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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

Vol. XXXII.

LONDON, ONT., AND WINNIPEG, MAN., JUNE 15, 1897.

No. 432.

## EDITORIAL.

### A British Example to Men of Means.

The prominent part taken by members of the English Royal family, and many of the wealthiest and most eminent of the nobility, in agricultural pursuits—more particularly stock breeding—is naturally called to mind by several articles and illustrations in this issue of the FARMER'S ADVOCATE. Its influence has been most salutary and far-reaching, and wealthy Canadians should profit by the example Britain has set in this respect. Mr. Arthur Johnston, President of the Dominion Shorthorn Breeders' Association, had this thought in view when, at the last annual meeting, he made the following pertinent observations:

"If I were asked my opinion as to the greatest want in Shorthorn matters in this country and in the United States, I would unhesitatingly answer that of moneyed men who take an active and participating interest in this and in all other matters pertaining to agriculture. In the Old Lands it is vastly different. There, from the royalty down to the tenant farmer, all take a patriotic pride in being connected with the soil on which they live, other than mere ownership and revenue derived therefrom. I think the subject is worthy of the consideration of our men of wealth. It is not to be hoped that the wealthy can make money in any line of farming, but the country can never prosper while only the very poor farm; and if men of wealth and social standing hold aloof from the soil, the more moderately wealthy will also avoid it; whereas, if our wealthiest citizens made it fashionable to take up some lines of agriculture, moneyed men of less means would imitate, and the certain result would be improved methods and more ambition. In England and Scotland, and indeed all the Old Lands, the tenant farmer has many opportunities during the year of meeting on equal terms with his lordship of high degree who is engaged in farming in the vicinity. Even the Queen and the Prince of Wales are largely engaged in farming and pure-bred stock raising."

### Life on the Farm.

In these brightening days of the Jubilee Year for Canadian agriculture, the stirring appeal, "At the Sound of the Bell," from the pen of Mrs. E. M. Jones, of Brockville, should strike a responsive chord, awakening a proper appreciation of life on the farm in the hearts and minds of thousands of young men and women. A close observer and student of life in its various phases, with the difficulties overcome and the successes achieved during her own career at "Belvedere," with its far-famed Jersey herd and dairy farming enterprises all in view, her message comes with peculiar weight and we commend it to our readers everywhere. Our readers will be more than pleased to look upon the portrait of Mrs. Jones, which graces another page, more especially those familiar with her work as a breeder of Jerseys, with her popular little book, "Dairying for Profit," and her contributions at various times to the FARMER'S ADVOCATE. "At the Sound of the Bell" rings out a deeply significant note of warning which young people would do well to heed ere they have bartered away for some glittering bauble the priceless heritage of life on the farm. Notwithstanding the possession of all that wealth and earthly honor could afford, Victoria the Beneficent, greatest Queen of the world's greatest empire, and leading members of the Royal family, have found that the pursuit of agriculture has yielded them advantages and satisfaction far higher and more abiding than all the pomp of court life.

### Present-Day Profits of Feeding.

The class of animals called for by the markets of the present day both in cattle and hogs is, fortunately for the farmer, just such as he can most profitably produce. The demand is for young animals of medium weights. Cattle at 1200 to 1400 pounds and hogs at 125 to 175 pounds are most sought after and command the highest price. It has been proven by repeated experiments and actual test that the cost of producing a pound of beef or pork is very much less in the case of young animals than in older ones, and the returns from feeding can thus be made in less time at more frequent intervals, and with more satisfactory results, the cost of production being less. Taking into consideration these facts, and the low price of nearly all varieties of grain for feeding purposes at present prevailing prices, and the fair prices ruling for beef and pork, we submit that there must be a



HER MAJESTY QUEEN VICTORIA.

fair profit in feeding stock at the present time. Formerly there was a market for hogs only in the late fall and winter, and only large, heavy pork was wanted. This necessitated keeping hogs till they were twelve to eighteen months old, and then they often came upon a glutted market, and prices were forced down to figures which gave no profit to the feeder. But with the opening of packing establishments a steady market for young, light hogs is assured all the year round, and the farmer by combining dairying with hog feeding can handle several lots of hogs during the year, and often finds his best market in the summer months when the by-products of the dairy are most plentiful, when clover can be utilized, and weight can be most rapidly and cheaply secured in fattening hogs. The wide-awake farmer who takes advantage of these circumstances does not feel the pinch of slack times to the same extent as the man who is waiting for a rise in the price of grain and letting his farm get run down in the meantime.

### Credit Where Credit Is Due.

"Solely by the method of feeding adopted in Canada, combined with the skillful cutting of the meat and the careful process of preparation for market, our farmers and packers have secured a reputation for Canadian bacon in Great Britain which enables the producer to pocket two cents per pound live weight off the cars more than has been paid in Chicago for fatty, corn-fed pork."—Daily paper.

Our humble opinion in regard to the above statement is that the principal factor in accounting for the better price being paid for Canadian hogs is overlooked, and that to the superior skill and judgment exercised in Canadian swine breeding, combined with the work of the feeder, is due more than to any other cause the quality of Canadian pork. Our breeders have, as a rule, been careful in their selections of breeding stock to use such animals as most nearly approach the desirable type for a good feeding bacon hog, with the natural result that the bulk of our hogs measure nearly up to the standard, and are marketed at the most desirable age and weight. On the other hand, breeders and feeders as a rule in the U. S. having large supplies of cheap corn aim to produce weight as the first consideration, and generally keep their hogs till too heavy and too fat to suit the market for lean bacon. From a knowledge of the facts we have no hesitation in saying, moreover, that U. S. breeders as a rule have not shown equal skill or judgment with Canadians in breeding the type of hogs suited to the requirements of present-day markets. Without now discussing their respective feeding qualities we might say there has been a good deal of buncombe written and spoken in the last few weeks about the use of corn and Canadian peas. The fact is that probably not one-half as many hogs are fattened on peas in Canada as there was 20 years ago, during which time the character of Canadian pork has been steadily improving from an edible standpoint. The bulk of our hogs are now fattened on the by-products of the dairy, such as skim milk and whey together with a variety of grains and millfeeds; and it is not a little amusing to some of our feeders to see their pork, into which peas never entered to the extent of one pint, branded by the packers as "Canadian pea-fed pork." The true inwardness of this matter is that Canadian swine raisers and feeders are mixing their methods with brains and are showing a commendable amount of intelligence for which the ubiquitous newspaper scribblers and patriotic politicians are not giving them due credit.

### The Queen's Jubilee.

Sunday, June 20th, completes the sixtieth year of the long and glorious reign of Queen Victoria—a period longer than the reign of any other British sovereign. Hence it is that the empire on which the sun never sets is celebrating the "Diamond Jubilee," and it is but fitting that the FARMER'S ADVOCATE should devote an issue more especially to the progress of agriculture and live stock breeding in the Victorian era and the relation of the Royal family to these great industries from the time the late Prince Consort began his farming operations nearly fifty years ago. The Prince of Wales is to-day one of the most extensive and successful farmers and breeders in England, and following the example of father and grandfather, his son, H. R. H. the Duke of York, is an enthusiastic agriculturist. Every one of the Queen's sons now living has, at one time or another, been engaged in farming. We trust the articles and the portraits of those who have laid the foundation of live stock breeding in Great Britain will also prove of special interest and value to the agriculturist of Canada at this time.

### Progress of Agriculture in the Victorian Era.

A RETROSPECT.

The advancement of agriculture in the last sixty years, while very considerable and comparing favorably with that of any corresponding period previously in the history of Great Britain or the other European countries, and on the American Continent showing remarkable expansion, yet on the whole, considering the wonderful strides made during the same period in the arts and sciences as applied to other lines of industry, such as seen in the use of steam and electricity, the progress made in agriculture, the oldest and the least subject to changes of all our industries, has perhaps not been so striking to a casual observer as might be expected. In regard to many of the newer industries it may be justly said that they have made brilliant progress; but if agriculture cannot claim so great a splendor as these, yet its claims to notice in the review of the history of the record reign deserve and will repay most careful consideration. Agriculture retains its feature of distinctive individualism, unlike the machine-like system of vast modern industrial concerns. Change with the farmer is a work of education, and therefore gradual. Great advances there have been in agricultural knowledge, and a more general adoption of better methods. Witness the applications of the germ theory, entomology, cross fertilization, the growth of nitrogen-gathering plants, manuring, centrifugal cream separation, etc.

During the past half-century we find, first, the gradual growth of a more intensive system of farming in the older sections, with expansion elsewhere; second, the phenomenal development of transportation; and third, the application of scientific investigation to agriculture. Contemporaneous with Queen Victoria's reign we note the splendid experimental and kindred work conducted privately at Rothamstead by Lawes and Gilbert (at once pioneers and peers), followed by the remarkable extension of experimental stations in the United States and Canada, and the growth of agricultural schools and colleges. American experimental agriculture has been going through a "boom" period characteristic of the Western continent, and, as yet, the results have hardly been commensurate with the public expenditure involved consequent upon an undue straining after immediate "effects."

The evidences show that at the advent of the Queen's reign agricultural progress in Great Britain and the world over was at a low ebb. There had been during the latter part of the eighteenth century a period when the industry had shown vigorous enterprise and improvement. The genius, skill and enterprise of such men as Bakewell, the Collings brothers, and other eminent breeders brought about a genuine revolution in the improvement of live stock, and had shown an intelligent skill in the art of breeding which has probably never been surpassed, if it has indeed been equalled, by any set of men in the years which have intervened. The period of the great Napoleonic war of 1812-15, while it brought with it exceptionally high prices for wheat, and the general inflation of values which always accompanies a boom, was followed by a corresponding depression from which agriculture took a long time to recover. The same experience was repeated during the years of the Crimean war, 1854-6, when the price of wheat reached abnormal figures (as high as \$2 a bushel), creating a boom in farm lands in Canada (\$100 an acre being paid in many cases), which led many farmers into wild speculations in property which proved disastrous when the inevitable reaction came, and a period of severe depression followed, involving financial ruin to many who had been accounted wealthy.

**England's Trade Policy.**—Up to the time of the repeal of the Corn Laws in 1846, under which an import duty was imposed on foreign grain and cattle, the British farmer enjoyed substantial protection from foreign competition in the markets of that country, with the result that although prices fluctuated then as now, the average price of wheat in 1812 had reached the phenomenal figure of \$4 a bushel for the year. In the following year it was \$2.75. These would seem to have been halcyon days for the English farmer, but the evidences are that even under such apparently favorable circumstances, his innate disposition to grumble was as freely indulged as it is to-day. We quote from an agricultural publication of 1814, in which, in an appeal to Parliament for more favorable tariff regulations,

it was complained that "on account of the very great expense attending the cultivation of numerous clays and poor lands in this kingdom it would be impossible to continue their cultivation for corn at the present low prices for corn produce." It was about the time of the accession of the Queen that the agitation for the repeal of the Corn Laws was commenced. England was then fast becoming, as a result of her rapidly increasing population, more and more a manufacturing and less in proportion an agricultural country, and the adoption by Parliament in 1846 of Sir Robert Peel's famous free trade measure abolishing the duty on corn, while it was exceedingly distasteful to the farming classes, marked the dawn of a brighter day for the artisan and laboring classes, practically opening the ports to the free entry of food supplies, thus bringing within reach of thousands of the people many comforts which they were formerly denied. Sir Robert Peel in stating his financial proposals to Parliament in 1846 explained that his object was to apply the principles of free trade throughout, though as a matter of fact it was left to his successor in office to carry that policy into effect in its entirety. The British farmer of to-day, feeling keenly the effect of foreign competition, may not be in the humor on Jubilee day to bless the memory of the apostles of free trade, but whatever may be said as to its applicability to other countries, all parties seem to be agreed that for the

of food imports to Great Britain in consequence of the extension of the productive area of the world has been enormous, and in a rate far greater than the growth of population. The average imports of wheat and flour now exceed 100 millions of cwts. per annum, as compared with 35 millions in 1861-5, and the importation per head of grain of all kinds has risen from 22½ to nearly 500 lbs. It was naturally supposed that the cost of transit of such products from distant lands would always maintain a certain margin of difference in favor of the home producer as compared with the foreigner, but the marvelous development of the means of transportation by the introduction of steam power, which is another striking feature of the record reign, by which distance is practically annihilated, and the produce of lands thousands of miles distant have been brought nearer to the English market than the crops of farms in the extreme parts of the Island itself, and at prices actually less than the cost of production in England.

**Animal Products.**—In consequence of the keen competition of foreign-grown cereals, English farmers turned their attention more to meat production, cultivating less land, and laying more down to grass. But soon the same causes which brought them competition in the grain market met them in the market for meat, in which Canada, as we all know, has shared to a very gratifying extent, our exports of live stock having increased in value from \$124,796 in 1867 to \$10,095,648 in 1895. In the last few years the British farmer has probably found his best profits in sheep and in the field of dairy products, and immense progress has been made in the Old Land as well as in many newer countries in the latter industry, which has been brought to great perfection by the introduction of labor-saving machinery and improved methods. But here again foreign competition faced the plodding producer in the home field and Canada. The United States and many European countries have invaded the markets of the Motherland with enormous consignments of dairy products, in which our own Dominion has taken the lead in one respect by long odds, both in quantity and quality, winning an enviable reputation for the latter, which let us hope she may be careful to guard and maintain. Our exports of cheese have grown in value from \$1,577,072 in 1867 to \$14,253,002 in 1895.

**Agricultural Exhibitions.**—The founding of the Royal Agricultural Society, just after the accession of Her Majesty, marked an important era in the progress of agriculture, especially in the application of science to the industry; and in this connection we may observe that the deep practical interest taken in this enterprise by the Queen and other members of the Royal family from its inception to the present time has been a potent factor in maintaining and increasing the influence and usefulness of this excellent organization, Her Majesty and the Prince of Wales having each filled the Presidential chair in turn with titled noblemen and with successful, practical farmers and breeders of pedigreed stock. The offering of liberal prizes by this society for the best specimens of improved live stock, the best cultivated farms and yields of crops, the best essays on agricultural subjects and the management of farm lands of various qualities of soil, together with the encouragement given to exhaustive experiments in the use of artificial manures, proved exceedingly helpful in stimulating to improved methods in farming, in the breeding and feeding of stock, and the attainment of a higher standard of excellence. The multiplication of agricultural societies and exhibitions in England and America has been remarkable and their influence has been salutary to a large degree, though none have been so thorough and systematic in their work as the Royal.

A notable feature in America has been the intermittent development of farmers' organizations for political and other purposes.

**The Application of Machinery** to many of the operations of the farm, especially to those of harvesting and threshing, has made very gratifying progress in the last 60 years, and has done very much to facilitate the work and to lighten labors and make it more agreeable. The sickle and the scythe had a long and honorable record as sovereigns of the harvest-field, and were in universal use in the early years of this century. But the evolution of the self-binding reaping machine belongs practically to the Victorian era; for while it was in 1826 that a Rev. Mr. Bell brought out a machine, which in England still bears his name, with an endless apron which received the cut grain and delivered it in a swathe at the side, it was not till 1849 that an American inventor added a second delivery apron, and by means of this carried the grain over the drivewheel and discharged it into a receptacle whence it was delivered at intervals in sheaves. The degree of perfection to which harvesting machinery has been brought is one of the most satisfactory features in the experience of the present-day farmer. Though it was in the latter part of last century that the drill for sowing seed grain was practically invented, it was not in general use for many years after, and as late as 1837 we read of wheat being largely planted in England with a "dibber" at seven shillings an



THE QUEEN AND PRINCE CONSORT IN 1861, THE YEAR OF HIS DEATH.

circumstances of that densely-populated land so largely given to manufacturing and industrial pursuits the adoption of a policy which brings the greatest good to the greatest number is sound political doctrine, and as Mr. Richard Gibson indicates in his admirable article in this issue, it determined the unrivalled pre-eminence of Britain in the live stock world. The balance of power now passed from the hands of those who mainly represented the growers of wheat to the hands of those who represented the purchasers of bread, and the widening of the franchise of the people contemporaneously with the adoption of an improved and more liberal system of education has given to the world a splendid example of the sovereign people ruling wisely and well under a limited monarchy.

**New Lands Open.**—The opening up on a large scale of agricultural lands has been one of the most distinguishing features of the Victorian age, brought under cultivation, not only in the colonies of Great Britain but also in the United States, in South America, in India, and elsewhere, which has vastly increased the food supply of the world, and served to meet the wants of the teeming millions of the earth's ever-increasing population. The hand of Providence is plainly visible in the wise and beneficent provision for the sustenance of the people and for relief from the congestion which must inevitably have occurred in the great centers of population but for these outlets. The increase

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THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY THE WILLIAM WELD COMPANY (LIMITED), LONDON, ONTARIO, AND WINNIPEG, MANITOBA.

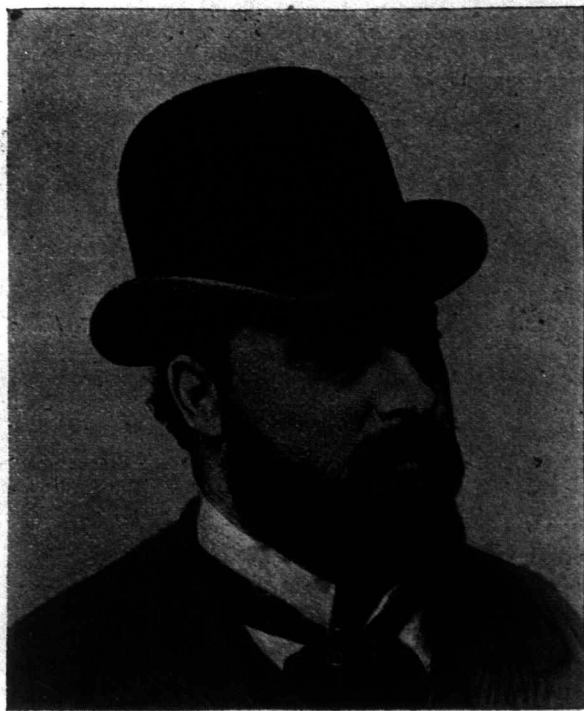
JOHN WELD, MANAGER.

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upon a level with the home producer, with his greater expense in the cost of production.

The Auspicious Present.—On the whole the retrospect of farming in Canada, though varied and chequered, is not without cheerful promise for the future. The present conditions may not be as satisfactory as could be desired, and it is idle to sigh for the return of the so-called good old days. If they could return we should no doubt find many things in them which would not be so agreeable as we imagine. The times have changed, and farmers, like other people, change with them. The best thing we can do is to change our methods to square



HIS ROYAL HIGHNESS THE PRINCE OF WALES.

with the times. Patience and faith, backed by good works, still accomplish good results in farming, and the indications for the future are more hopeful than they have been in the past few years. The pluck, intelligence, and endurance of the Canadian farmer will enable him to meet new conditions boldly and, we believe, successfully. Canadian farmers all over this great Confederation of Provinces will join in loyal good wishes for the Queen of the record reign, who, by her many virtues and her genuine interest manifested in their special calling, has secured a large place in their affections.

