Toronto, 1888. Also first-class 2 year-old bull and three choice bull calves of fall fall. These are all fit for the show, as we kept them for that purpose. For prices and particulars come and see, or write. James Boden, Mgr., St. Anne de Bellevue, Quebec. G.T.R. & C.P.R., 20 miles west of Montreal.

Maple Cliff Dairy and Stock Farm.

Breeders of FOR SALE: AYRSHIRES, 1 yearling and 6 bull calves from 2 TAMWORTHS, Boars and sows, 6 to 8 months old, improved BERKSHIRES. Booking orders for young pigs.

R. REID & CO., Hintonburg, Farm 1 mile from Ottawa. Electric cars to farm. om

Ayrshire Bull Calves of 1899

One bull 5 months and young calves 2 to 3 weeks, from some of our best imported cows. Will sell at reasonable prices. Address:

ROBT. HUNTER, Manager to W. W. Ogilvie. LACHINE RAPIDS, QUE.

Choice Ayrshires, Barred Rocks and Eggs.

4 FINE BULLS fit for service. Bull calves, and heifers. A few Barred Rock cockerels. Eggs for hatching from choice matings in Barred Rocks, at \$2 per 15; incubator eggs, \$4 per 100; Cayuga duck eggs, \$1 per 11.



JAS. McCORMACK & SON, ROCKTON, ONTARIO.

Choice Ayrshires

Herd now headed by first-prize bull at Toronto and London. Females of all ages for sale. Choice stock at fair prices. Poultry: L. Brahmas, Buff and W. Cochins, Black Minorcas, E. P. Rocks, from \$1.00 to \$2.50 each. For particulars write WILLIAM THORN, "Trout Run Stock Farm," Lynedoch, Ont., Norfolk Co.

1 2-year-old Ayrshire bull and 2 yearlings for sale

Also a fine lot of calves, sired by Dewey, bred by Wm. Stewart & Son, Menik.

F. W. TAYLOR, Wellman's Corners, Ont.

DAVID A. MACFARLANE, KELSO, P. Q.

BREEDER OF Ayrshire Cattle.

The blood of Nellie Osborne is largely represented in my herd, and combine style, quality and production. A few choice things for sale.

Shropshires. We offer for sale a shearing ram and a few ram lambs, that are good typical sheep. Lambs are sired by son of imp. Montford Beauty. H. GEE & SONS, FISHERVILLE, ONTARIO. HUDRANG, ONT.

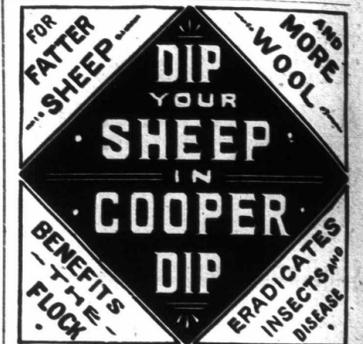
Ayrshire Bulls: Write to J. YULL & SONS, Carleton Place.

for special prices on Ayrshire bulls from 11 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jack of Burnside—1884—, also females of all ages. Shropshire sheep of all ages; a number of fine ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

Ayrshire Cattle and Berkshire Pigs.

The bull Tom Brown and the heifer White Floss, winners of sweepstakes at World's Fair, were bred from this herd. Young stock for sale. Also Leicester sheep & Berkshire swine.

D. BENNING & SON, Glenhurst Farm, Williamstown, Ont.



Used and endorsed by Hon. John Dryden, Minister of Agriculture, Toronto, and leading breeders everywhere.

Superior to all liquid Dips.

25 gal. pkt., 50 cts.; 100-gal., \$2.00. If druggist cannot supply, send \$1.75 for 100-gal. pkt. to

EVANS & SONS, Montreal or Toronto. Premiums on application to COOPER & NEPHEWS, 142 Illinois St., Chicago.

Write for pamphlet.

Oxford Down Sheep

Flock Established 19 Years. Animals of all ages and both sexes for sale, reasonable. Rams to head flocks a specialty.

HENRY ARKELL, ARKELL P. O., ONT. Guelph: Telegraph and Telephone.