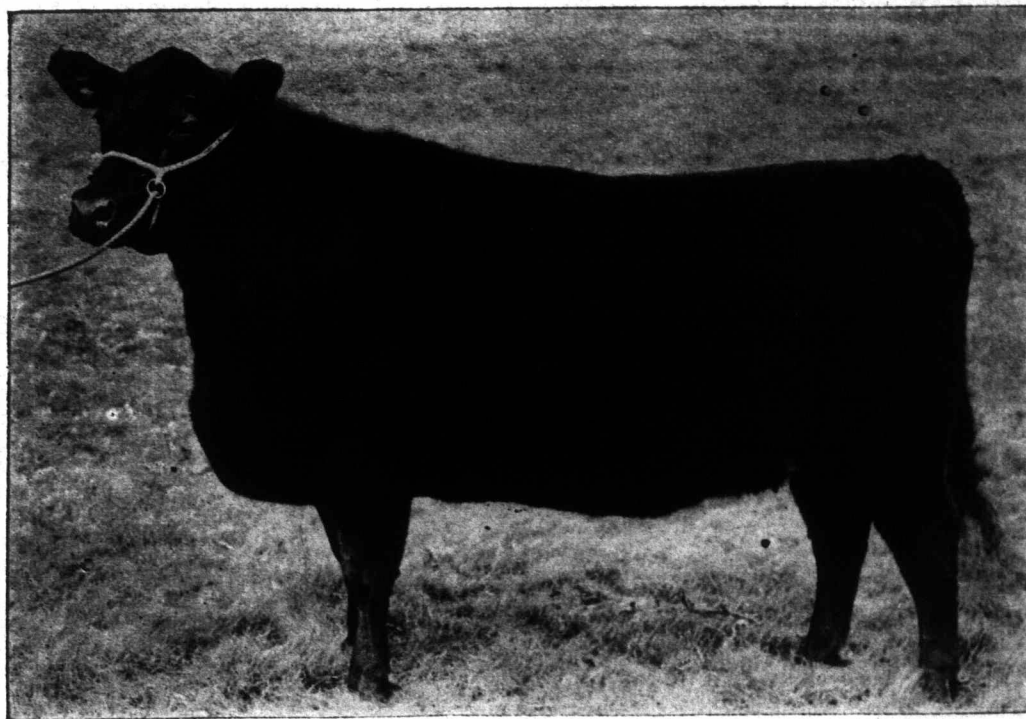
for an outfit and instructions. The outfit consists of a paper-covered dictionary, miserably printed on poor paper similar to a three-cent school scribbler, and another pamphlet of 40 pages containing a few recipes, prescriptions, etc., worth at a high estimate seven or eight cents. The instructions are to insert in local newspapers an advertisement similar to the one first answered, and thus conduct a branch business, receiving for remuneration half the 48 cents received for outfits as a result of the local advertisement; the other 24 cents is sent to the headquarters or "Publishing Co." for the outfits ordered. The agent must pay for advertising out of his 50 per cent commission. It will be seen that every employee of this publishing firm makes it his exclusive business, so far as this line of work is concerned, to sell these trashy outfits, and, we presume, start other agents doing the same, who are continually starting new tributaries. Even this might be some inducement to unscrupulous people were they to retain the 24 cents on each order clear, but when the expenses of advertising and postage are deducted there can be no money made at it, because enough people who would care for such work could not be induced to buy outfits. The whole scheme is evidently a delusion and a snare. We understand the same Publishing Co. conduct other lines of a similar character, which are no doubt being worked off upon unsuspecting people whose addresses they secure through the many agencies or branches formed. We would warn our readers to beware of such fakes, and of various so-called "associations" that are imposing worthless articles or attempting to work positive swindles upon the people.

STOCK.

"A Farmer Queen the World to Farming Draws."

AN AGRICULTURAL MEMOIR.

Readers of British history during the past sixty years gather much information regarding the government of the country and the influence which Her Majesty the Queen and the Royal family generally have exercised in quite a constitutional way on behalf of all that is best and noblest in human nature. When so many things that bear on the prosperity of the empire are being recalled, no apology is needed for looking at the work of the Royal family in connection with agriculture. Their patronage of this ancient industry is somewhat hereditary, and yet it is the bare truth that in their advanced and enlightened state the agricultural enterprises of the Queen are due to the genuine interest which H. R. H. the late Prince Consort (portrayed elsewhere in a group with Her Majesty) took in all that concerned the well-being of his adopted country. Precluded, with the exigencies of his position as husband of a limited monarch, from active participation in affairs of State, Prince Albert devoted himself with all the greater enthusiasm to works of beneficence and philanthropy. His position in English history is somewhat unique. Too often the innate toadyism of the Anglo-Saxon manifests itself in an assumed admiration for all that royalty accomplishes. Sometimes we are almost made to believe in the infallibility of kings, and even of all who bear the royal name; and authors when dealing with the careers of such folks indulge in a high-faluting, grandiose style which only makes the subject of their observations ridiculous. There has been a deal too much of this in connection with the Prince Consort, and it has tended to obscure and in some quarters create a prejudice against his more than respectable abilities and genuine public spirit. Had he been a simple commoner—bearing the plain title of Albert Gotha—His Royal Highness would have made his mark as a public man. The same may be said of several of his sons and daughters. There are some folks who can see nothing wrong in the work of royalty, and by the same token there are others who can see nothing right in its work. Prince Albert's work has suffered from the latter as much as from the former. He was a sober-minded, sensible, level-headed man who understood many things well, but was by no means a genius. In nothing was the common sense of the Prince Consort better seen than in his farming operations. Coming from a country in which everything is done by the State to Great Britain, in which more than in any other country in the world private enterprise and voluntary association does almost everything, he early adapted himself to his surroundings and became a life governor of the Royal Agricultural Society of England in 1841, a member of the Royal Agricultural Society of Ireland (an institution wrecked during the terrible days of the Land and National Leagues) in 1844, the Smithfield Club in 1840, and the Highland and Agricultural Society of Scotland



THE QUEEN'S CHAMPION ABERDEEN-ANGUS HEIFER, "GENTIAN OF BALLINDALLOCH."

score, by a man laying a line across the field and walking backwards with a long stick in each hand, making holes for two boys following to drop the wheat into them.

Of all the mechanical appliances the implements required for the tillage of the soil are probably the oldest, yet there are none which have improved so slowly. The plow, the most ancient of them all, has practically remained unchanged through all the centuries; and while many different styles of implements have been invented for the cultivation of the soil, we venture to say there is not one among them all which fully answers the purpose for which they are intended, namely, the thorough preparation of a perfect seed bed. There is certainly much room for improvement in this direction, and a wide field for the work of the inventor and experimenter is open. Steam plows were introduced some 40 or 50 years ago, and it was confidently anticipated that they would fill a large place in the work of cultivation, but these expectations have not been realized, and the use of steam power in cultivation has made little headway. The great prairie lands of Western Canada, where immense areas are employed in wheat growing, would seem to be a specially favorable field for steam cultivation, but as a matter of fact there is less confidence entertained as to its profitable application now than there was 20 years ago, when it was much thought of in this connection.

Competition.—From a farmer's standpoint, no doubt the most striking fact in the Victorian era is that he has witnessed a revolution in the world's markets. He has found himself confronted by an amount of keen and persistent competition which was unexpected and unforeseen (coupled with demands for food products of higher quality), but is, nevertheless, real and abiding, and has come about mainly through the two causes to which we have referred, the opening of new lands and the improved facilities for communication and transportation practically annihilating distance and bringing the world's productions together on common ground, but to the decided disadvantage of the farmers of the older lands in regard to cost of production, the difference in freight rates between the long haul and the short haul being such as to favor the cheap producer and to place him quite

Another Humbug Brought to Light.

Seeing an advertisement of a so-called Publishing Co. in a Toronto daily paper for men or women to conduct business at home during spare hours, in which could be earned \$6 or more weekly without previous experience, we undertook to investigate the nature of the business, and found it to be as we expected—a clever scheme on the part of the company to gain something of value for next to nothing from all those who replied and undertook to do business for them. The scheme is conducted somewhat as follows: The applicant for employment upon answering the advertisement was first told that all he or she had to do was to copy addresses, but in the meantime 48 cents was required to pay

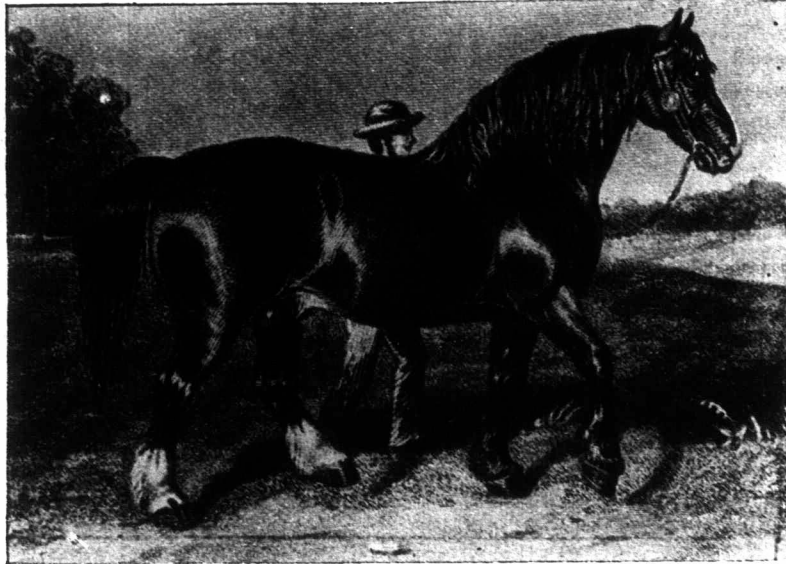
former. He was a sober-minded, sensible, level-headed man who understood many things well, but was by no means a genius. In nothing was the common sense of the Prince Consort better seen than in his farming operations. Coming from a country in which everything is done by the State to Great Britain, in which more than in any other country in the world private enterprise and voluntary association does almost everything, he early adapted himself to his surroundings and became a life governor of the Royal Agricultural Society of England in 1841, a member of the Royal Agricultural Society of Ireland (an institution wrecked during the terrible days of the Land and National Leagues) in 1844, the Smithfield Club in 1840, and the Highland and Agricultural Society of Scotland

in 1841. He was to have been president of the Royal in 1862, the year of the great International Show at Battersea, but died in the close of the preceding year. He first exhibited stock at the Smithfield Show in 1843, and possibly not a year has passed since in which the Royal herds have been unrepresented at that great fat stock exhibition. The present-day Royal herds, flocks and studs are carried on very much as the Prince Consort instituted them nearly sixty years ago, and this introductory reference is germane to our theme and indeed necessary to a due appreciation of the part which the British Royal family have played in the agricultural development of the past sixty years. The partiality of the Queen for all that is associated with the name of her Royal consort is proverbial, and hence we understand their present condition when we know the beginnings of the Royal farms at Osborne, Windsor, and Balmoral.

Osborne is situated in the Isle of Wight, and the Mansion House was built from designs submitted by the Prince himself in 1845-6. The surrounding farms were taken in hand about the same time and vastly improved at the expenditure of great sums. Sewage experiments were engaged in about 1857, and much accomplished as pioneer work which is now universally practiced in many parts by corporation sewage farms. During the lifetime of the Prince Consort, the stock on the Osborne farms consisted of Clydesdale horses [NOTE.—See portrait of Clydesdale stallion, "Britain."—EDITOR], Jersey cattle in the dairy, Galloway cattle in the feeding boxes, and Southdown and Dorset Horned sheep. All the farm managers then, and we think still, were and are Scotchmen. Andrew Toward was the man who carried out the great improvements in the Osborne property and farms, and his successor now is J. W. Slater, who went from Peebles only a few years ago. Osborne farms are not so well known to the general public as the Windsor farms, mainly, we suppose, because, being situated in an island, it is less convenient to keep good prize stock there than at Windsor. It is at this latter place that all the leading breeds find a home. There are four farms here: (1) the Home or Dairy farm and the Shaw farm, (2) the Flemish farm, (3) the Norfolk farm, and (4) the Bagshot and Rapley farms. Each of these is identified with a particular kind of stock, and the herds are not mixed. Clydesdales are the horses patronized, and during the lifetime of the Prince Consort, and since many good horses have been bred and owned by the Queen. In the Retrospective volume of the Clydesdale Stud Book the Royal name occurs more than once. Britain 86, a horse foaled in 1851, was first at the H. and A. S. at Berwick in 1854, and at the Royal at Chelmsford in 1856. In later years Her Majesty won the championship at the Royal (Windsor) in 1889 with First Choice, and at the Royal (Warwick) in 1892 with the Macquhae, which latter, as far as we know, she still owns. The first entry in the last published volume of the Clydesdale Stud Book is that of a mare owned by Her Majesty, and altogether on all her estates the Queen has retained the Clydesdale as the draft horse breed. She joined the Clydesdale Horse Society as a life governor and patroness a few years ago and in every respect has thus maintained a consistent regard for all things Scottish.

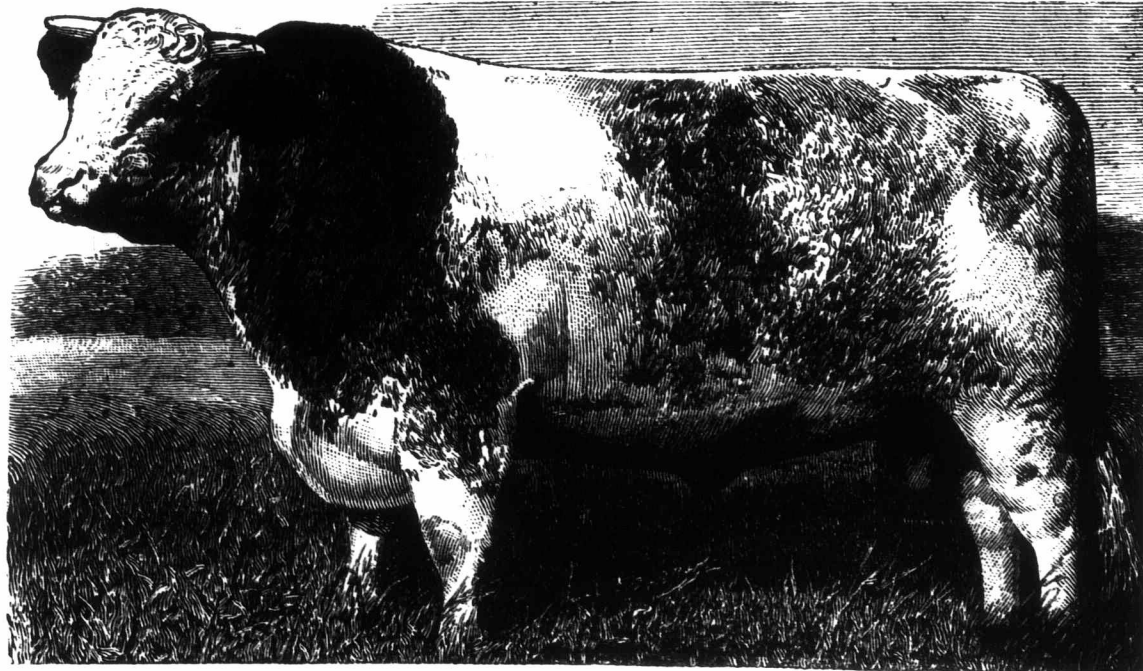
The Shaw Farm derives its name from the fact that it was purchased about 230 years ago from a Frenchman, Mons. de Shawe, who had somehow or other come to be its owner. It and the dairy farm are practically one, and the home of the dairy cattle and Shorthorn herds. The dairy farm appointments were completed in 1855, and are remarkably sweet and clean. The premises when finished were ideally complete, and although we dare say others of the same have been erected since, they still remain unsurpassed for sweetness and suitability. The dairymaids three years ago were two Lanarkshire sisters named Stoddart, and for aught we know they are still in command. Until 1858 the farm manager at Windsor was Mr. Wilson. He was succeeded by Mr. Henry Tait, who came from the Duke of Sutherland's farm at Dunrobin, and continued in office until his death a few years ago, when he was succeeded by his son, Mr. William Tait, the present manager. The Shorthorn herd at Windsor has in these last days acquired great fame at the Smithfield show. One of our illustrations represents the champion of the

show of 1895, the red heifer, Frederica, which won first at the Royal in 1893 as a yearling heifer. The highest priced bull of the breed during the past ten or fifteen years was the grand animal, New Year's Gift [see illustration], for which the Earl of Feversham paid 1,000 gs. at the Royal sale a few years ago. This bull was bred by Lord Lovat, and was bought by Mr. Tait for Her Majesty. He was first at the Royal more than once, and gave unqualified satisfaction as a breeding bull. Some years ago a great noise was raised by disappointed exhibitors because the Royal herds were sweeping all before them at the Smithfield shows, and it was alleged that anyone could do the same if they had only the purse to buy up all the good ones, as some alleged Mr. Tait had been doing. This led Mr. Tait to adopt the policy of exhibiting nothing but what



CLYDESDALE STALLION "BRITAIN," FIRST PRIZE WINNER AT THE CHELMSFORD ROYAL OF 1856, OWNED BY THE LATE PRINCE CONSORT.

was home-bred, and how successful this has been was clearly manifest at the shows of 1894 and 1895, when the animals bred and exhibited from Windsor almost swept the boards. The Shorthorn herd was founded with good pedigreed cattle, and several of the best were bought at Earl of Ducie's sale of Bates cattle. Both bulls were in use in its early days. Latterly, however, the Cruickshank type has been all the rage, and the bulls in use have come from the north. It is impossible not to admire the ability with which the Royal herds are managed. Mr. Tait has proved himself a past master of his art, and yet unless the foundation had been good the ablest management would not have accomplished all that has been done. The example of Her Majesty has done very much to make fine stock breeding popular in this country, and many



THE QUEEN'S 1,000-GUINEA BULL "NEW YEAR'S GIFT," CHAMPION AT THE PLYMOUTH ROYAL, AND WINNER OF MANY DISTINCTIONS.

of the wealthier classes follow this as they do the other fancies of royalty. It all operates for the greater good of the community at large.

That there may be no charge of partiality, all breeds come in for the Queen's patronage. Berkshire pigs are reared in great numbers at Windsor. Cheviot ewes were at one time bought and crossed with Border Leicester rams for the production of half-breeds. These were found to be better than the Southdowns, and not so liable to foot rot. Windsor Great Park was at one time a great swamp, and the country generally lies low. Hence, no doubt, the difficulty experienced forty or fifty years ago in keeping sheep healthy on it. We suspect other breeds maturing more rapidly than the Cheviot are kept at Windsor now, and at the beautiful fat

stock sale held during the Smithfield show week great prices are paid by the London butchers for fat lambs of the Hampshire Down cross, reared and fed by Her Majesty.

The Flemish Farm is the home of the celebrated Hereford herd. It has long been a Royal farm, having been held by King George III. in that way, and so called to distinguish it from the Norfolk farm, the one being designed as an experiment in farm management on the Flemish system, and the other as an experiment on the famous Norfolk system of a short rotation. Immense sums were spent by Prince Albert in draining the Flemish farm on the most approved system, and experiments with the steam plow were carried on in one of the fields during the great International Show at Battersea in 1862. The Hereford herd was

founded in 1855 by purchases made at the sale of the Earl of Radnor. The bull Brecon was bought in March, 1856, for £120, and the herd was further recruited by purchasing from the most noted breeders in the country. Possibly quite as much distinction has been obtained by the Herefords as by the Shorthorns. Hardly a year passes in which many prizes do not fall to the Queen at the fat stock shows for Herefords. King Robert, a magnificent ox, was champion at Norwich three years ago, and in 1896 two of the best Herefords seen for many a day were shown from the Royal farm at Smithfield. Altogether the Hereford herd at the Flemish farm holds a very high place amongst herds of the breed in England, and a great future is before it. The Devon herd was founded on the Norfolk farm in 1856, but we rather think it is now located at the Flemish farm also. The Devons are very like the Aberdeen-Angus, only they are not polled and their color is red. The Prince Consort first came to the front with Devons in 1849, and in the following year he entered the lists with Shorthorns. In 1859 he was very successful, and all his exhibits were of his own breeding. The intervening years have wrought no change in this respect, and we could easily fill columns with details of the Royal winnings at the principal shows in England. We must, however, turn to Scotland.

North of the Tweed.—The partiality of the Queen for the land north of the Tweed is so well known that little need be said about it. Possibly Her Majesty overdoes this, and it has been hinted that the Prince of Wales does not share his mother's fondness for the north. Be that as it may, of the Queen's devotion to the tartan there is no doubt whatsoever. In 1847 the Prince Consort purchased the lease of Balmoral estate from its holder, the Earl of Aberdeen, and five years later he secured the fee simple from the House of Fife, which has since become closely related to the Royal house by the marriage of the Duke of Fife to the eldest daughter of the Prince

and Princess of Wales. Balmoral is situated in the parish of Crathie, 52 miles W. S. W. from Aberdeen, and contains about 10,000 imperial acres. Subsequently the Royal domains in Braemar were increased by the purchase or lease, in 1849, of the estate of Birkhall, and in the same year of Abergeldie and Invergelder farm. Her Majesty's Commissioner in Scotland then was Dr. Robertson. He was succeeded by Dr. Profert, who only died since this year began, and his successor is Mr. Wm. Forbes, from Islay. The chief stock in the north is a herd of Aberdeen-Angus cattle at Abergeldie Mains. This is of comparatively recent foundation, but much success has attended its exhibits at the principal shows. The photo-engraving of Gentian of Ballindalloch 19258, given herewith, shows one of the best of these. She won 1st and the Duke of York's medal at the H. & A. S., Aberdeen, in 1894, as a two-year-old, and was again well in the battle, being first in the cow class, in 1896. She is one of the best animals of the breed at the present day. The herd here has not yet had time to take root like the Royal herds of Shorthorns, Herefords and Devons in the south, but sufficient has been done to warrant the hope that it will prove quite as successful and profitable as these have been. The Prince Consort never visited a Highland showyard. He was to have done so in 1858, but was prevented fulfilling the engagement. The Prince of Wales has been equally noticeable by his absence, but his son, the Duke of York, K. G., was President of the Society in 1891, and attended the show in that year at Aberdeen. The great park at Windsor was placed at the disposal of the Royal for its show in 1857,

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and again for the great Jubilee Show in 1889—the Queen thus indicating in a very practical and useful way her interest in agriculture.

There is every prospect that the support and patronage of the British Royal House will continue to be bestowed on agriculture, and especially on stock breeding. The Prince of Wales (whose portrait will interest your readers) has a large stud of Shires and another of Hackneys at Wolferton, Sandringham; and his herd of Shorthorn cattle at the same Norfolk farm has a great reputation, one bull from it, named The Celt, winning first at the Royal last year and being afterwards sold for £1,000. The Duke of York has a small herd of Norfolk Red Polled cattle, with which he has been highly successful alike at the summer and the fat stock shows.

"SCOTLAND YET."

**British Live Stock Breeding in the Victorian Era.**

BY RICHARD GIBSON.

When the historian writes up the Victorian era, after giving due credit to the advancement in the sciences, manufactures, and commerce, he will, if a true chronicler of the nineteenth century, not omit to point out the strides agriculture has made during that period, nor fail to note the great interest taken by our Gracious Sovereign and the late Prince Consort in all branches thereof, especially in the improvement of the various breeds of live stock.

Amongst the most important changes and transactions during the early period of which we write may be mentioned the substitution of steam for horse power in threshing and plowing; the introduction of machinery to harvest and prepare for market the various grain and fodder crops; the practice of thorough drainage, assisted by the Drainage Act; the manufacture and use of artificial manures and foods; the repeal of the Corn Laws; the establishment of agricultural shows; the registration of pure-bred stock, and publication of herd, stud and flock books; the passing of the Agricultural Holdings Act; and the encouragement given to the improvement of farm stock, and their general dissemination to the civilized portions of the globe.

The repeal of the Corn Laws (throwing open British ports to the free entry of wheat and other grains from the cheap lands and serf labor districts of Europe, as well as from other continents where cheap land and cheap labor are obtained) convinced the leading agriculturists that with high rents, heavy rates and taxes, the British farmer could not compete with these foreigners in growing grain, but must look to his flocks and herds to relieve him from that position in which the cry of "cheap loaf" had placed him; hence the stimulus given to the live stock industry.

Thanks to the skill and foresight of eminent breeders before that time the various breeds had been so improved that the material was close at hand to help them in the emergency, and to-day Great Britain occupies the unique position of supplying the nations of the world with all the most valuable breeds of horses, cattle, sheep, and swine, and upon the home flocks and herds the foreigners are compelled to be ever drawing to keep up the standard of their stocks. It is a proud assertion, and may seem like boasting, to say that outside the Arabian horse and the Merino sheep, the combined nations of the world have failed to produce a single breed of domestic animal that is of superior or indeed equal merit to what is found in Britain. I hear American trotter whispered. Yes, as a racing machine, I admit, but for no other purpose. Is it not, however, distinctly English in its make-up, a combination of Thoroughbred and Hackney, and consequently is entitled to possess some valuable characteristics.

*Retrospective.*—While thinking this matter over, and failing to find any breed, the mind gradually wandered through the vista of time, and, falling into a reverie, a misty vision passes before the mind's-eye of a noble army of workers in the advancement of agriculture and the improvement of the domestic breeds of live stock. First pass, centuries ago, along the dales of Northumbria a dusky-armed army with cassock and cowl. Though not altogether comely to the eye, they are well-fed and sleek; good cheer evidently more than counterbalances their fasts and vigils. Good beef and good mutton were not despised by these holy men, and

as they were the first in arts and literature, so were they in all practical pursuits, especially of agriculture. Following these, passing rapidly. (Arthur Young, who was at my elbow, mentioned the names of some.) They were Somerville, Culley, Pusey, Jethro, Tull, Turnip, Townsend, Coke of Norfolk, the Duke of Bedford and his Woburn experiments. These he explained were the chroniclers of their times, and men who had made two blades of grass to grow where one had grown previously. Then came another small band, with retort and scales as symbols upon their banners, and the names in-

man, Stephenson, Maynard, Dobson, Charge, Wright, Robson, Snowdon, Waistell, Barker, etc. These were followed later by Chas. and Robt. Colling, and I was informed that they were the great improvers, that as friends of Bakewell they had learned his methods of breeding, and applied them to Shorthorns with the same success that Bakewell had accomplished with sheep, cattle, etc.

Then came a miscellaneous collection of banners, Bakewell heading the procession with one inscribed with Longhorn cattle, Leicester sheep, Shire horses, and Large White pigs, and his master hand is yet recognized in all those breeds. His ability to mould animal form to his wish was marvellous, considering the material he had to work with. Of this wonderful man a book might be written. Then followed a small group with the Hereford colors, led by B. Tompkins, Price, Knight, etc.

The men of Devon were also there with a ruby banner. Ellman of Glynde carried that of Sussex cattle and Southdown sheep, and his efforts with Southdowns have been likened unto those of Bakewell with Longwools.

Hugh Watson was there sailing under the black flag, but his countenance was benign and his victories were bloodless ones.

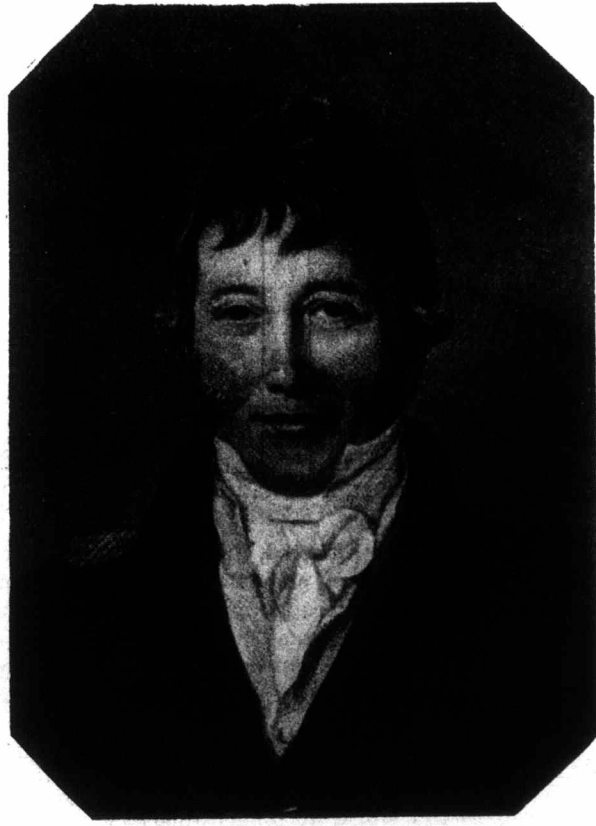
I was at this time aroused by a great noise. It was the announcement that the Victorian era had commenced. In the Shorthorn world C. Colling had sent throughout England the Durham ox. This monster weighed 3,024 pounds when five years old, and created a great sensation wherever shown. It was a cute advertisement, and drew attention to the breed throughout Britain. Robt. Colling followed suit with his White heifer. She was also by Favourite, and weighed 2,300 pounds. Then came C. Colling's sale, where 47 head averaged \$756 each. Comet made \$5,000. T. Bates bought Young Duchess, and T. Booth the bull Albion.

Robt. Colling's sale was held in 1818, and 60 head averaged \$643. These sales distributed Shorthorns over a great portion of England, and gave the breed a national reputation. Importations had also been made to America, but it was not until the Herd Book was published in 1822 that the breed became firmly established. It is true private records were kept, but "said to be by" would occur in many pedigrees. As an illustration of the difficulties under which buyers labored, amongst the early importations to America were a Longhorn bull and a Hereford, both of which found record in the American Herd Book. To Mr. Whitaker must be given the greater credit of publishing the first volume, though Mr. Coates did the clerical work, as had he not come forward at a critical time with financial aid the publication would probably have been delayed for many years. He was a manufacturer, and as his operatives required milk, he made it a *sine qua non* that his cows should subscribe liberally to the pail.

Mr. Bates, we noted, bought a Duchess at C. Colling's sale; he had previously obtained Duchess, by Daisy Bull, privately from Mr. Colling, and these constituted the basis of a herd which afterwards became celebrated on each continent. He adopted the practice followed by the Messrs. Colling and Bakewell, and bred very closely, only taking an outcross when compelled. At his sale in 1850, when some 5,000 persons at least were present, the principal buyers were Lord Ducie and some Americans. Three years later, at Lord Ducie's sale, the Americans were again purchasers of some of the most valuable animals. Eleven Duchesses realized an average of \$2,160 each. And it was a sorry day for English breeders when they allowed the foreigner to outbid them. Descendants of those very cattle were afterwards purchased to return at extraordinary prices—10th Duchess of Geneva (illustrated) at a cost of \$35,000, and in the hands of Lord Bective she proved a profitable purchase.

From the expatriated also descended Duke of Connaught, sold at Lord Dunmore's sale to Lord Fitzhardinge for \$22,500, who had a fine herd at Berkeley, and whose Kirkleavington Empress 3rd proved one of the noted Shorthorns of the era, winning 3 first prizes at the Royal. Mr. Bates also bred Duke of Northumberland (illustrated); he was the result of coupling father to daughter, and according to those capable of forming an opinion his equal has yet to be produced.

About this time another name appears, one that has commanded equal credit with that of Bates. I refer to the Messrs. Booth. Their victories for a great number of years in the showing were phenomenal. From 1841 to 1870, when showyard competition was relinquished by Mr. T. C. Booth, only twice are the honor rolls of the Royal Agricultural



THOS. BATES, OF KIRKLEAVINGTON, FOUNDER OF THE "BATES SHORTHORNS"; DIED JULY, 1849.

scribed were Sir Humphrey Davy, Lsibig, Voelker, Bousingault, and Lawes and Gilbert.

Another slide is inserted in the magic lantern, and behold a motly crew, some fantastically dressed in silk jackets of various colors, others wearing crowns and coronets, and, again, lawyers, statesmen, and financiers. I asked "the Druid" who stood by what it meant. He said the patrons of the turf. They evolved the Thoroughbred horse, the acme of man's efforts in moulding things animate. They were a riotous, boisterous lot, carrying banners upon which were inscribed the names of



MR. THOS. BATES' FAMOUS SHORTHORN BULL, "DUKE OF NORTHUMBERLAND" (1840), AFTER A PICTURE BY DALBY IN 1843.

Eclipse and Flying Childers, Touchstone, Stockwell, Newminster, Melbourne, St. Simon, Queen Mary, and Pocahontas. The slide moved more rapidly, but I could notice there was a terribly slimy tail attached, which destroyed the otherwise captivating scene.

Another picture, this time amid grassy meads and by side of gurgling streams, with W. Wetheral as my nestor. A stately, thoughtful crowd in knee breeches and top boots, and their talk was of sirlain and saddle. As they slowly moved I noticed inscribed on their banner, red, white and roan. My mentor named them Milbank, St. Quintin, Penny-

Society without the name of Booth inscribed thereon. Their system of breeding was in conformity with that of other noted breeders, concentrating the best blood of their own. When fresh was required it was obtained at Warlaby by aid of a diluted cross. The favorite cow was sent to a noted bull and the result of the union was used. For example, White Strawberry was sent to Raines' Lord Lieutenant and produced Leonard, who became one of the pillars of the herd. Bracelet visited Col. Craddock's Musselman and Buckingham was the

result—the sire of more prize winners than any bull of his day. The names of a few of the principal Booth followers may be of interest: Mr. W. Torr, a Lincolnshire tenant farmer, whose herd of eighty-four head realized by auction \$214,595.00; Hugh Aylmer, who had a successful foreign trade; Lady Pigott, whose remarkable show career is well remembered; the Rev. T. Stanniford, Hutchinson, Linton, and many another. No chieftain ever had more leal following, Ireland being especially true to the blood, and probably the best of the sort are to be found there to-day. In mentioning the names of the most prominent breeders, that of the elder Bolden must not be omitted. While England was divided into two hostile camps, flying the Booth and Bates flags, Bolden mixed the two. He had Bates Grand Duchesses and Booth Bridecakes of the Fame tribe. Grand Turk was one of the results of the crossing, and through Prince Imperial and the Dukes of Bolton Booth blood was introduced into the Duchess tribe, and through 3rd Grand Duke Mr. Barnes got a dash of Bates into his Booth Mantalins. Another independent breeder of the day, and one whose merits have been overlooked, is that of R. Stratton, who for a time ignored both rival strains. Though he succeeded in winning many prizes, especially at Birmingham and Smithfield, he had to pay for his independence when he faced the public at the ringside. His sales were not patronized as they deserved. Another breeder who established a herd of equal merit of the popular ones was Sir Chas. Knightley (portrayed). As a horse breeder and one of the boldest riders of the day, "Knightley's leap" of 31 ft. over a fence and creek being on record, it was natural that smooth shoulders, obliquely laid, would be cultivated. An elegant carriage, with beautiful heads and necks, combined with round ribs, and a good milk vessel, made up such a combination only found in the Fawsley herd. Another name, that of Messrs. Cruickshank, will in future generations be placed alongside of Bates and Booth. They appeared to have no system of breeding except putting the best to the best, until the advent of Champion of England; then by following the plan adopted by all the noted breeders, they established a uniform herd by concentrating the blood of Champion. There is no fear of the name dying out while they have such ardent supporters on both sides of the Atlantic. Space will not permit of mentioning the breeders of a later date, such as Col. Townley, with his "bit of Barmpton Rose," etc., etc.

Of Herefords, while their territory has not extended in Britain, in America they have met with great success. They are evidently good grazers, and consequently adapt themselves well to a life amidst the rich valley parks of Western America. As regards values at Mr. Price's sale in 1816, cows sold as high as from \$1,000 to \$1,250 each. Lord Talbot purchased twenty-three for \$12,500, and it is said in seven years Mr. Price sold 100 head for \$52,000. Amongst the noted breeders must be mentioned Knight, whose roans were once so popular; Lords Hatherton, Berwick, and Talbot; and Messrs. Smythies, Heath, Tudge, Longmore, Hewer, etc. Within the latter part of the era they have unmistakably improved and now leave little to be desired. As to the present breeders it is unnecessary to refer, as their doings in the sale and show rings are duly chronicled by the agricultural press. The Herd Book was published in 1845.

Devons require but little notice. In my time they appear to have neither improved or gone back. Beautifully moulded, attractive to the eye, they remain pretty near a local breed. It was not until 1851 that a Herd Book was issued. Farthing and Quartley, Davy and Turner were the names principally connected with the breed, though the Prince Consort took great interest in them and showed quite successfully.

Angus have come with a bound and have been more improved than any of the beef breeds within the era. Hugh Watson commenced the work which McCombie carried to such a successful end. His Paris victories were something to be proud of, and when Her Majesty "commanded" a private display his cup was full.

Of the other breeds of cattle none have stood still or gone back, except, perhaps, the Longhorns, and many of the dairy breeds, especially the Jersey, Guernsey, and Ayrshire, have much improved; in

fact, they may be said to have been, if not made, at least brought into notoriety within the era. Names of the principal improvers and breeders are of so recent origin that they are familiar to all.

Clydesdale horses have changed greatly, quality being the chief essential. Lawrence Drew's name, along with those of Mr. Fleming and Lord Dunmore, the latter of whom published the first Stud Book at his own expense, will ever be remembered in connection with the breed.

The Shires have been made within the era as

striving after one model. H. R. H. the Prince of Wales takes great interest in the breed and has been very successful. To Sir Walter Gilbey must also be much credit given in connection with establishing shows and working for the good of the breed.

Hackneys are another breed which was rescued in time by the establishment of a Stud Book and by the good sense of some few men keeping the old stocks pure. Of late they have come with a rush, and the care and attention now given them will be sure to result in improvement, as they are in the hands of shrewd, clever men, who know the value of the material with which they are working. The Prince of Wales is an active patron and successful breeder of Hackneys.

Of the other breeds space will not permit to particularize, except the Suffolk, a breed but scarcely known here, but of which there are great possibilities. My first view was obtained at the Chester Royal in 1853, and I note but little change since that time.

Of sheep there has been immense improvement in all breeds. In the Long-wool varieties, by taking advantage of Mr. Bakewell's efforts, these originally slow-maturing varieties have, by judicious use of his rams, been greatly changed. What was the material he selected to attain his ends is not known; the sheep of the district were a slow-growing, bad-feeding kind, but from them he evolved almost pure lumps of animated tallow, easily fed and possessing very prepotent powers; they proved of great value for crossing purposes, improving all breeds with which they came in contact. The principal breeders that have been associated with this sort were Buckley, Burgess, Wiley, Smith, Skipworth, Borton, etc., and when Sir Tatton Sykes obtained a few ewes, he drove them himself by road to Sledmere, over 80 miles.

The Lincoln, formerly a large, slow-growing variety, has been so improved by a dash of Leicester and selection that what formerly took five years to mature now are turned off at twelve months. The long luster wool for which the original breed was noted has been retained, and they are at the present time one of the most valuable of British breeds. The principal early improvers were Messrs. Chaplin, Dudding, Kirkham, Casswells, etc.

Cotswolds have also greatly improved, perhaps more through selection and the natural changes following a different system of agriculture, such as the introduction of root culture and a system of folding, than by cross breeding.