Huntlywood Southdowns & Dexter Kerry Cattle

Flock of 300 head, imported and home-bred. Selected from the flocks of H. R. H. the Prince of Wales, the Duke of Richmond and Gordon, and the late Mr. Coleman. We are now offering for sale rams, ewes and lambs; also a Dexter Kerry bull calf, by imp. Bantam 257, champion R. A. S., Manchester. Apply to W. H. GIBSON, Manager, Hon. G. A. Drummond, Beaconsfield, Point Claire P. Q., P. Q., Fr. printer. om Canada.

EUROPEAN ADVERTISEMENT.

HAMPSHIRE DOWN SHEEP.

SPLENDID MUTTON, GOOD WOOL, GREAT WEIGHT. THIS HIGHLY VALUABLE

English Breed of Sheep

Is unrivalled in its rapid and wonderfully early maturity, possessing, too, a hardiness of constitution adapted to all climates, whilst in quality of mutton and large proportion of lean meat it is unsurpassed. Full information of

JAMES E. RAWLENCE, SECRETARY HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION, SALISBURY, ENGLAND.

EUROPEAN ADVERTISEMENTS.

FAMOUS ALL OVER THE WORLD. ALFRED MANSELL & CO., LIVESTOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire.

Breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale.

HENRY DUDDING, RIBY GROVE, STALLINGBOROUGH, LINCOLN, ENGLAND. Breeder of Lincoln Longwool Sheep and Shorthorn cattle. The Riby Flock of upwards of 1,400 Ewes holds an unequalled record for true type, merit, and quality.

The Danesfield Pedigree Stock

IMPORTERS desirous of securing selections of either Shire horses, Aberdeen-Angus cattle or Hampshire Down sheep should inspect the stud, herd and flock, property of Mr. R. W. Hudson, which are kept in the highest degree of purity that care and selection can produce.

MR. COLIN CAMPBELL, ESTATE OFFICE, DANESFIELD, MARLOW, BUCKS.

W. W. Chapman,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables - Sheepcote, London.

IMPORTATION

Of Shropshires for Fairview Farm in July. Our D. J. Campbell will select and import. Only choice rams and ewes will be brought out. 'Tis the good ones that please customers first and last.

We breed them and import them. Orders can now be booked for imported stock, and some good rams are now at Fairview.

JOHN CAMPBELL, Woodville, Ont., Canada.

Shropshire Rams and Ewes

Newly imported from the greatest English breeders. Home-bred rams and ewes of best quality. Scotch Shorthorns and Clydesdale horses for sale at moderate prices, and in large numbers, by

ROBERT MILLER, STOUFFVILLE, ONT.

SHROPSHIRE RAMS AND RAM LAMBS

From Tanner, Minton and Bradburn foundation. Uniform and first-class in quality, size and covering.

ESTATE JAS. COOPER, KIPPEN, ONT.

Summerhill Oxfords

Flock Established Over 20 Years. Offering SHEARLING EWES AND RAMS, and an excellent lot of 1900 lambs of both sexes.

PETER ARKELL & SONS, TEESWATER, ONT.

SOBRITE

Rapid Action Cleaner Will not Scratch



10 CENTS



The new cleaner with a bright name and a characteristic mission:

To brighten homes, lighten work, to shed luster in the kitchen, radiate the dining-room and polish up the bath-room.

-To expel dirt.

-To make housework less a drudgery than it has ever been, to ease the tired arms, to make your tins, pots and kettles greet you with your own reflected smile—in short

-To clean and polish everything cleanable and polishable in the house.

SOBRITE 10 CENTS

Rapid action cleaner will not scratch



Quebec, ALLUM, MGR.

Berkshire Pigs. the heifer White

G & SON, Williamstown, Ont.

Wool. ERADICATES INSECTS AND DISEASE

John Dryden, Minister leading breeders every

liquid Dips.

SONS, Toronto.

NEPHEWS, Chicago.

own Sheep

ARKELL, KIPPER, P. O., ONT. and Telephone.

& Dexter Kerry Cattle

and home-bred. Select

ERADICATES INSECTS AND DISEASE

EP.

GOOD WOOL, EIGHT.

of Sheep

and wonderfully

AWLENCE, BURY, ENGLAND

In every town and village may be had, the



**Mica Axle Grease**

that makes your horses glad.

Made by Imperial Oil Co.

**Spring Brook Stock Farm.**

Two choice September pigs by imp. Whitaker Crystal, Royal winner. One choice sow in farrow. Young pigs, pairs and trios, not akin, from imported prizewinning boars. Stock of best quality. Prices right. Write at once for prices. **A. C. HALLMAN,** WATERLOO CO. - NEW DUNDEE, ONT.