Of Southdowns, little need be said, except that they exerted the same influence over the Downs and other dark-faced sheep that Bakewell's Leicesters did for the Long-wools. The work of improvement was commenced by J. Ellman, and carried to such a successful conclusion by Jonas Webb that perfection appeared to have been reached, as far as that breed was concerned. So noted did Jonas Webb's farming and flock become that but few foreigners interested in agriculture failed to pay a visit to Babraham. The Duke of Richmond, Mr. Rigdon, and others also assisted in establishing the type.

Of Shrops it may be written they have been created with the era. Judicious blending of the Sussex Down with the old Cannock Chase Longwools, in connection with advanced systems of agriculture, together with the ability of the men engaged in the pursuit, has evolved a breed so superior that they have extended their domain all over conservative Britain to an extent never approached by any breed of live stock, adapting themselves to all systems of agriculture, all soils and crops, except on the hills or mountains.

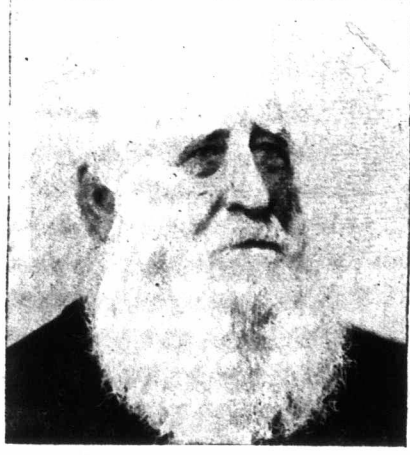
The Oxfords are another breed that have been made since the era, a cross between the Cotswold and Hampshire. They have become very popular in their district, as well as in America.

Would space permit I might mention the Hampshire and Dorset, Devon Long-wool and Romney Marsh, Wensleydale, etc.; all have been improved very materially.

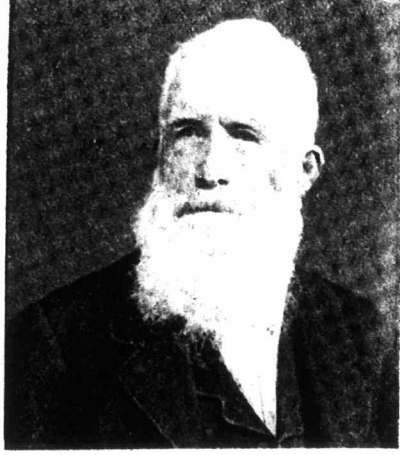
Of the various breeds of swine suffice to say they have not stood still while other live stock has been improved, and that breeders have succeeded in producing what the times required. The changes demanded have been along the line of early maturity and leaner meat.

Lessons from the Past.—From the improvements that have been made in British live stock may not a few lessons be deduced that might prove more attention to live stock improvement. There is not a farm upon which some portion of the stock is not susceptible of improvement; it is not an expensive process if the same means are adopted as were in England, viz., the use of thoroughbred

### Lawes and Gilbert, the Great Agricultural Experimenters.



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SIR JOHN BENNETT LAWES, BART.,  
D. C. L., LL. D., F. R. S.

Experimental work at Rothamsted, the property of Sir John Bennett Lawes, in the County of Hertford, some 25 miles north of London, really begun in 1834, but field work dates from 1843, when the services of Dr. John Henry Gilbert (now Sir) were called in as chemist. Mr. James Macdonald, F. R. S. E., editor of the Transactions of the Highland and Agricultural Society, in the course of an article on their work in a recent volume, says:

"The genius of the individual, we are told, is the birthright of man. An unostentatious but gifted squire, who has lived an industrious and happy life in the English County of Hertford, has, by his genius and public spirit, given to the world an inheritance so goodly that its worth can hardly be overestimated. It is sometimes remarked as curious, that while on the Continent of Europe and in America there are many agricultural experiment stations, Great Britain, which for centuries has led the van in agricultural progress, can claim to have had for any considerable period of time but one extensive center of original research. It is equally remarkable that the one extensive and important experiment station which Britain does possess should be the oldest in existence, and that it has probably done more solid work for the advancement of agriculture than all its foreign competitors put together. In the world of science the position of Rothamsted is unique. For more than half a century it has been the largest and most systematically conducted agricultural experiment station in the world. Abroad, as at home, Rothamsted has become a household word. So much accustomed are agriculturists and scientists to speak and think of Rothamsted as a national institution that it is not often realized that it is absolutely and entirely the undertaking of a private citizen. The Rothamsted Experiment Station was founded by Sir John Bennett Lawes, has been carried on exclusively at his own expense, and by him it has been bequeathed to the nation, with an endowment ample for all time to come."



ROBERT BAKEWELL, OF DISHLEY GRANGE, LEICESTERSHIRE, ENG. (BORN 1726, DIED 1795),  
THE PIONEER OF BRITISH LIVE  
STOCK BREEDING.

far as the present result is concerned. The big Lincolnshire Blacks have been amalgamated with the better boned and greater quality of the Derbyshire sort, and now a wonderful draft horse is the result. Size has been maintained without losing sight of quality. Until the Stud Book was started and the London show a fact there seemed no established type. One county wanted one sort, another a different, but now all are agreed and

registered sires. Nearly all the stocks were local, often named after their county. The females were not sold off and replaced by other sorts, but by use of superior pedigree sires the flocks and herds were gradually improved. We now find grain-growing unprofitable, just as they did in Britain; then let us follow their example and devote more attention to improving our stock. We have the material at hand. We have the results of the skill and patient labor of that army of notable breeders whose names have been recorded above.

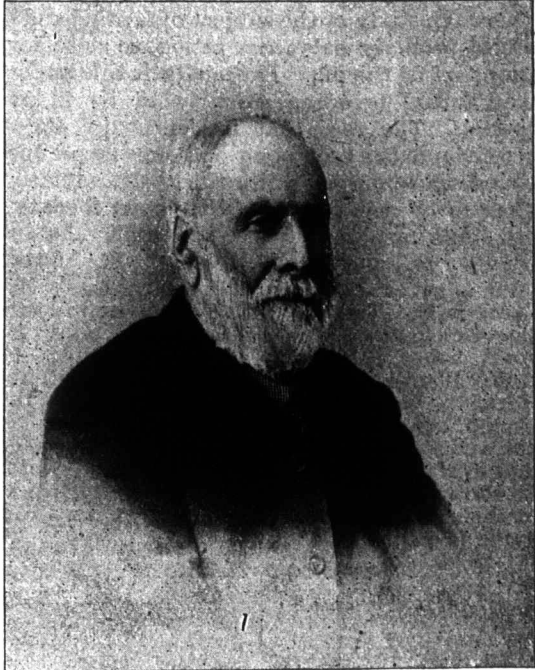
Another lesson: the improvements have been along the line of early maturity. The five-year-old ox weighing at maturity 1,700 to 2,000 lbs. is a back number, the profitable steer of the day is marketed ripe at 24 to 30 months. Size has also been much reduced. The five-year-old Lincoln sometimes dressing from 60 to 80 lbs. a quarter would not only be unprofitable to grow but be absolutely unsalable; this lesson must be more thoroughly learned by our breeders, and the only way to obtain satisfactory and paying results is to feed from start to finish. The first question asked in the showyard, as well as by letter, "How much does he weigh?" should be obsolete. The breeder aiming for size alone is making a great mistake.

But the greatest lesson that may be of value to us in Canada, and one which should be presented to our wealthy men, is the example of our Queen, the nobility and influential men in the interest taken by them in the improvement of our stock. Is it a disgrace to Her Majesty to be found in the competition with John Smith for the championship at Smithfield. Was the Prince Consort committing an "infra dig." when he entered the lists with a tenant farmer at the Royal with his Devons or Herefords? Is it pronounced vulgar for the Prince of Wales to breed bulls (by the way, he obtained the highest price of 1896, viz., \$5,000 for one) or Hackneys. If it is not beneath the dignity of our Queen and the Royal family to engage in the most fascinating of outdoor relaxations or occupations, it surely cannot be beneath that of our wealthy men. It will be a sorry day for British farming when her nobility and men of means lose all interest in the farm and its surroundings, and it will be a happy day for Canada when our prominent men follow in the footsteps of England's most noted. The deepest thinkers, the brightest intellects, have found the greatest enjoyment and rest when taking the relaxation from business cares which all require, in inspecting their herds and flocks; and a victory gained on the classic battle grounds of the Royal is often more highly prized than one in the halls of legislation.

**The Kind of Cattle to Breed for Beef.**

The distribution of the largest proportion of the best quality of flesh on the parts of the carcass which command the highest price is a point which should be constantly kept in view in the breeding and feeding of animals intended mainly for the purpose of beef production. A great change in the last few years has taken place in the requirements of the trade in this line. The big, heavy, full-grown bullock of four or five years of age, weighing 1,800 pounds, is no longer wanted, and the demand is now for a well-bred, early-maturing animal, which at say two and a half years old is fully finished, ready for the market and the block, and weighing from 1,200 to 1,500 pounds. In looking over the reports of the principal cattle markets it is not unusual to observe a difference of from one and a half to two and a half cents a pound in the range of prices, and the difference in almost every case is determined by quality rather than by size. The shrewd and capable buyer and dealer must be able at a glance to determine the dressing qualities of a beast and the percentage of high-priced meat he will produce. The animal may be fat enough and heavy enough, but the weight may be in the wrong place to bring the highest price, and so he has to be classed with a lower grade. The tallow candle has been superseded by such productions as coal oil, gas, and electric light. Cottolene and other substances are now used for the purposes for which tallow was formerly used, and the loose products of fat cattle now sell at a very much lower price than formerly. With tallow quoted at 3 cents a pound, the buyer naturally hesitates to pay five cents a pound for cattle when he knows from their form there must be in the animals he is buying an unduly large amount of pure tallow, which is only worth three cents a pound in the market. Cattle which have been carelessly bred and fattened, being uneven and lumpy, with bare backs and big bellies, will certainly be discriminated against, for the simple reason that there will be an undue proportion of the weight in the parts that will bring a low price. When cattle show evidences of good breeding, and are smooth in form, and have broad backs, thickly-fleshed loins, long, level quarters, well-sprung ribs thickly covered with natural flesh, mellow to the touch, yet firm and not flabby, the buyer will confidently pay the highest price the markets will justify, because there is the assurance that in dressing they will produce a larger percentage of beef to the live weight than will coarse, ill-bred, paunchy animals which are narrow on top and wide below, carrying their weight in the belly rather than on the back, where the ideal steer is best furnished. The scrub or low grade steer may suit the local butcher at a low price, as he has customers for all the parts at different prices, but in the large cities the retail butcher is largely a specialist, and caters to first-class hotels and restaurants, and to wealthy families who are able and willing to pay a good

price for a choice article, and who will have the best cuts. The range of prices for the different cuts in a beef animal at wholesale rates in the city markets is generally in the proportion of three cents to four and a half cents per pound for the less desirable parts to twelve or fourteen cents for the loin and rib cuts. The principal difference in the conformation of the ideal beef animal, as exemplified in the best specimens of the leading beef breeds as compared with the scrub or even the dairy breeds, is the broad, straight, thickly-fleshed back, level quarters, and well-sprung and well-covered ribs of the



AMOS CRUICKSHANK, OF SITYTTON, SCOTLAND, FOUNDER OF THE "SCOTCH SHORTHORN."

former; while the latter, being designed for a different purpose, that of milk production specially, is narrow on top and wide below, giving room for a large udder and the capacity to work up large quantities of bulky food. This same form for the most part also goes with the scrub, and no matter how well he may be fed or how fully fattened he may be, his weight, instead of being on his back, loin, and ribs, will be in his lower parts and in the loose tallow inside of him. This being the case, we need not wonder that the prices for beef cattle range from three to five cents a pound live weight on the market when so large a proportion of the dressed beef of ordinary cattle will only bring from four to five cents a pound wholesale. Is it not surprising, in the light of facts so plain and patent as these, that so many farmers seem to be content to raise and feed cattle which are only calculated to bring second or third class



HUGH WATSON, OF KEILLAR, SCOTLAND, EMINENT AS A BREEDER OF ANGUS CATTLE AND SHEEP.

prices, and which in order to make them salable at all will consume more good feed than better bred animals will, and which make such a very unsatisfactory return for what they eat as compared with what the better class will realize? The prices at which pure-bred bulls can now be obtained leave no excuse for the use of low-grade sires, and a bull with a little extra feed will sell for beef after two or three years' service in the herd for nearly if not quite his first cost.

**The Sheep Fold.**

FROM OUR SPECIAL ENGLISH CORRESPONDENT.

Here is an orthodox twenty-four lines giving a splendid description of what a ram should be. Those with bad memories and "baggy" minds might do worse than keep them near at hand for future reference:

A ram must be strong in the face, and broad, Thick and deep in the jaw to be good. The horn to be sweet and well set on; The color distinct and good to look on. Wide in the muzzle and bright in the eyes, Flat in the bones and strong in the thighs; Broad, thick and short in the neck; Level, wide and neat in the neck. Back to be short and ribs well arched round, And not much daylight between and the ground. The wool to be long and thick with a sail, Behind him must flow a good bushy tail. Strong in the shoulders and tight on the roof, With a broad knee-lid and a good sized hoof. A feature that's reckoned as one of the best— To be broad, wide and deep in the chest; When handled to have a kindly good feel, Well formed down the gigot with flesh as well. And a fact that everyone here well knows, When turned up to show broad and rough below, From tail-head to the horn to have a slight rise, Wide set on his legs, and good mover likewise. Firm, substantial, and up to a size That will qualify him to win a first prize.

One of the very first breeders in Scotland of the famous Scotch Blackface sheep, prized for the excellence and sweetness of its mutton, gives the following as the result of his experience in breeding between a ram and ewe. Says he: "A ram must show more strength before than he does behind, although the hind quarters show somewhat light. I do not mean by that that a ram should be deficient in hind quarters, but that he should have a preponderance of strength in the fore quarters. That is the kind of ram which has bred best with me. A ewe is the opposite. She must show a predominance of strength in the hind quarters. This is the ewe that has bred best with me. I know this is debatable ground, and I look for criticism, and adverse criticism here, nevertheless I observe that the ram and ewe specified are the sort that breed best with other people. And I go further. A ram with strength before breeds a ewe with strength behind, and a ewe with strength behind breeds a ram with strength in front. These things have been evident to me for fifteen years, and after some speaking I am beginning to get some few to agree with me about it."

**EFFECT OF FEEDING ON WOOL.**

As the feeding of sheep has a marked influence on the quality and quantity of wool, the following rules may well be observed: To obtain wool of good quality and proper quantity the sheep should be well fed. The increase of the wool in length and resistance comes to a stop if the animal be deprived of the amount of food necessary for it. Well-fed sheep pay for the increased expense by the weight of the fleeces and the better quality of the wool.

When the sheep receives little food, or when that food given in sufficient quantities is not sufficiently nutritive, the wool usually preserves its fineness and acquires a certain length, but its power of resistance falls—it is deprived of that essential element called yolk or grease, which renders the fibers and the staple weak, harsh to the touch, and dry as flax.

Regularity in distribution of the food is of the highest importance, the wool soon showing the effects of this. This is seen when in winter our English farmers feed well with hay, grains, turnips, and sometimes a little oil cake, and when these supplementary foods are too quickly taken away in spring.

The wool undergoes a time of stoppage, later continuing to grow under more favorable circumstances, the woolly hair is less resistant, and, in a part of its extent, covers a dead spot, a real scar, indicating the irregularity of its growth. Opinions differ as to the action of different foods on wool. All, however, agree in attributing a marked effect to fertile pastures. The fleece is more abundant, the fibers are longer, and noticeable by its softness, whiteness, brightness, and strength; in other words, good sheep and good pasture produce good salable wool.

**Black Teeth in Pigs.**

Seeing in the ADVOCATE of May 1st the enquiry of a reader on the above subject, I will give my experience covering over twenty years. In 1875 we had a splendid Chester White sow farrow, but the pigs were dying one after another. An old neighbor said, "Look in their mouths and you will find black teeth." We had never heard of such a thing before, but got a small pair of nippers and took out these black teeth, when forthwith the dying ceased. Not convinced, however, that the teeth were the cause, we let them go the next season with similar fatal results; took out the black teeth, after which there were no more dead pigs. Since then we have generally taken them out on the fourth day after farrowing, and if we have overlooked it at any time we soon got a reminder by the pigs showing the following symptoms: The tongue cut to shreds at the side (more than the mere serrations at the sides), nose scabby, and if the body got scratched with fighting, ulcerated sores, the eyes become glassy, and then death soon follows. Your reader asks if it is indigestion. I cannot say. I have no theory to advance. I have never had a litter that did not show the symptoms in four or five days, and I have fed the sows all kinds of feed from nothing but roots and swill to wheat and water, with no apparent difference to pigs and black teeth. The



operation is simple, and only takes about ten minutes to do a litter. The feed, however, does make a difference to sow at the farrowing time. The pure wheat and water left me with one dead and two living sows out of three, and all the litters dead. This year I fed bran and kitchen slops, and result is a litter of ten fine pigs and a very easy farrowing. I would say to your readers pull the black teeth always, they will be found loose. Such is my experience.

Oats to make good hay should be cut when top pickle is just turning, that is my experience the last five years. I have cut them at all stages from shot blade to ripe, and find they make the most satisfactory feed cut at this stage.  
Chickney, Assa. JOHN TEECE.

**The Ideal Bacon Hog.**

Professor Day, Agriculturist of the Ontario Agricultural College and Experimental Farm, in the annual report for 1896 gives the result of an experiment which is the first of a series which it is proposed to make, and which was conducted at the Institution in that year in the feeding of five different breeds of hogs in groups comprising two of each breed fed under similar conditions, with a view to ascertaining the comparative gain in weight, the cost of production of pork, and the quality of the flesh from a buyer's and consumer's point of view. Prof. Day says:

"It cannot be too strongly emphasized, however, that a single experiment comes very far short of settling this question. There are many things which tend to make the results of such experiments very uncertain, chief among which is the individuality of the animals used, for it is a well-known fact that two animals of the same breed, and even of the same litter, will sometimes be found to evince a wider difference in characteristics than the average difference between two distinct breeds. It therefore follows that to obtain reliable information regarding the breeds requires years of patient and careful work, and I would ask those who read the results given to bear in mind that next year's work may materially alter the standing of the different breeds. This experiment is merely a first step; subsequent experiments will add new light, and I trust that no one will mar the usefulness of this work by drawing hasty conclusions."

It is not our purpose in this article to make comparisons between the different breeds or to draw conclusions as to any advantages one breed may have over another, as we quite agree that a single experiment does not determine such important questions definitely, and we have grave doubts whether a dozen experiments would do so, but we desire to call attention more particularly to another feature of the report, namely, the quality of the dressed carcasses and their values as given by an expert buyer. Mr. J. W. Flaville, Managing Director of the Wm. Davies Co. (Ltd.), Toronto, was asked to fix the value of the dressed meat of the different animals, in view of the demands of the markets open for Canadian products. His remarks regarding the general characteristics of each breed are based solely on the characteristics of the animals used in the experiment, and do not necessarily apply to the breed as a whole. With regard to a large proportion of the animals, the verdict was too fat, quite too fat in the back, a lump of fat, feed runs to fat rather than flesh, fat a little tender, belly too thin, unsuitable for export trade, etc., all of which faults we are inclined to believe may be overcome or remedied by careful selection for breeding purposes of animals within the breed which most nearly approach the desired type by enforcing exercise and by feeding such foods as have a tendency to produce flesh rather than fat. Coming to values, Mr. Flaville in his report makes a difference of 1/3 cent per lb. between the short, fat-backed hog and the one with a thin belly as compared with the lengthy, firm hog with a deep and thick belly.

He says: "I am persuaded that what we want to cultivate in Canada is a hog which will develop well in flesh, have a deep side, well-proportioned ham and shoulder, and which will be put upon the market when weighing between 165 and 190 lbs. and should be exercised in breeding to develop a hog with a good thick belly, and special attention should be given to producing a type which will

back down even with fat and carry a side as nearly as possible even throughout."

These are points which the intelligent and progressive breeder of almost any of the breeds may attain to, and we have ample evidence that in the last few years the best breeders have made much progress in the endeavor to produce the ideal hog. It is only a question of time and the application of good judgment in selection, mating and treatment, and the end will be accomplished.

**Fitting Pigs for Show.**

It is well that every breeder of pigs should make a thorough study of the subject of feeding and learn how to properly balance a ration, so as to develop every part of the pig. Especially is this important when future breeding stock is to be fitted for showing. The feed that is richest in digestible protein and the best bone and muscle producer is ground wheat mixed quite thick with milk so that it has to be masticated. Other good foods mixed with milk are oats with the hulls sifted out, ground rye, shorts, and barley. For fattening young pigs especially nothing surpasses a liberal use of milk. The pigs should run on pasture of grass or clover and have access to pure water, wood ashes, charcoal and salt when being fitted. If treated in this way the pigs will not be injured as breeders, but will be benefited. It will develop bone and muscle, give a smooth, round back and loin, as well as strong legs and feet — just what every good judge is pleased to see. Not only will show pigs fitted in this way do well in the ring, but their future usefulness will not be impaired for having been fitted.

from the law that we shall eat bread by the sweat of our brow, whether in city or country, and it is only by patient industry, day by day, everywhere, by frugality, honesty and integrity that we can ever become both affluent and respected.

If you think a clever person is too good for the farm, it is the greatest mistake you ever made in your life. I know of no place where brains and ability tell more strongly, if we will only use them; but we don't.

We go on in the same old rut, and don't try to improve. We go into debt for improved machinery evolved by some other man's cleverness, and yet work our land badly, spreading on three acres barely the manure and labor that should go on one, and then fail to meet our payments.

We get our cows through the winter at what we fondly think is the least possible cost to us (although it is just the dearest way in the end); and then when they run us in debt, we say we "can't afford to pamper up our stock, they don't pay."

And when our neighbor says that his handsome cows make 300 or 400 lbs. butter a year, we say, "Oh, he is taking through his hat!"

Some men let the work drag through every waking hour of the 24: they sit down to meals in a careless way, they grudge the cost of papers and books, or of some society for the young people; they let the heavy end of everything fall upon their wife, so she can't be happy and cheerful; and when they find farm life the dullest in all the world, they yet make an outcry because their children are not happy and want to leave home. So the fault lies on both sides.

Now, believe me, there is no lot in this world so happy, so independent, and so free, as life on a well-managed farm. Good stock kept in the very best manner brings in a handsome return, and all the family are proud of it.

Work well and quickly done leaves leisure for social pleasures, while the newspapers are welcomed by old and young. Each contributor seems like a friend, new ideas are put before us, we learn how to do many things, and sometimes what is of even more importance, we learn how not to do them.

A good horse and creditable rig are on hand to be enjoyed by all, the best of food is on the table, and we know where it comes from; fruit and flowers are in abundance, and even music for those who enjoy it, and who does not?

Healthy and happy, we have spirits to enjoy the pleasures of life, while we also have strength to meet the trials and losses that are sent to us all, whether in town or country. Are we ill? We can rest in peace without feeling that our board

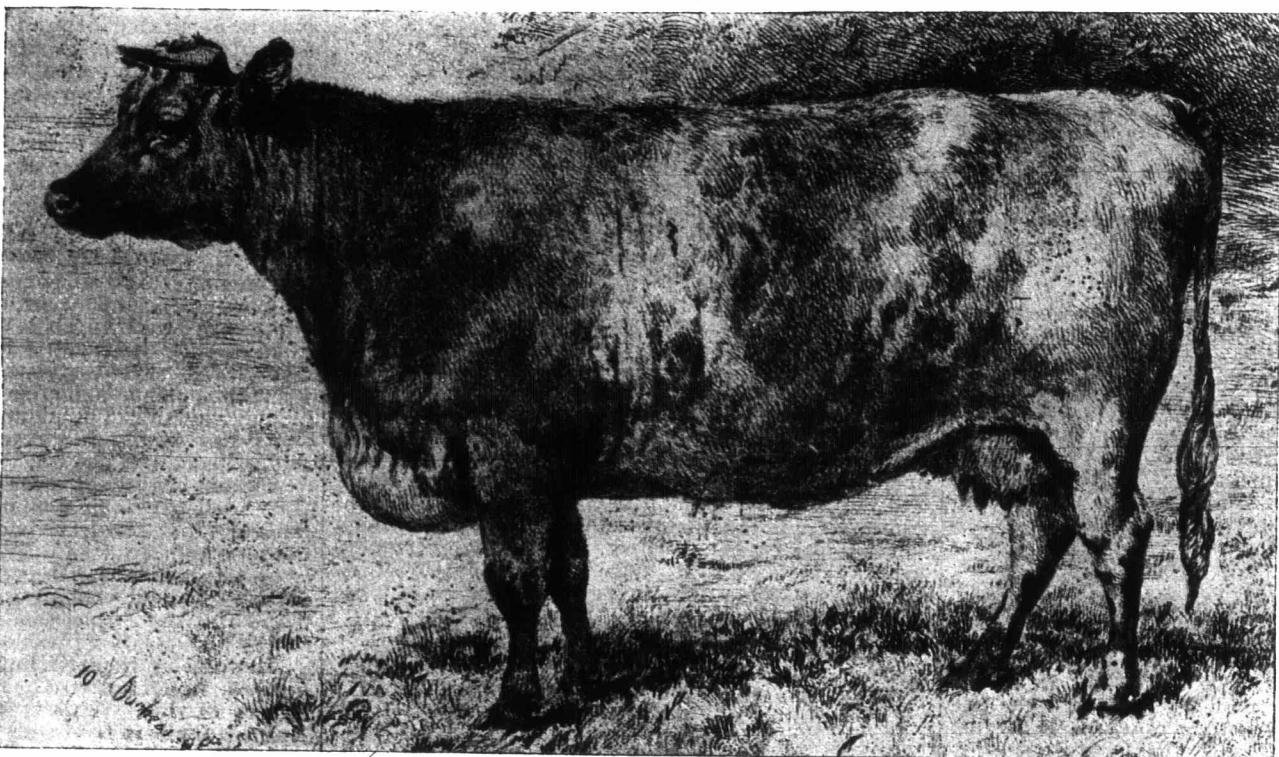
bill is running up all the time. Are we nursing a sick sister or brother? We don't feel that every hour by the bed of our dear ones means just so much less wages for us, we have no fear of work shutting down, and above all, we don't have to turn out, sick or well, at the sound of the bell, in wet weather or dry, and work in crowded rooms till ready to drop. I never hear that work bell ring in the city without feeling sorry for those it calls. It seems to say, "Come at once, even if your back is aching and your head splitting. Come, even if you are weak from the hot, stuffy rooms and the poor fare of a cheap boarding-house. Come, though your best friend lies ill or dying, or we will dock your pay."

You may say you have your evenings and your Sundays to yourself. Yes, you do, but at what a cost! And all the time haunted by the fear that at any time the shop or the factory may close, and you will be on the street.

I once knew a young girl who grew up on a farm. Her mistress treated her almost like a child of the house, paid her the best wages, helped her to choose her clothes and to make them too, took a deep interest in all Mary's friends, and even brought her old mother to the farm one hard winter and kept her for months, although the old woman was too crippled to be of the least use.

In time, the town spread out close to the little farm, and Mary began to keep too much company, and after ten years of farm life, decided to go into a factory.

She put all her savings into fine clothes, bought a sealskin jacket, bragged of the free evenings and Sundays, and sneered at those who live at service, especially in the country. True, her wages were good, and after a time she went to a far-off city, where the pay was even better. Some years passed, when a pitiful letter came, saying she had been ill



TENTH DUCHESS OF GENEVA, SOLD AT NEW YORK MILLS, ON SEPTEMBER 3RD, 1873, FOR \$35,000, TO LORD BECTIVE, OF UNDERLY HALL, ENGLAND.

**FARM.**

**At the Sound of the Bell.**

BY MRS. E. M. JONES.

As little birds instinctively spread their wings to leave the parent nest, so there are few young people on the farm who do not long, sooner or later, to try their fortunes in the city—to go somewhere, anywhere, for a change.

Making money on a farm is such slow work, they say, the drudgery so unceasing, and the amusements so few.

Now, it is right to look about us—a stirring ambition is a gift of God, and without it we cannot prosper, either in farming or in any other pursuit.

But we should see that the gift is used properly, and that we make no mistake, for it is left to ourselves to judge correctly as to whether we are unfitted for our present surroundings and are fitted for a different sphere.

If there be any physical deformity or weakness making it impossible to perform even the lighter duties of the farm, it is well to change. Or, if we are certain that our vocation lies elsewhere, that we have for some other business a talent so great that it cannot be repressed, we should not hide our light under a bushel.

But the trouble is that we so often deceive ourselves. Frequently what we imagine the inspirations of genius are only discontent with our present lot, and ingratitude for the blessings around us. What we think the noble aspiration for a higher life is only an impatient greed for money, a desire to make it with as little trouble to ourselves as possible, to get rich by a short cut.

Now, as a rule there is no royal road to fortune, and well for us that it is so. There is no temptation

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with fever and pneumonia for many months, and was lying in a boarding-house without a cent. Her brother went and brought her to his home at heavy expense, and she was nursed there for a year before she was able to do a day's work.

She had caught cold going to work on a wet day and sitting in damp clothes, and it took her years to pay off the debts she had incurred. And all through the delirium of illness she fancied she heard that dreadful bell calling her to work. She would start up, crying, "It's the sound of the bell, and I must go quickly or they'll dock my wages, and then I can't pay my board." She afterwards said that no one could imagine what she suffered from the ringing of that bell, as sure as fate, as regular as the day, till it got to be a perfect horror.

Years ago I read two little verses which often recur to me. I forget who wrote them, and I don't even know if I can quote them exactly, but partially they are correct, and I hope they will appeal to many a heart.

An old farmhouse with meadows wide,  
And sweet with clover on each side.  
A bright-eyed boy who looks from out  
The porch with woodbine wreathed about,  
And thinks all day amid his play,  
"Oh, could I only fly away  
From this dull spot, the world to see,  
How happy, happy, happy, how happy I should be!"

Amid the city's noise and din,  
A man who round the world had been,  
Who, 'mid the tumult and the throng,  
Is thinking, thinking, all day long,  
"Oh, could I only tread once more  
The field-path to the farmhouse door,  
The old green meadows could I see,  
How happy, happy, happy, how happy I should be!"

**Haymaking Practically and Scientifically Considered.**

To the Editor FARMER'S ADVOCATE:

SIR,—Fodder crops of all kinds contain the greatest amount of nutritive material at the period of full bloom, and hence most of them should be cut for hay at this period, or as near this period as is practicable. The following figures, given by Warrington, illustrate this point:

	Total Nutrients.	Fiber.
Meadow hay cut in first bloom.....	57.1	34.9
" " overripe, but well harvested.....	54.5	38.2

From these figures it will be seen that while the nutrients decrease, the indigestible fiber increases as time advances.

A shower of rain after hay is cut will also decrease the amount of nutrients which it contains. This is very clearly brought out in Prof. Shuttleworth's investigations during the past year, for which see the last College report.

But composition is not the only consideration, for the value of a fodder largely depends upon its digestibility, and it is in this latter respect that hay suffers most from becoming too ripe, or from the effect of rain. The following table, adapted from Warrington, is of interest in this connection:

	Pounds of digestible nutrients in 100 pounds supplied.	
	Total organic matter.	Fiber.
Meadow hay (best).....	67 lbs.	63 lbs.
" " (medium).....	61 "	60 "
" " (poor).....	56 "	56 "
Clover hay (best).....	63 "	50 "
" " (medium).....	56 "	46 "
Lucerne hay (bloom beginning).....	61 "	42 "
" " (full bloom).....	56 "	45 "

It will be seen from the above that the digestibility of hay is very greatly influenced by its quality. An interesting point is brought out in connection with lucerne, which forms an exception to the general run of hay crops, in that it requires to be cut in very early blossom in order to secure the greatest feeding value. Orchard grass is another crop that requires early cutting, as it rapidly becomes woody. Failure to observe this fact has led many to regard lucerne and orchard grass hay with disfavor; whereas, if cut at the proper time and well cured, they afford hay of excellent quality.

As for methods of harvesting hay, they vary considerably, and are modified by the weather and the weight of the crop. I regard the hay tedder as an excellent implement, and only regret that tedders are not cheaper, so as to bring them within the reach of all. A method I have employed with very satisfactory results is as follows: The mower is started first thing in the morning and as much hay cut as one has force enough to put into cocks in about three hours. About ten o'clock start the tedder. The tedder should be run around the piece, following the swaths. After dinner start the tedder again. With an ordinary crop in hot, drying weather the hay will be ready to rake and put into cocks the same evening. With a very heavy, sappy crop of clover or alfalfa I have sometimes run the tedder over it several times, and delayed raking until just before the dew falls. Thus the greener portion is brought to the top of the windrow and suffers very little from the dew. The hay may then be put into cocks the following day. When no tedder is used it will be necessary to shake up the heavier portions with a fork. If not skaken out, the top layer becomes scorched until the leaves will all fall off, while the under part of the swath is still green. Lucerne is especially troublesome in this way, for the leaves dry up and crumble off while the stalks are full of sap. Unless frequently stirred and put into cocks within a comparatively short time after cutting, a great

deal of the valuable part of the hay will be lost.

The length of time hay should remain in the cock depends upon the weather. Usually on the second day after cutting the cocks may be turned out for a few hours' exposure to the sun and wind, and drawn to the barn during the afternoon. I have treated both clover and lucerne in this way with very satisfactory results, the hay being green, fragrant and wholesome. Lucerne usually requires more time in "making" than does red clover.

In my estimation, cocking is almost indispensable in the making of clover hay, but I have seen very good timothy hay drawn from the windrow. As a rule, however, I prefer to cock it also, especially if the weather is at all unsettled. The curing of orchard grass is practically the same as that of timothy, but orchard grass and lucerne must be cut early, as stated before.

My experience with the hay loader is very limited, but in my opinion the loader is not yet perfect. Both slings and horse forks are now made which do excellent work and greatly lessen the labor of haying. In building a barn, special attention should be given to having it convenient for filling. A "side-drive" barn can be arranged with three lines of track, so that every mow may be filled separately, and the hay or grain moved but a very short distance by hand.

As to salting hay, I think it has a tendency to check fermentation and to make the hay more palatable.

I shall be pleased to obtain the opinions of others through the medium of your valuable paper.

G. E. DAY.  
Ontario Agricultural College.

**Red Clover, Timothy, and Lucerne.**

To the Editor FARMER'S ADVOCATE:

SIR,—We cut our clover as soon as in bloom, cut as early in the morning as the dew is off, and no more than can be cocked before night. We rake up when well wilted but not brittle, and put



THE LATE THOMAS CHRISTOPHER BOOTH,  
THE EMINENT BREEDER.

it into small cocks at once. It is there we make our clover hay, two, three or four days, according to weather; we generally find that sufficient time to sweat and cure. The hay loader is, no doubt, a very useful article in handling timothy, but as we cock all our clover and grow very little timothy we do not use it. We like to haul to the barn when dampness is all gone and yet a nice fresh green color; if the bottom of cock is not quite dry, leave it turned out to wind and sun until the top of cocks are hauled. At present cost of track with fork or slings we could not afford to handle much hay without them. Prefer slings to fork for either hay or sheaves. We spread every load evenly over mow, salt lightly, and allow it to do its own tramping. We like to use a little salt for several reasons. We think it keeps the hay moist, and the stock eat it with a greater relish, and we also find the hay thus salted to horses does away with the necessity of doctoring them with saltpeter or sweet niter. We, if possible, keep both dew and rain off the clover when lying in the swath; it not only spoils the color but detracts considerably from nutrition. Of course it does when in the cock also, but not to same extent. Much the same rules apply to timothy, except, perhaps, we do not cock so soon, nor do we always cock. If weather is favorable, draw in from windrow.

In lucerne, all the rules that apply to clover must be borne in mind, only more so. Be sure and cut when in bloom, before it is all in bloom rather than after some is past. We are very careful to cut before it gets too woody and the leaves fall off. Rather before bloom than after, as this is a very important point in making good lucerne hay. Cut same time of day as clover and rake up when nice

and tough and before any leaves begin to drop. Put in very small, neat cocks, and, if possible, have none lying over night. We have handled lucerne for some time and never failed to have first-class hay by being very particular that we cut it early, let no dew or rain on it in the swath, and cure it well in the cock.

T. C. ELFORD.  
Huron Co., Ont.

**Saving Clover and Timothy.**

To the Editor FARMER'S ADVOCATE:

SIR,—Clover is in nine cases out of ten left too long before cutting. Timothy suffers from the same neglect, but not to the same extent. Clover should be cut when in full bloom, or before the first heads begin to turn brown and the stems are still soft and juicy. If left longer it becomes hard and woody, giving less nourishment, and will not be eaten with the same relish.

Cutting.—Cut clover in the morning after the dew is off. The quantity to cut at once depends altogether on the help at hand to handle it afterwards, but it should be all in the mow the day after cutting. In the evening, before the dew forms, turn with a fork that which was cut in the morning. Sometimes this turning is not done until next morning, or perhaps it may be raked up in the evening instead of turning and left in the windrow over night. This depends on the weather and the thickness of the swath. We have no experience with a tedder and think it would be of very little use in a thick swath of clover that has to be shaken apart and spread out in turning. [A good tedder will do better work than men with forks.—Ed. F. A.]

When the swath is dry on top, turn; and when again dry on top, rake up. This may usually be done before or immediately after noon on the day following the cutting. In raking hay, the rake should go around the field the same way the mower went; when raked in this way the swaths are all separate in the windrow and much more easily handled, besides leaving it more open for the sun and wind. It is difficult to describe the stage or time at which to rake up, but this is soon learned by experience, and depends on the weather. Hay dries very fast after being skaken up, as it is during the turning, raking and piling.

We never cock clover or timothy unless to save from rain, as we deem cocking to cure unnecessary. After raking, it is put into small piles or forkfuls, loaded on wagon at once and taken to mow. It is important that it be taken in the hot sunshine. "Make hay while the sun shines" is very applicable here. We sometimes draw in clover the day it is cut, but it is put in small lofts, and not much together.

The drier the clover is the more harm is done to it by rain. If it gets much rain it is not worth more than half as much as that which is well cured.

Mowing.—We always use a hayfork in mowing hay and think it is almost indispensable. Spread the hay evenly, a forkful deep over the mow, being careful to loosen all in the middle where the hayfork drops it. Sprinkle evenly with salt (a pailful to about three loads) and tramp. It is very important that the salting be done evenly and before tramping. Keep hay level in mow all the time.

We have often been told that "clover will spoil" or that "hay will rot." I remember a friend coming into the barn and looking at a mow of hay (clover and timothy) the day after being mowed and saying that "it would heat and spoil," but it came out in the spring as nice and green as when put in, free from any signs of heat or dust, and was eaten up clean by young calves and other stock.