**Young Pigs.**

We are offering a fine lot of Young Pigs from sows of the Highclere and Sallie families. Can supply pairs not akin. Three boars in use. **JOHN RACEY, Jr.,** - Leamsville, Que.

**Snelgrove Berkshires.**

When others fail to please you with a good pig, come to us. Our herd is bred from the best strains of the Large English Berkshires. We now have a very promising lot of young pigs, April farrow, sired by Colonel Brant 5950 (first prize under 12 months, Toronto, 1900) and Dictator 5941. Write for prices. **SNELL & LYONS,** Snelgrove, Ont.



**Berkshires** - Large, lengthy, English type. Five first prize boars in service. Spring pigs ready for shipment. Boars fit for service. Sows ready to breed. **GEORGE GREEN,** Fairview, Ont.

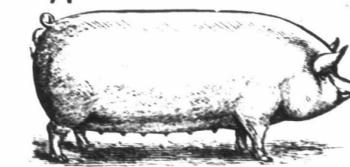
**Large English Berkshires.**

**HERD** headed by two imported first-prize boars. Young boars and sows from imp. prizewinning sires and dams. Write for prices. **H. BENNETT & SON,** St. Williams, Ont.

**Yorkshires and Berkshires.**

**IN YORKSHIRES:** Young pigs both sexes, not akin, from Cinderella and Oak Lodge Queen (imported) families. **IN BERKSHIRES:** Young pigs both sexes, not akin, from a Teasdale-bred sow and a Cox-bred sow. Guaranteed as described. Write for prices. **JAS. A. RUSSELL,** Precious Corners, Ont.

**OAK LODGE Type of Yorkshires**



We have now on hand a large herd of pigs of different ages, and they are as good as we have ever offered. The winners of this lot have been greater than all other herds combined at the largest Canadian exhibitions.

All stock shipped to order, fully vaccinated. **Brethour & Saunders,** Burford, Ont., Can. PLEASE MENTION FARMER'S ADVOCATE.

**GOSSIP.**

**Live Stock Show at Paris.**

The International Show of live stock, which opened at Vincennes on Saturday, June 9th, was one of the largest and most representative gatherings of the kind ever brought together. The totals of the entries of farm stock (including poultry) were as follows: Cattle, 2,211; sheep, 713; swine, 332; poultry, rabbits, etc., 2,679; grand total, 5,965.

There was a fine collection of 41 distinct breeds of cattle, classified into two divisions—one for foreign-bred animals and the other for animals born and reared in France. These were grouped into 49 different categories—15 in the first division and 34 in the second for French breeds. Many of these amongst the upwards of 30 French breeds represented were hardly of such characteristic stamp as to deserve the title of distinct breeds, and looked more like departmental differences of strain in a great many cases than real distinctions of breed. Taking the numbers shown as an index, the popularity of the leading breeds would be as follows: (1) Normandy, 373; (2) Shorthorns, 221; (3) Hollandaise or Dutch black and white, 118; and (4) Flemish cattle, 110.

To Great Britain was paid the highest compliment of any foreign nation, as provision was made for every one of our recognized breeds in eleven sections. It is to be regretted that this opportunity was not more largely availed of by British breeders, for only the Shorthorns, Herefords, Red Polls, Jersey, and Aberdeen Angus were represented by 10 British exhibits, and in the latter two breeds the competition was altogether left to foreign owners. No doubt this was caused by the stringent laws at present in force against foreign importations rather than a lack of sympathy or enterprise on the part of British exhibitors. Breeders do not relish the prospect of sending their choice animals to risk a low price at a forced sale or slaughter on return.