Timothy should be cut after the first blossom falls and saved much the same way as clover, again giving particular attention to mowing and salting.

J. C. H. SPARROW.  
Carleton Co.

**Haymaking.**

To the Editor FARMER'S ADVOCATE:

SIR,—Clover should be cut when the bloom is half dead. Time of day to cut—any time after 7 a. m. The quantity all depends on the assistance at command. I would not care to be without a tedder for making either clover or timothy hay. Clover should be cut in morning, tedded once or twice the same day, again the following day after the dew is off; rake and cock before sundown the second day. Cock as soon as raked up. All hay is better put up in large cocks, as it cures a certain amount, and helps to keep its color also at this stage of dryness. The dew and rain have a damaging effect on it if left spread out. The time to leave in cocks depends on the weather. If very fine shake out the third day and draw it in. I have not used a hay loader, but would consider it very useful. When the sap is fairly well out of the stems and perfectly free from dew or dampness is the stage to haul to mow. Every hay barn or loft should be provided with a horse fork. Tramp thoroughly. I have several times used a horse. Salt five pounds per ton—not that the hay requires it, nor will it do any harm to the hay—but so few people salt their animals, especially in cities or towns where hay is sold, that it is better to put it in. Injury by dew or damp is very great after the second day. Cut timothy early in morning, ted once or twice, according to thickness of hay and time of season. Rake up and cock the same evening. Next morning, if weather is very fine, shake out and draw in all by the evening. One point I wish to draw attention to is the practice farmers have in opening all the doors and windows when

and after the hay is in the barn. I prefer to keep them all closed, and the hay barns and lofts almost air-tight.

Central Experimental Farm.

#### The Use of a Hay Loader.

"Old Haymaker" writes us as follows:—"Considerable prejudice exists against this implement for pitching hay by some farmers who have used it and by many more who know nothing about it. One of the most intelligent farmers in our county used one for a time, and threw it aside, pronouncing it N. G. Our next neighbor bought one at a sale for six dollars from a farmer who paid over sixty dollars for it, used it a day or two and ran it in the fence corner. It now does excellent work every season. All it needed was a little fixing and intelligent use. The rolling and jerking of the wagon makes it awkward work at first for the loaders, but one soon gets as used to it as a sailor to a boat. The writer has loaded hay from one for over fifteen seasons, and certainly has had some experience. We consider it simply an indispensable implement, and so do others in our locality. To work a hay loader right you must commence with the sulky rake, make the windrows straight and small, which lightens the labor for the loaders very much. Leave about a rod unranked at the ends for turning on. Hay should not be cut too ripe or lie too long in the swath, as the top dries too much, impairing its quality. Rake as soon after cutting as practicable. This turns a great deal of it over, partially curing it; then let it make in the windrow.

"With a loader, two men and a couple of smart boys can handle more hay any day than four men without a loader; and two men alone, with a team that know their business, will save a big lot of hay with comparative ease. Four men and a boy to drive the team (i. e., if they are not well broken to the work) can put in from 20 to 25 loads any fine day (i. e., if there are no delays and the barn convenient) from half-past nine or ten until sundown, and we have put in 20 load in an afternoon. That's simply impossible the old way. When a field of hay is ready for the barn, and a rainstorm is brewing, you can put it in almost as quickly as to cock it up. Of course a great many will claim that clover must be put up in cocks to sweat; but if properly handled, first-class hay can be made with a great saving of labor. There is a danger of sometimes putting it in too green, as the loader does not mind forking heavy hay a bit, but of course that can be guarded against. It's an implement that takes up a great deal of storage room, and would not pay any farmer on less than 150 acres of land unless he grew a very large acreage of hay, which certainly does not pay at the present time."

#### The Farmer's Feathered Friends.

BY MARTIN BURRELL, LINCOLN CO., ONT.

"Thus are my blossoms blasted in the bud,  
And caterpillars eat my leaves away."  
—Shakespeare.

In a former article a plea was put in on behalf of the crow, and a few facts addressed to show that he is the ally and not the foe of the farmer. One correspondent asks me what is good for crows who like fancy chickens? He has some chicks worth two dollars each, two of which have been carried off by the birds whose cause (no pun intended) I had been championing. He now patrols the vicinity of his poultry yard armed to the teeth. I am not prepared to go back on previous statements, but I will admit that while crows generally are our friends, an individual crow here and there may have abandoned himself to every kind of immorality, and be in a parlous state—a reprobate bird. This, however, proves nothing against his more virtuous kith and kin. Nobody (save in the columns of one or two scurrilous Irish newspapers) has the temerity to urge that Canadians are cutthroats and blackguards, and yet even in this most decent community there are a few jailbirds. The tough crow and the tough citizen are better out of the way, but do not let us saddle their crimes on the backs of their brethren.

As to other birds, it is impossible even to mention the names of the fairly familiar birds, but they are all partially or wholly insectivorous and beneficial. The usefulness of some birds no one disputes, such, for instance, as the family Hirundinidae, which embraces all the swallows and martins. These familiar and beautiful birds feed exclusively on insects, and keep in check many injurious flies. Other great devourers of flies are the Tyrannidae. Four of the most familiar species are the kingbird (*Tyrannus tyrannus*), the great-crested flycatcher (a bird in build somewhat like the kingbird, but a trifle smaller and with a strong, imperious note), the phoebe or house pewee, and the wood pewee. The two latter are amongst our early spring arrivals, and we all love the plaintive, sad cry of the wood pewee. About the kingbird some hard things have been said on account of his weakness for including the honey-bee in his bill of fare. It is doubtful if he kills as many as some people imagine, and more than atones for his sins by the injurious insects he devours. A pair of them build every year within a few rods of my bee hives, and I've seen no cause for regarding them as anything but friends. As I write they are finishing their '97 nest in a Bartlett pear tree within ten feet of the window. The various species of woodpeckers live largely on borers, caterpillars, beetles and ants. Prof. Cook, after a close study of them, considered them of great economic value to the pomologist. In the winter and spring he often

found the flat-headed apple tree borer in their stomachs, and the larvæ and pupæ of the codling moth form sometimes a considerable portion of their diet.

The red-headed woodpecker is a fruit lover, and is painfully partial to cherries, but Prof. Forbes, of Illinois, after examining a few specimens, found that 32 per cent. of the food consisted of cankerworms. If much wild fruit exists the woodpeckers will not do much harm to the cultivated fruit. It has been suggested that the planting of a few Russian mulberries would successfully allure this and other fruit-loving birds from the choicer fruits. Like the man who said that the only good thing he knew about malaria was that whisky was a cure for it, the only good thing I have ever heard of the Russian mulberry is that birds are fond of it. One wishes they would confine their attention to the mulberry. When that elegant fruit plays out they might pass on to the Russian apricot; and after that delicious product has been eaten we should forgive our feathered friends if they gobbled up the agents who introduced these "choice" Russian varieties.

Of the Baltimore oriole it is almost unnecessary to speak. It is true that he has a sneaking affection for fruit, especially grapes, but he practically lives on insects. He is not very particular as to size or variety, his diet ranging from the small bark louse to the huge green tomato worm; caterpillars by hundreds go down his throat during the season.

The family Fringillidae, which includes the finches, singing sparrows, grosbeaks, red polls, snowbirds, etc., contains not only a great many highly useful birds, but some of our sweetest singers. They are all largely insectivorous, and in addition do immense good by the number of weed seeds they pick up. Two types may be instanced: the rose-breasted grosbeak, and the indigo bird or



CHAS. COLLING, THE NOTED BREEDER AND IMPROVER OF SHORTHORN CATTLE;  
BORN 1751, DIED 1836.

indigo bunting. The former is a good singer, a model husband, frequently taking his turn at sitting on the eggs, and a big insect eater. He has even been seen eating potato beetles, and Prof. Forbes, after a careful examination of many stomachs, found that 66 per cent. of the food consisted of cankerworms. The indigo bird goes the grosbeak one better in this respect, for 78 per cent. of the food of several was found to be cankerworms. In build he is a trim, neat little chap, somewhat of the shape of the yellow bird, and of a beautiful dark blue color. I must not omit touching, however briefly, on the cedar waxwing or cherry bird. His economic status is open to more or less doubt, though the evidence is, on the whole, in his favor. As his name implies, he is a big cherry eater. Only one year, however, during the past decade has he injured me at all seriously in this respect. This year during the blossoming time of the cherry I observed four of these birds diligently catching the bees with which the trees were fairly alive—a very undesirable habit. But they eat innumerable injurious insects. Prof. Beal, in a report for the U. S. Department of Agriculture, states that he examined 125 stomachs collected from 14 States, and found that the waxwings consumed the greatest amount of insect food during the month when fruit is abundant, and that the young were fed to a great extent on insects. Wild fruit and berries constitute a large portion of their food. A good deal of the same may be said of the robin as was said of the cedar waxwing. Of course, when either of these birds come in flocks they can do immense harm to orchards or vineyards, but, speaking generally, we should look at them with a friendly eye.

Space forbids mention of the vireo, warbler, catbird, bobolink, and dozens of other birds scattered throughout Ontario. To give something

like an adequate idea of the extent of the aid they give us, I may cite the case of the jovial, hardy, friendly little chickadee. Mr. Forbush, of the Mass. Board of Agriculture, carried out some interesting experiments for the purpose of ascertaining to what extent birds are useful. It was found that the chickadee was particularly destructive to the cankerworm in the larval, egg and mature state of that insect. A female bird was seen one day to carry twenty cankerworms and two tent caterpillars to its nest, and the male bird was not loafing all this time. One chickadee had 41 moths of the cankerworm in its stomach, and as the average number of eggs that a moth could lay is about 185, one chickadee could thus destroy from five to seven thousand eggs a day.

With such concentrated food no wonder that the

"Fire burns in that little chest,  
So frolic, stout, and self-possessed."

The whole subject is very interesting, and the statistics decidedly instructive. It is a cheering and admirable thing that Ontario Legislation so amply recognizes the value of Canadian birds. Let us see to it that there is a good healthy sentiment ready at all times to enforce the spirit and the letter of the law.

#### Cement in Refitting Old Stables.

During the last ten years and for years in the future old farm buildings have been and will be remodeled and renewed. Every summer a great many wooden structures are jacked up and stables put beneath them, and in many cases the jobs thus done are much more sanitary and permanent than many expensive new buildings that were put up ten or more years ago. The use of cement for walls and floors, and the modern system of ventilation and large windows have made many old stables seem so dark and unsanitary, comparatively, that the small cost of refitting the whole understructure has become too insignificant to delay it longer.

The question of cement for walls is far beyond the experimental stage, as when properly constructed it becomes in a short time as hard as limestone. In dealing with the amount of cement, gravel and labor necessary to wall a basement, the writer speaks from experience. A nine-foot wall beneath a barn 60x34 feet, allowing for the necessary windows and doors requires about 55 barrels of Queenston cement, 30 loads of gravel, and a few loads of small stones. This amount of wall four men can readily build in ten days. Experienced men are not necessary, so long as they are started right and are faithful to their instructions. It is important that good clean gravel, absolutely free from soil, be used, and also that the concrete be well rammed while in course of construction. Such a wall is as permanent as stone and very much more cheaply built.

With regard to cement for floors there can be no question as to its advantage over wood in any form. Where smooth flagstone can be secured, nothing can answer any better, especially for horses, but cement concrete properly laid possesses all the desirable features a material can well have. Some bed smooth, round cobblestones, just showing at the surface, where the horses stand and stamp. For pigs it is just ideal when a wooden platform is used for a sleeping place. We were amused at a remark of a small boy on a farm on which we put in a cement hogpen floor last year, to the effect that he would not put in cement floor in a pigpen of his, because the floor was always "so wet." Had he considered for a moment that all that moisture would have run through the old plank floor, polluting the surroundings and wasting so much valuable fertility, his objection would never have been made. We cannot afford to lose all this fertility. The saving in manure alone effected by a cement floor over one not water-tight would go a long way in a few years towards paying for the new floor. What is true in regard to hogpens floors is equally applicable to other stables. The time for plank flooring is altogether gone past. Our farms need every bit of fertility we can get for them; and when we can accomplish an important saving in this direction by the use of a cheap, everlasting substance, we act the part of wise men in availing ourselves of its use. For feed rooms and passages nothing can surpass cement. It is smooth, permanent and impervious to rats or mice.

In constructing a cement floor the following points will be of use. First dig down to the clay to get a solid foundation. It is well to pave with common field or broken stone on the clay, leaving the surface as firm and level as possible. The first coat of concrete should be wet enough so that it will readily pound down among the stones. This will cement them all together. The next coat should be about one and one-half inches thick, mixed (one to six) with gravel, not sloppy, well rammed down. The top may be a thin coating of clean sand and cement, half and half, nicely smoothed like the surface of a marble slab. This should be occasionally sprinkled with water, with or without a coating of straw, but those who have used the damp straw covering strongly recommend it. In mixing the cement and gravel or sand do it thoroughly while dry and then moisten until it will trowel nicely. A person can readily tell about the thickness when once he gets to work at it. It is well to leave stock off a new floor from four to six weeks, when it will have become thoroughly hardened.

**Alfalfa.**

A well-written bulletin by W. P. Wheeler, of Geneva, N. Y., Experimental Station, says in substance the following regarding established fields of lucerne (alfalfa): "The crop should be cut every time it begins to blossom, whether the growth is short or tall unless a seed crop is desired, which is usually a greater success in the second crop of the season than the first. The chief value of alfalfa is as a soiling crop to be cut and fed fresh. By cutting each day across the field there will be by the time the field is cut over a new growth where the first cutting is made, provided the field is of a size to supply about the number of stock to be fed."

With regard to alfalfa as a pasture this bulletin claims it is not safe for cattle or sheep, as it is likely to cause bloat. When cattle or sheep are allowed to eat all they will the fodder should be allowed to wilt before it is fed. Horses and pigs can be pastured on alfalfa, but by pasturing heavy animals many of the crowns are broken by the hoofs, and the plants are injured. Sheep cut off the crowns too close to the ground. When used to supplement dry pasture it is best to cut the fodder and haul it when wilted where it can be fed.

With regard to alfalfa hay the bulletin recommends it as an excellent fodder. In making, if handled too much when dry a large amount of leaves and stems will be lost, and if not well cured it is likely to mould in the mow. Like red clover, lucerne hay suffers much deterioration in feeding value by exposure to rain. The leaves contain from three to four times as much protein and fat as the stems, and more starchy substance, while the stems contain three or four times as much woody substance as the leaves. It will be readily understood from this fact that the best part of the crop may be lost unless great care is taken.

**DAIRY.**

**A Visit to the Queen's Dairy at Windsor.**

[Special correspondence to the FARMER'S ADVOCATE.]  
From London to Windsor is an interesting journey; and many loyal subjects of Her Majesty have performed it and thoroughly enjoyed it. The beautiful countryside passed en route and the historic memories awakened as monuments and memorials come in view enable "those on pleasure bent" to enjoy the run to Windsor. A few miles out is Acton, which is intimately associated with the great civil war; and it was here that Henry Fielding and Sir Edward Bulwer-Lytton lived and wrote several famous novels. As we pass Eling, the name of Charles Debbin is on the lips and makes one inclined to hum one of his famous songs of the sea. Slough is identified with the discoveries of Sir John Herschel, and it is here he erected his observatory. A short branch here takes the visitor to Windsor, which has been the seat of royalty for eight centuries. A glimpse of the towers and walls inspires one with confidence in the solidity of the castle and the strong foundation on which the British monarchy is based as represented in the august person of the Queen-Empress.

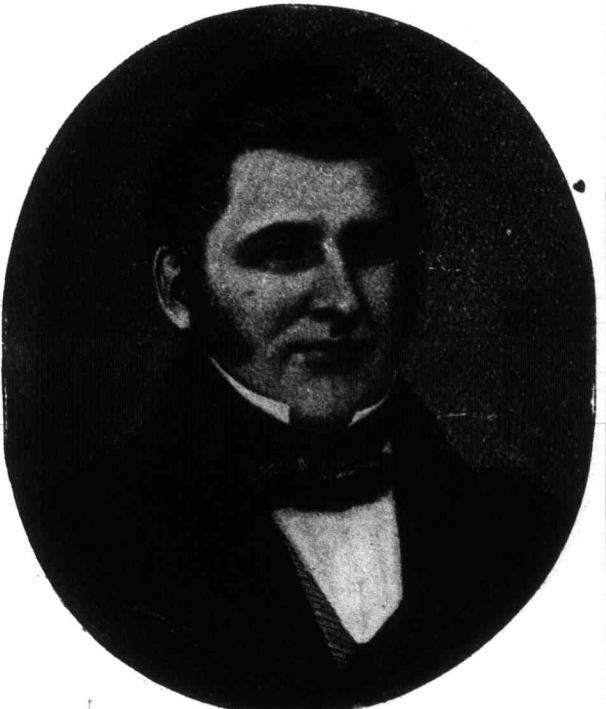
"A farming queen the world to farming draws," says an adapter of Ben Johnson. And there is no doubt about it. The interest taken in agriculture by the Queen and the late Prince Consort directed attention to its neglected condition and drew "all the world" to farming. Be that as it may, the Queen's farms and dairy have been a favorite resort for forty years of the Royal family and their visitors. The Princess of Wales has her dairy at Sandringham, and, with her daughters, takes great pleasure in dairy work. Indeed, the Princess finds that the management of the dairy does her more good as a health- tonic than all the prescriptions of physicians. The Duchess of Fife and Princess Charles of Denmark are adepts in the dairy, and there are few dairymaids who would care to compete with them in buttermaking. The Duchess of Connaught had a lovely dairy at Bagshot when first married, but if memory does not deceive us it was given up on account of the Duke's military duties. And many noble lords and ladies have followed Her Majesty and become farmers; and in the dairy industry the Queen is supported by the Prince of Wales, the Duke of York, the Earl of Rosebery, the Earl of Cork, the Earl of Derby, Lord Vernon, the Earl of Egmont, Lord Raveligh, etc.

The Royal farms are in the Home Park, in which the dairy is also situated. On the Shaw and Flemish farms a large quantity of live stock is reared, including Shorthorns, Devons, Jerseys, Ayrshires, Herefords, and cross-breds, for meat and milk for the Royal table. Dairy farming at Windsor is marked by completeness of detail. The buildings and sheds are admirably adapted for the purpose for which they are intended, and the designs were generally supervised and approved by the late Prince Consort. In 1863 the late John Chalmers Morton declared that the herd had been literally maintained from its own members, and would compare with any in the country for purity of descent and the quality and uniformity of its character. Many improvements have been introduced since that date, and the breeds include rich-milking Jerseys and deep-milking Shorthorns. The old dairy at Frogmore, which was erected when George III. was king, was not very well arranged and quite out of date. Therefore the Queen and her Consort decided to have a new one built near

the old one. The Prince desired a gravel subsoil, plenty of pure water for use in the dairy and for flushing drains which carried the waste away, as no cesspool was permitted near the dairy. The walls were to be built hollow, and be covered with glazed tiles, as also the floor. The Prince also insisted that the roof was to be constructed so that changes in the weather might not affect the milk; and with the same object in view the windows were made with double casements in order to exclude heat in summer and cold in winter. Hence, an even temperature is maintained. Ventilation was provided by regulating the casements at the top of the roof and sides. Outside there was to be free circulation of air, and, hence, no trees are within thirty feet of the Royal dairy. These conditions were admirably carried out.

In a collection of foreign animals on the dairy farm is a fine specimen of that fast disappearing race, the American buffalo, presented to the Queen by the Marquis of Lorne when Governor-General of Canada.

The first glance of the dairy is encouraging. The Renaissance style was employed for the exterior, and a medallion states it was erected on the 21st year of the Queen's reign. The external walls are hollow; the roof is boarded and covered with asphalted felt, and inside the roof is lath and plaster. The windows are composed of Bath stone, and the whole building is surmounted with a cornice and frieze with a perfect parapet of a lacelike pattern. It was this wondrous appearance of the exterior that impelled the late Mr. Kains-Jackson to write that "the Queen's dairy was designed by Albert the Good, and was the great attraction of the farm." The arms of Her Majesty are introduced at one end of the building, and those of the Prince Consort at the other. The roof is covered with rows of red and blue tiles, surmounted by a handsome octagonal turret ventilator, which terminates appropriately on the crown and orb. The



JONAS WEBB, OF BARRAHAM, ENG., THE FAMOUS SOUTHDOWN BREEDER.

sides are composed of elaborately perforated panels bearing the Royal Arms. The old house had its exterior brought into unison with the new dairy, and it is now used as a churning room, scullery, and dairymaid's cottage. This forms a southern protection to the new dairy which stands on the north side of the old bailliff's house, and on the west shelter is provided by an elegant arcade.

The interior of the dairy is ornate, but its beauty does not detract from its utility. The floor is laid with Minton tiles of an incised pattern, with a very rich majolica border. The walls are of tile, bearing a blue-gray colored star on a white ground, designed and manufactured by Messrs. Minton. Several majolica bas-reliefs, representing the Seasons and Agriculture, adorn the walls, with charming frieze and cornice. The tables in the dairy are of white marble, on supports of Belgian and Devonshire marble. Below these tables are tiled reservoirs about two inches (provided with an arrangement for filling and emptying), through which a stream of pure water can be kept constantly flowing. Fountains of majolica ware stand at each end of the dairy, the form being a shell supported by a heron amid bulrushes. The windows are broad, with double casements, the inner being stained glass depicting primroses and daisies. These windows are also available for ventilation, as already mentioned. The roof is supported by six ornamental pillars, on which are floral clusters carrying ornamental arches in connection with ceiling and roof. The pillars and splayed bars of ceiling are beautifully molded and richly decorated and enameled.

The interior of the dairy includes another apartment thirty feet long by twenty feet wide and twenty feet high. There are marble shelves all round, on which the milk dishes stand, and marble tables for making up. The tile that meets the eye

is multicolored, but effective. Many gallons of milk are stored here daily until required. The milk in winter is set in shallow pans, but in summer the De Laval separator is set in operation. Other appliances are of the simplest description, such as churns, butter-workers, cooler, and refrigerator, furnished by the Dairy Supply Co., who are dairy engineers to Her Majesty. In connection with the dairy there is an excellent homestead, with sanitary cow house, where the milch cows are kept. The late H. Morton on looking over all said, "The whole is as perfect a combination of color, form and luster as was ever provided for the purpose which it serves, and which is observed in the design throughout." The milk records of the cows are kept and of butter produced. We can only endorse the conclusion of Mr. A. J. Stanton respecting the Royal dairy: "It is an artistic temple worthy of the sweetest of all rural pursuits." W. O.

**"A Good Dairy Cow: How to Get Her, and How to Keep Her."**

BY D. MUNROE, NEKEPAWA, MAN.  
(Continued from page 227.)  
HOW TO KEEP HER.

One of the greatest hindrances to profitable dairying is that the farmers won't feed well enough. To illustrate: A thresher comes to your place with a machine capable of threshing 2,000 bushels of wheat per day. His expenses for labor, repairs, interest, depreciation, etc., are \$31.50 per day. The feeders take it easy and they average 900 bushels per day at 3¢ cents, making \$31.50 per day. The proprietor has nothing to show for his work, risk and enterprise when the output is used up. But if they push along, and average 2,000 bushels per day, he has \$80 less, \$31.50—a clear profit of \$48.50 each day, and can well afford to do the work for less than 3½ cents. So the same principle applies to the dairy business. We cannot entirely overcome the effect of competition on prices. We must be prepared to meet declining prices, but we never can do it if the machine has not capacity. Why should not individual dairymen conduct their business with the same kind of energy and business principles as individual business men in any other calling? Low prices don't cost as much as a poor outfit or a badly run outfit, or worse yet, both put together, and that is what's the matter with much of Manitoba dairying. Don't you believe it? Then I shall tell you I know of a cow being frozen to death in this year of 1897. I know of men who are drawing straw from neighbors' fields for their cows to eat off the load in the yards. Is that good cow keeping? We found that by making an increase of ½ ton of bran to our herd per week we gained 25 pounds of butter a week, worth 20 cents per pound—\$5. That's \$2 profit each week on an investment of \$3 (the cost of the ½ ton of bran). I suppose you think you're pretty old boys to go to school, but you're not. I want you all to line up for a practical arithmetic class. We'll take a problem in percentage. We have pretty serious evidence that percentage has been and still is a matter of much interest to Manitoba farmers (this remark has more than one application). I hope the day will speedily come when it will be a case of less interest. If we milk the right cows, and stick to them, it will soon reverse the current of interest. Now class! toe the mark, and give close attention to our problem in interest—it's a stunner: A man invests \$3 and gets an income from it, a clear profit of \$2 each week. What is the annual rate per cent. There are 52 weeks in the year; \$2 x 52 = \$104; and \$104 interest on \$3 principal is 3466%. Isn't it a stunner? Is your business costing you that rate? Don't you think you had better try another bank if it is? If you are feeding your herd below capacity that's the plan you're doing business on. You can get such a rate of interest by changing the programme and feeding the machine full capacity as would make Mr. Shylock feel silly for not living up to his privileges. What you refuse or neglect to gain, when you have a sure opportunity, is as much a loss as though you had it and lost it. Many think the cows "pay some" because they are not much cost or bother. In summer they can rustle pasture somewhere, but sometimes the summer evening air is made blue, and a lot of dog fat lost, to get the "pesky critters" home; while in winter the boss damages the chances of his soul, while the dear cows have their pick of straw piles afield, and eat snow if they're too proud to stand on their heads to get an iced drink out of a water hole. The man is listening to me now who saw the weary-faced, shoulder-stooped woman enter a country store last summer and meekly ask, "What are you paying for butter?"—"8 cents." The 60-pound tub that was brought in gave her the privilege to trade out \$1.80 at credit prices. When we got away we discussed the many steps and turns and heart-throbbings pictured so decidedly on her face and form to get that butter to the store counter. Is this farfetched or sentimental? Not a bit of it. Is the price of this 6, 8 or 10 cent butter the slackening footfalls, the wrinkling hands, or the sighing sound of the voice of her whose patience and love hushes her complaining? I'm sure this portrait does not picture any member of this Dairymen's Association, but I presume you know of some such case. I know of several; I hope they'll all read what I'm saying. No, my friends! If there's nothing wrong with your head, you'll make your dairy work pay for every expense or effort, whoever does it. You are more likely to try if you do it yourself. Why am I saying so

much about this? Because it's this very butter—that costs nothing, forsooth!—that clogs the market, and every addition counts a loss to our reputation and brings a less price in trade than the cream would bring in good cash at the door, while it would help to build for us a good name. January 16th report of the New York market says: "Dairy and poor creamery butter has gone to entirely unremunerative prices, and there are thousands of packages of this butter now on the market practically unsalable." The problems of agriculture are every year becoming more serious, and we must not be indifferent to the rapidly changing situation. When the steady decline of values began and we felt the pressure of competition and low prices, we were told how to avoid a loss of  $\frac{1}{2}$  to  $\frac{1}{4}$  in poor skimming. We got the separator and so did others. But our trouble did not end here, for the butter we previously fed to the pigs when it was worth 20 to 25 cents we now carefully put on the market when it is worth 15 to 20 cents, but a quarter is added to the volume. Then we must improve quality, and we tried to put on the gilt edge. Still we can't corner prices, for this seems to be one of the unworkable combines, and the prices continue to decline. What shall we now do? Better say what *must* we do? Put the good cow to the front; fetch a chain to hitch up all the team together. Yes, here is a good one. Ah! but there is a link missing. Never mind, the rest of the chain is good. *That won't do*, we must have every link to make the whole chain of any use. The cow, the dairyman, the breeder, the feeder, the caretaker, the maker, the marketman and all the other links must be linked together to make a chain to pull us out.

Some people say they "don't like dairy work anyhow, it's too confining, and the stables smell so." Well, the smells are not the fault of the cows, but of a poor stable or a bad stableman. Yes, it's exacting work, but it tends to regularity, cleanliness and gentleness. The successful dairyman loves his work and his cows. If you don't or won't like the business, better have nothing to do with it, as it will be no benefit to you, nor will you be of any benefit to the business.

Mr. Munroe then referred to the individual records kept of several cows in his herd to illustrate the importance of applying the Babcock test and weigh scales to each individual animal in order to ascertain their value. The charts used showed the readings of weekly tests covering a considerable portion of a year. "No. 6, an Ayrshire grade, and No. 7, a Shorthorn grade, stood together in a double stall, each receiving similar care and feed:

No. 6 made 368 lbs. butter at 19c. (our average price for the year).....\$69.92  
No. 7 made 203 lbs. butter at 19c. (our average price for the year)..... 38.57

Total difference in product.....\$31.35

"Which shows that No. 6 is worth each year 81% more than No. 7, but her real worth is very much more, as the offspring of No. 6 are proving very valuable as dairy cows, showing improvement in quantity of milk over their dam, and equal in per cent. of fat and continuation of milking period; in fact, one of her daughters refuses to go dry at all. To continue this comparison a little further we find the difference on a herd of 10 cows at \$31.35 to be \$313.50; difference on a herd of 20 cows at \$31.35 to be \$627.

"I might also show you the value of good cows over poor ones by further comparison of pairs of cows, stable mates, and under like conditions. The pairs bracketed together stood in same double stall. Taking three groups—

(No. 6	368	203
(No. 7	330	229
(No. 13	308	224
(No. 9	308	
(No. 15		

A difference of 350 pounds between the three poorest and the three best of these six cows, or a loss of over 53% by keeping the poorer kind." A number of other useful deductions were shown by the charts, as the effect of a cold rain, lice, worry, etc., on the butter-fat of the milk of individual cows. In conclusion, Mr. Munro said: "If these comparisons could be extended to the whole number of cows of the country, the showing would be startling. If every dairyman would investigate his own herd and put the misplaced ones where they belong (into beef), there would be few to say dairying don't pay."

#### Death of Mr. Nicholas Awrey.

We record with deep regret the death at Hamilton, Ontario, on June 10th, of Nicholas Awrey, ex-M. P. P., at the age of 46 years. Mr. Awrey was for many years a prominent figure in Canadian public life, having for 18 years represented South Wentworth, his native county, in the Legislature of Ontario, where he took an active and influential part. He was for several years a useful member of the Council of the Agriculture and Arts Association of Ontario, and was twice elected President of that body. He was the Chief Commissioner from Ontario at the World's Columbian Exposition, and won for himself great praise for his skillful management of the exhibits of the Province. He was appointed Registrar of Wentworth county early in 1886. Mr. Awrey was of a genial and cheerful disposition and of fine executive ability.

A. L. L. POTTS, Pilot Mound, Man.: "I think the FARMER'S ADVOCATE is one of the best farming papers, if not the best, I have ever read."

#### The Use of a Starter in Cheesemaking.

To the Editor FARMER'S ADVOCATE:

SIR,—For fear of there being any misconception as to the meaning of a starter, I would give this definition. A starter is some milk in which the lactic acid has been allowed to develop.

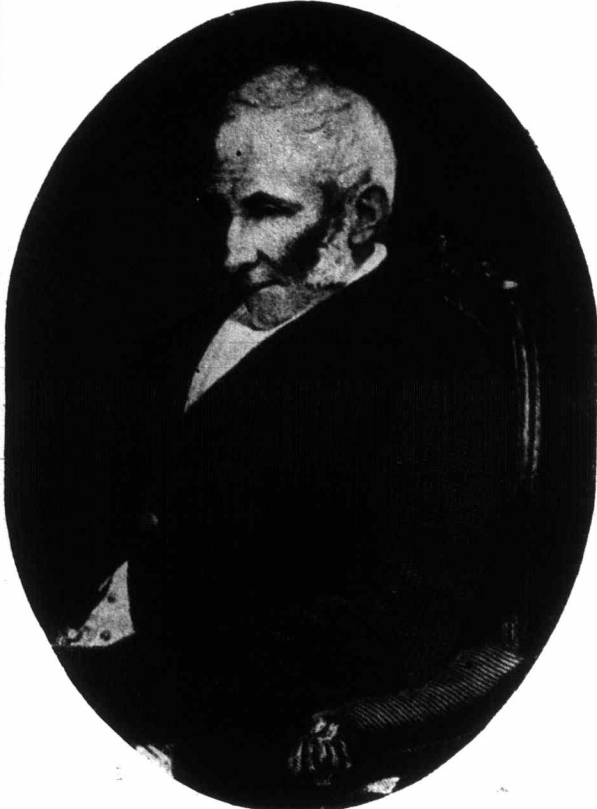
So much has already been said for and against its use by able speakers, also by literature issued by the various experiment stations, by reports of dairymen's associations, and by the press, that I feel rather timid at expressing my humble opinion and experiences.

It is needless for me to say that I am a firm believer in the judicious use of a starter, for the following reasons:

1. It hastens the ripening of the milk, thereby saving butter-fat. 2. It improves the flavor and helps to overcome gas.

Yet some of the noted cheese-men of this Province tell us that its use is as dangerous as that of coal oil in starting a fire if not properly handled. Perhaps it is, but the maker who cannot handle it properly should be out of the business.

I shall briefly describe the way we handle our starter: Take some of the best flavored milk, place it in a can for the purpose, which is a can with double walls, having a shallow space between. In this space is the hot water, into which is a rubber hose. Stir the milk gently, and heat it to 158° Fahr., at which temperature all germs are killed. We then run the hot water off, and allow it to stand for twenty minutes, then cool rapidly to 65°, at which temperature water, about 50 per cent., is added, and also a little old starter. It is then tightly covered and set away until needed. We have also had good results when time would not permit pasteurization by simply taking good flavored milk at 75°, and adding a little of the pre-



SIR CHARLES KNIGHTLEY, A FAMOUS BRITISH BREEDER AND HORSEMAN.

vious day's starter and a little coloring. This is allowed to stand for one hour, when the water is added, about as much as there is milk, having the mixture about 70°. Stir thoroughly and cover close until required. Always break up fine before using, so as to have a creamy consistency.

We have use starter during the past spring almost continuously, and have not been troubled by loss of butter-fat spoken of by Prof. Dean. We set at from 20 to 22 seconds (rennet test) and dip at from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch of acid on the hot iron and cook 2 to 2½ hours at 100° Fahr.

In conclusion, I may say that where care is practised the starter is a decided advantage; especially has it been so during the past spring, and it will continue to be so in spite of the opposition hurled against it. F. L. SYMTH, Lambton Co.

[NOTE.—To say that because the use of a starter has been of decided advantage during the peculiarly cool spring just past it will continue to be under all circumstances seems a little wide of the mark. If all milk were carefully aerated and delivered to the factory in fresh, sweet condition a starter could certainly be advantageously used during the entire season, but when the hot weather arrives and the last loads of milk each hot morning are already more than ready to set, as is often the case, the starter would find no place, but would be a disadvantage.—Ed. F. A.]

WATSON CLARK, of Victoria, B. C., when renewing his subscription for 1897, says: "I am well pleased with the ADVOCATE, as I find the most sensible articles on farming in it that I ever meet with in any paper."

#### Dairy Legislation.

In our issue for May 15th we felt in duty bound to condemn the McMullen Cheese Inspection Bill before Parliament at Ottawa as a needless piece of legislation that would simply result in imposing a lot of officials on the taxpayers of the country. It was very soon found that dairymen generally did not approve of the measure, which we are pleased to note has been dropped for this session at least.

On two occasions at least, if memory serves us aright, and under both Governments, bills have been introduced in the Canadian Parliament to compel cheese factories and creameries to register at Ottawa, and to brand "Canada" or "Canadian" and the date of manufacture upon the cheese and box or butter tub as well. We have had no hesitation in disapproving of this compulsory registration feature as a needless, vexatious and meddling piece of legislation in the interest of officialism and not of the dairymen; but we did approve, and do still, of branding on simply the word "Canada" or "Canadian." The present Minister of Agriculture, Hon. Mr. Fisher, has reintroduced the Bill, but has left the registration feature *entirely optional*, and omitting the date, but making it compulsory to brand the words "Canada" or "Canadian" in case of all dairy products intended for export. Any meddling therewith is forbidden, and under another clause no one is allowed to offer or sell cheese represented in any way to have been made in any other month than the one in which it actually was made. The penalty for violations is a fine not exceeding \$25 and not less than \$5 for every box of cheese or tub of butter so offered or sold, together with the costs, and in default three months' imprisonment. One half the pecuniary penalty goes to "the Queen," and the other to the informer.

#### How to Milk Kicking Cows.

W. O. D. writes:—"It would be difficult, I believe, to find a dairyman of any extent who does not occasionally have in his herd a cow that gives much annoyance from the habit of kicking while being milked. There are a great many prescribed means of subduing such animals, and most milkers have found some plan that works fairly well. Usually really vicious cows have to submit to fixtures of ropes, straps or the like, but even these can be done without if the milker is a strong, resolute fellow who has not the least fear of his cow, and will not lose control of his temper. One plan I know to work well is to tie the cow's head close and secure, so that she cannot jump forwards or backwards. Then set the pail a little way out from her, bend over and place the head very firmly against her groin, and with the left hand grasp the back near teat very firmly and commence milking with the other hand. In all probability she will set up a furious and determined opposition, but if the milker is persistent and stays at his work without a flinch she will soon lose confidence in her ability to kick herself free, and will give up considerably exhausted and subdued. Two or three determined efforts will subdue very bad cases, rendering them ready to stand peaceably for weeks together. Occasionally she returns to her old vice after a time, when another trial of strength and power of endurance will have to be gone through with and will usually suffice. In breaking a heifer or a kicking cow rough usage is unnecessary and unwise. By the plan outlined a really bad case can be milked and subdued in spite of herself by a strong, determined man.

#### Effect of Ensilage on Butter Flavor.

Does ensilage injure the flavor of the butter made from the milk of cows fed on it? This question has been asked thousands of times, and yet those who answer it do not agree. The bacteriologist says that the flavor of butter comes mainly from the action of bacteria, and some have gone so far as to say that bacteria are the sole source of flavor, and the food of the cow has nothing to do with it. With these last I must certainly disagree writes Mr. Goodrich, although I have the greatest respect for the bacteriologists, and believe that a great part of the flavor in butter does come from bacteria. But we do know that when cows are changed from dry winter food, such as hay, cake, etc., to fresh green grass pasture in the spring, there is a great change in the flavor, the butter having a decided "grassy" taste. We do know that when they are turned on green rye pasture the butter has a flavor similar to that from the fresh grass, and if their only food is green rye this peculiar "grassy" taste is sometimes so strong as to be decidedly disagreeable to some persons.