**Shorthorns.**—There were five bulls and one cow shown in the foreign Shorthorn section, and of these, Sir Jacob Wilson's 2nd prize two-year-old bull, Sir Riby Gilbert 7349, was the only British representative. He is a very good type of a bull, with grandly sprung ribs, excellent touch, and plenty of strength through the heart, but he has hardly depth enough—a shortcoming which made him look a trifle leggy. The French Shorthorn Syndicate got the first prize in both classes with prime animals bred by Mr. Deane Willis. The younger animal was Bapton Warrior, a son of Bapton Victory 9910, which was a reserve winner at the Royal last year. This is a fine, stylish looking roan, with an imposing fore end. There is a slight weakness at his tail-head, but otherwise he is very level, from crop to quarter, and shoulder to thigh, and stands exceptionally well round the girths. The other and older winner was Centurion 2558, by the well-known champion sire, Count Lavender. He is a bit stronger in his points, but not so refined as the other, and he is a little patchy about the tail-head. This bull has a capital top and grandly filled roasts; and with his fine depth, and level, well-patched shoulders, he formed a typical specimen of the breed. The second winner in the yearling class was a Buenos Ayres bull of good stamp named Nicholas White Poppy.

**Herefords.**—This famous beef and grazing breed made up a very nice collection of two males and four females. With the exception of the second prize bull, owned by M. Henri Corbiere, they were all shown by Mr. W. T. Barneby, Herefordshire. The English animals made a very fine group, and their nice, level, plump appearance excited general admiration when later in the day they sustained the prestige of British skill by winning the championship for the best group of five foreign-bred "beeves." The first prize bull was a second winner at Herefordshire two years ago. He is a trifle patchy about the tail-head, and coarse over the crop, but is a bull of great depth and substance. He carries his flesh very evenly, and has an exceptionally fine round rib. The first prize two-year-old cow was shown by the same exhibitor.

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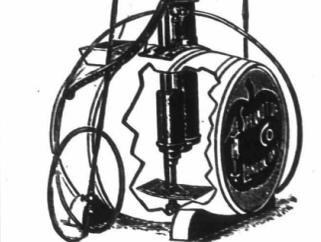
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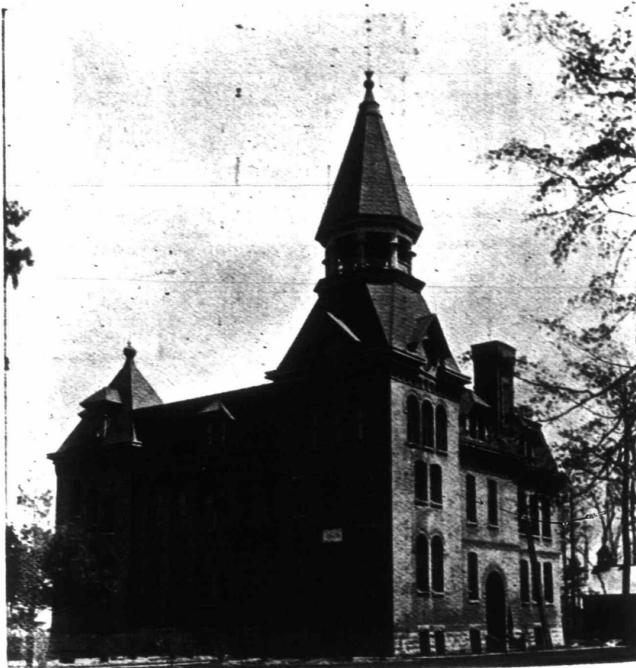
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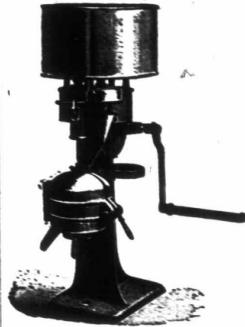
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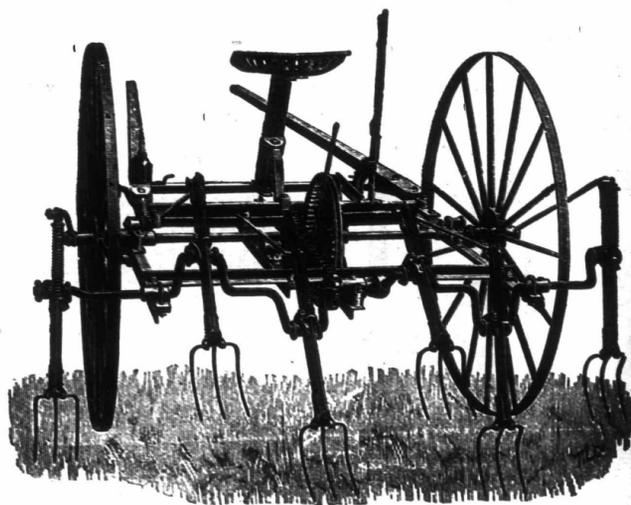
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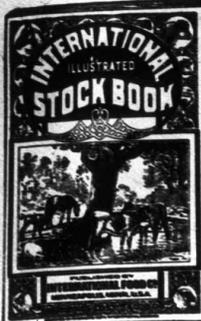
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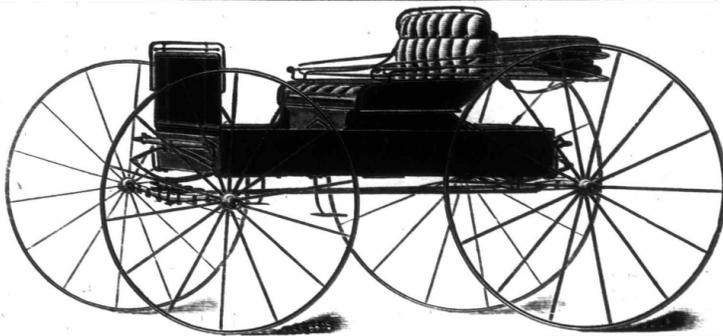
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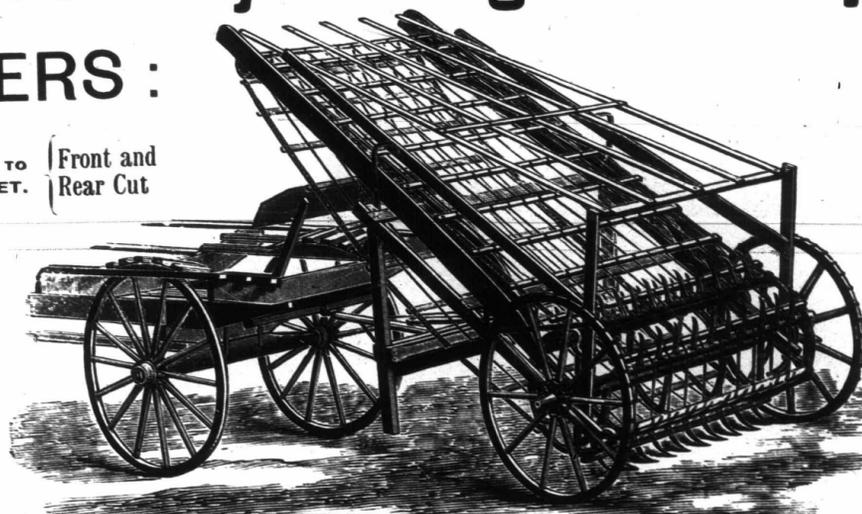
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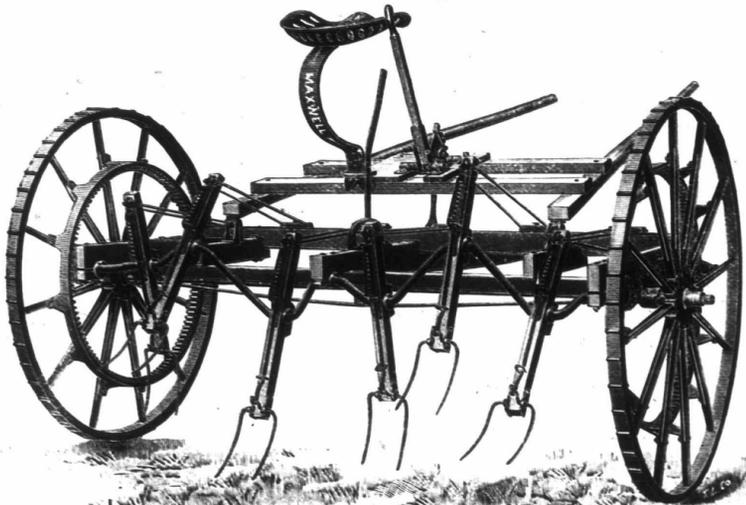
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Toronto, June 1st, 1900.

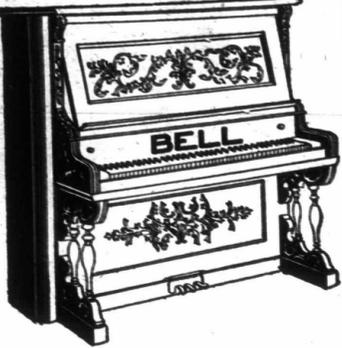
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