We also know that when some cows eat wild onions, leeks, and some certain weeds, the taste of the butter is so intolerable that one can hardly eat it. But how about ensilage. I examined a sample of the ensilage which was quite sour and had a slight smell of alcohol. The grain was quite immature when put in. The question arose in my mind then as to how it would effect the butter, and it was some years before I settled the question in my own mind. I never missed an opportunity to talk with those whom I thought might be able to give me some information on the subject. All those who had silos and fed ensilage said it did not injure the butter, and those who had no silos, and therefore knew very little about it, said they would not feed it to their cows because they knew it would spoil the butter. I became satisfied that cows relished en-

silage, because I saw them eat it greedily. I could see that they did well in giving milk, and that it was an economical way of feeding, but still I hesitated to build a silo for fear of injuring the quality of the butter. The quality was of the greatest importance to me, for I was getting an extra price, the consumers of it being very particular as to quality.

In time I made up my mind to build a silo, but thought I would make one trial more how feeding ensilage affected the selling qualities of the butter. I filled my silo with grain cut in inch lengths, when the kernels were just beginning to dent. I commenced to feed from it in November and awaited with anxiety the result. After I had made two shipments of butter from ensilage-fed cows without letting my agent know anything about what I was feeding, I received the following, voluntarily written by him: "The flavor of your butter is excellent; never so good before at this time of the year." That settled it for me that good ensilage (we were careful not to feed any that was damaged) did not injure butter, but tended, if anything, to improve it in winter.

The fact that the condensing milk factories reject milk from ensilage-fed cows, and the frequency with which objections are raised by others to ensilage feeding, suggests the desirability of having some careful experiments on the subject conducted in order to determine what effect, if any, ensilage feeding has upon milk flavor.

**Ambitious Australians.**

An observant and experienced Australian, Mr. E. Trenchard, on his return to the Antipodes from a trip to England, was by no means favorably impressed with the Short-horns he saw on his travels. He attended most of the leading shows in England, and saw a good many famous herds, but returned to Melbourne fully convinced that if the quarantine regulations were so altered as to permit of the competition of Australian Shorthorns at English shows they would carry all before them. The really good Short-horns in England, he thinks, are not nearly as numerous as they are in Australia, and the prices for anything above mediocrity rule very high. Other Australian stockmen who have been in England of late years seem to entertain equally well-satisfied views regarding their own herds, and alluding to the fact that America has been such a valuable customer for the British Shorthorn breeders, one leading Australian writer buoyantly exclaims: "Can we not capture the American market?" One of our illustrations in this issue represents a prize-winning Australian cow, Blanche Rose 12th, that took second place at the Royal Agricultural Show in that Colony. She has been a great showing cow in her day, but she shows signs of decadence after her many victories. Mr. J. H. Angus, of Collingrove, South Australia, is her owner.

**Tidings from Australia.**

**PUSHING DAIRY INTERESTS — GOOD POINT FOR CANADA — TERRIBLE DROUGHTS — LOSSES OF SHEEP — NEW OPENING FOR CANADIAN BACON AND HAMS.**

To the Editor FARMER'S ADVOCATE:

SIR,—The best prize for butter at the exhibition of the Royal Agricultural Society, held last month in this city, was awarded to New South Wales butter made from pasteurized milk. This is noteworthy, because previously Victorian butter has carried off the honors.

The New South Wales Government has brought over an expert from Ireland to supervise the dairy industry of the colony. It will be rather surprising to Canadians to be told that he has strongly condemned the system pursued in buttermaking as well as cheesemaking. It is proposed that he shall inspect export butter, and when he finds the product of a factory below the mark that factory

shall be at once notified, and, if necessary, a competent man sent to show the erring manager how butter should be made. This is practically what is done in New Zealand and some of the other colonies.

Your readers have probably noticed the agitation in England against Australian butter, on the ground that it contains boracic acid. This is, as I stated in an article I wrote you some time ago, the basis of the "preservitas" and similar articles of other names used here and in the United States to preserve export butter.

[NOTE.—The ADVOCATE has steadily condemned the use of these substances in Canada, going so far as to refuse liberal advertising from parties interested in their manufacture and sale. We are glad to have our judgment confirmed in this way.—ED.]

The English doctors say that the amount in the butter is proportionately small and will not do much harm alone, but the article is used in so many articles that dangerous quantities may be consumed. The Canadian climate is relatively so cool, and the country so near England, that with proper insulated carriage its butter can be landed in good condition without the use of this doubtful article. A good point might be made just now by advertising it as being free from acid or other suspicious ingredients.

The dairy expert of New Zealand is Mr. J. B. McEwan, a Canadian from near Stratford. He has just got back from a trip to Europe and Canada, and thus gives his views to a newspaper:

"There was no danger of Australian butter and cheese failing to find a market in England so long as a high standard of quality was maintained. At

has turned out much better than was expected, averaging ten bushels to the acre. In South Australia it may go one. The dry time is so serious now because on most places the fields should have been sown, but the farmer has not yet been able to plow. The prospects are now that for three years in succession Australia will not be able to raise enough wheat for home consumption, and the Canadian Northwest next year will still find a market here. The one poor consolation the Australian is getting out of the trouble is that if the drought is killing his horses, cattle, and sheep, it is also killing the rabbits. His hatred of that seemingly insignificant creature is such that this is really a comfort to him. The Australian farmer has a beautiful climate, but his droughts, insect, reptile, bird and animal pests are a good deal worse than a Canadian winter.

This is, however, a remarkable country and has wonderful recuperative powers. Just fancy a Province like New South Wales, with about half the population of Ontario, that could lose ten million sheep by starvation and want of water, and nevertheless ship 650,752 bales of wool since July last. It must be a remarkable one. How the sheep pull through is a mystery, but they do, and thus a dry time that would paralyze business in Canada only makes it dull here. The Australian is a hopeful man. If it was dry last year, and the year before, and the year before that, "Well, it won't be this year," is his feeling, and he is quite sure a good season must come and that will wipe out past losses. There are, however, young Australian farmers who are looking to Canada with a view of

trying how farming will go in a land where there are wells and where the rivers do not go dry.

Australia is a meat-exporting country, but high-grade hams and bacon are imported. Correspondence has been initiated with a view of securing the trade for Canada. If the Australian sends some canned mutton into British Columbia, the Ontario farmer may reciprocate with pork. A little cheese has made its way from Canada, and if the dry time continues the farmers of the Northwest may yet be able to send some butter as well as the bread they now supply. We must regret the losses and sufferings of the Australian farmer, but it is not a bad thing to have a relative able to supply his need with the best.

J. S. LARKE.

Office of the Commercial Agency of the Government of Canada.  
Sydney, N. S. W., May 6th, 1897.

**APIARY.**

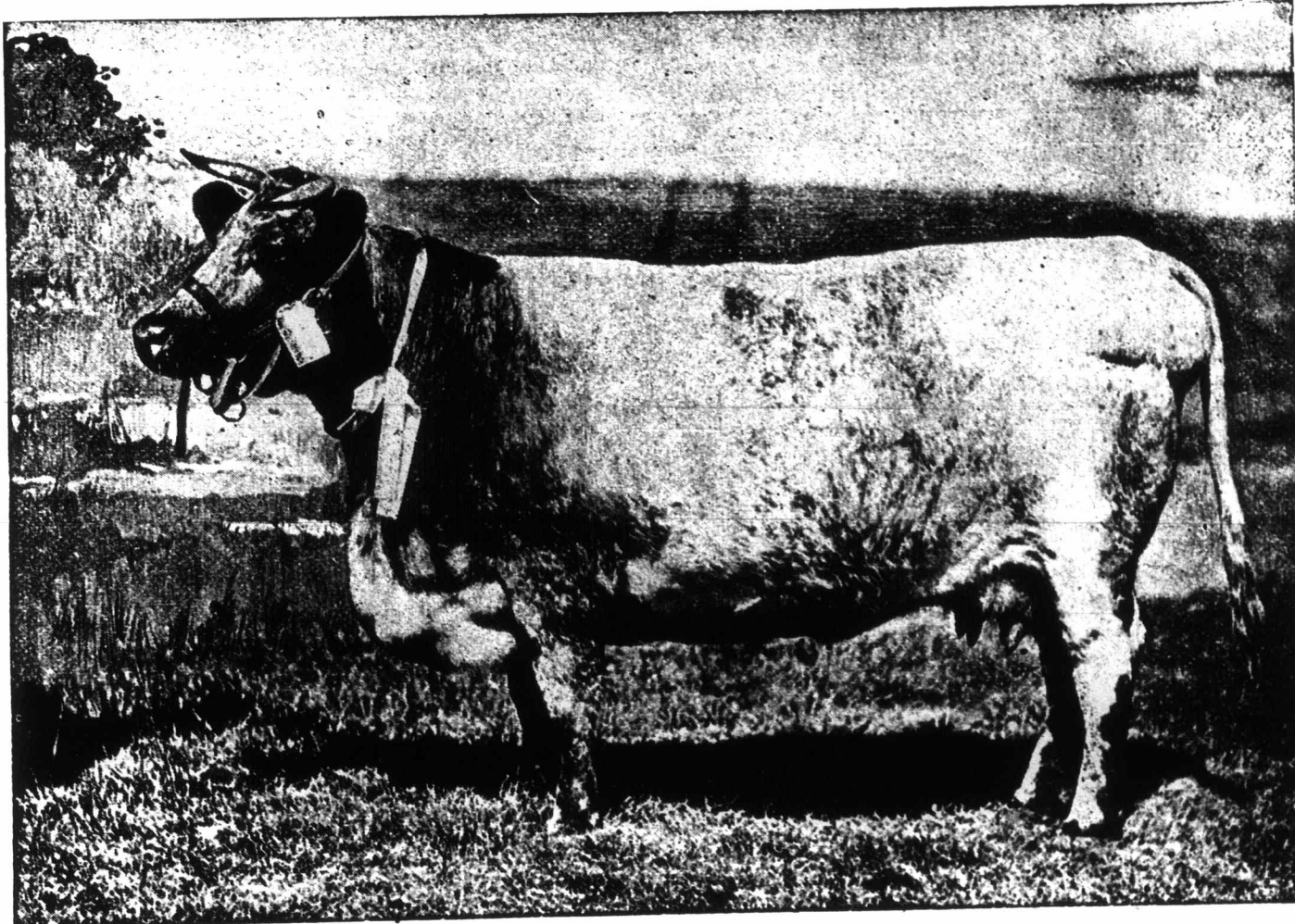
**No. 5.—Summer Management of Bees.**

BY A. E. HOSHAL, LINCOLN CO., ONT.

The supreme effort in the apiary during the year begins with the opening of the clover bloom, about the second week in June, and ends with the close of the basswood bloom, about the third week in July. It is during this four or five weeks' time that we obtain our honey. True, many localities yield honey from other sources, such as raspberry, thistle, buckwheat, fall flowers, etc., but these are only secondary and must never divert our attention from the real honey harvest in June and July; for, failing to obtain this, our whole year's work is practically lost.

If we exclude queen-rearing the work in an apiary in connection with its summer management comes under three heads, namely, the addition of surplus cases, the removal of honey, and the caring for swarms.

As soon as a colony has filled its brood chamber with brood and honey and is becoming crowded with bees, it must be given its first surplus case for the storage of honey, no matter how early in the season. The addition of this case should never be delayed until the colony has begun swarming preparations, nor beyond the opening of the clover



A TYPICAL AUSTRALIAN SHORTHORN COW, OWNED BY MR. J. H. ANGUS, OF COLLINGROVE, SOUTH AUSTRALIA.



matters. A bag of bran properly prepared is one of the cheapest and best remedies. It is useless to give it uncooked for this purpose; it is not necessary that it be boiled, but that it be well saturated with boiling water and then kept covered for several hours before feeding. An addition of salt and a spoonful of sulphur to each pailful is helpful but not of positive necessity. Let this bran mash be fed liberally until the bowels are quite loose. You will then have relieved nature of a task which it has generally to perform before any good can be obtained from the spring grass. You will gain time in the direction of improved condition at a season when every day is wanted to tell; it means more beef before the flies come, and hastens general improvement of all live stock. And to horses it is doubly important, because it helps to relieve them from the slightly fevered condition which results from fitting them up for spring work.

It is wisely said, "It is well to let very well alone," but I always feel inclined to say, when it cannot be improved upon. A decided improvement in this case may be brought about by giving a pound or so of either linseed or oil cake to each animal until the grass comes. I was led to notice this by a remark made by a careful, observing man, that "it matters not how little you give, you can always see it in the dung." The oily food furnishes the requisite at the right time, it helps to form a healthy mucus on the covering of the bowels, and the dry, hard, scaly surfaces are softened. Farmers generally are accustomed to so little profit for what they do that there are few only that consider what return they are to get for a small investment. If there is any time when the outlay of one dollar is likely to bring five, I think the suggestions here offered, if carefully carried out, will claim a good place. A bag of bran will serve ten animals; and if it does not leave them fifty cents a head better my judgment is not in tally with my observation. There are times when the man that picks up little things that another passes over saves a dollar. There is more importance in the little hillocks of farm work than in the mountains that nearly every one seeks to climb.

POULTRY.

Care of Young Turkeys.

Before turkeys hatch the hen should be well dusted with insect powder by holding her by the feet, head downwards, and dusting under her wings and body thoroughly. When the eggs hatch gather the young and grease the top of their heads with fresh butter, using a lump about the size of a pea. Place the hen and her young in a clean, light pen, and keep them there most of the time except on sunny days until they are twelve weeks old, when all danger is past for allowing them to run.

Young turkeys must be supplied with grit. Wheat bread soaked in milk, a little pepper, and onion tops chopped fine, and later lettuce and dandelion tops compose a very good diet. Fresh water should be regularly supplied three times a day in small quantities, as young turkeys will sometimes drink themselves to death. Feed only three times a day. By keeping young turkeys thus housed and an eye open for lice, the two great enemies, dampness and vermin, will have little chance to operate against the brood.

Is There Money in Eggs at Present Prices?

To the Editor FARMER'S ADVOCATE:  
SIR,—The question is often asked what it costs to produce a dozen eggs in summer, and if eggs can really be produced at a profit? Our flock of hens, which consists mostly of Plymouth Rocks, are liable to sit a great deal at this season of the year, especially after heavy winter forcing, and perhaps it is unjust to use them as a basis; nevertheless, I can show a profit from our 200 laying hens.

These hens have laid steadily since last November and were forced to their utmost capacity during the winter months. When early spring set in and eggs were cheap we ceased forcing to give the hens some recreation, and therefore our egg yield is not as large as might be expected at this season of the year. During the second week in April we gathered 695 eggs, or within a week 58 dozen.

The 200 hens consumed daily about 30 lbs. of a mixture of 1 bran, 1 oats, 1 pea meal, and two corn meal, and 1 bushel of oats. The ground grain cost nearly \$14 per ton, or 70 cents per cwt. The whole cost 20 cents per bushel. Figuring this out for the week we have:

7 bush. oats at 20 cents	\$ 1 40
210 lbs. grain (30 lbs. daily), at 70 cents per cwt.	1 47
Total cost for the week	\$ 2 87
58 dozen eggs at 8 cents per dozen	\$ 4 64
	2 87
Total gain	\$ 1 77

It will be noticed no allowance is made for green foods or meat. As there is plenty of green stuff in the yards at this season we do not supply any, and meat is supplied through earthworms, etc.  
Hastings Co., Ont. W. R. GRAHAM.

Possibly one of the best methods of destroying cabbage worm is that recommended by *Gardening* several years ago. It was to take fine salt, dry it on a hot stove, and when the dew was on the plants sprinkle the dry, powdered salt over them. This should be done about once a week.

THE HELPING HAND.

Hayfork Car Returner.

A simple but very handy contrivance for returning a hayfork and car from the mow to the load is to attach a rope to the car, conducting it in the direction opposite the mow being filled. Conduct this rope over a pulley at the end of the track and attach to it a weight such as a bag of sand or gravel. When the loaded fork is drawn into the mow the weight at the other end of the track is drawn up. When the fork is unloaded the bag of sand will immediately lower and thus return the car to the stop blocks, when the fork will at once lower to the load. It is well for the person driving the horse on the fork rope to unhook him, allowing the immediate return of the fork, and thus save much time to the unloader. Such a contrivance as the above will save much time and the disagreeable work of pulling back by hand with the small trip rope the fork and carrier.

Handy Stacker.



JOHN FIXTER, Central Experimental Farm, Ottawa:—I am sending you a sketch and description of a handy and easily-constructed stacker. The track is the ordinary steel rod suspended between the posts and anchor ropes shown in cut. They may be any desired height. The posts next the load should lean four feet out of plumb away from the stack so that the load can be driven nearly underneath the stop block. Our artist is evidently not familiar with the form of a modern hay load nor form of a building stack, but his illustration indicates the principle of the stacker. This plan of stacker could be advantageously used at the end of a barn or shed, so that when the hay or grain was desired to be hauled into the building it could be easily done through a large door in the end. In such a case the track should be continuous from over the stack in through the building.

GARDEN AND ORCHARD.

Notes on Strawberry Culture.

BY ELLIS F. AUGUSTINE, LAMBERTON CO., ONT.  
The newly-set strawberry bed should receive frequent cultivation during the entire summer, not merely for the destruction of weeds, but to render the soil loose and mellow, and for the conservation of moisture. Cultivation is particularly necessary after heavy showers of rain, and should always be done before the ground has dried out sufficiently to form a crust, as in this condition evaporation is very rapid. To secure a strong, healthy growth, no fruit should be allowed to form upon the newly-set plants, and all runners should be cut off at their first appearance, up to the first of July. This causes the plants to become strong and thrifty, so that the runners thrown out after that date will possess much greater vigor, and a better stand of plants will be obtained.

The matted-row system of culture is now almost universally adopted, but to secure the best results the plants should not be permitted to grow as thickly as this name would imply. No vegetation can produce to its fullest capacity if overcrowded; therefore, the growth of runners should be restricted so that every plant taking root will have a space of at least six inches square in which to grow and expand. It is quite customary to allow all runners thrown out to grow and take root, and then after growth is over in the fall to thin out the plants to the desired quantity. This, however, is a practice which should not be followed, as much of the substance which should be utilized for the best development of the plants retained is thrown away upon those hoed out. The finest crop of strawberries the writer ever saw grown was produced upon a bed where only two runners were allowed to grow and take root from each plant set out.

For those who desire the largest and finest fruit, the hill system of culture will best meet their wants. By this method the plants are set in rows only 2½ feet apart and 15 inches in the rows. All runners are cut off upon their first appearance during the entire season. This causes the plants to stool out and form a new crown for each runner removed, so that in a favorable season the whole surface of the ground is covered with rich, healthy foliage throughout each row. From such plants berries of unsurpassed quality and size are produced.

When grown by the matted-row system, after the runners are allowed to spread and take root the cultivator should always be run in the same direction at each working or the runners will be displaced and the plants torn loose.

If it is considered advisable to retain a bed which has fruited, with a view to a second season's crop, immediately after the fruit has been harvested the mowing machine should be run over the bed, having the cutter bar set as high as practicable

in order to avoid injury to the crowns of the plants. As soon as the foliage thus cut has become sufficiently dry the entire bed should be rapidly burned over. This is readily accomplished if a liberal supply of material for mulching was applied the previous fall. The burning over is best performed when a brisk wind is blowing, as the ground will then be quickly burned over without injury to the hearts of the plants.

This burning not only facilitates the work of getting the bed in proper condition for a future crop, but also destroys innumerable weed seeds which have ripened, and countless injurious insects which prey upon the plants and fruit. Immediately upon the completion of the work of burning, the cultivator and hoe should be started to work to loosen up the soil and clean out everything but the most vigorous plants; then, if the season does not prove an exceptionally dry one, a new, healthy growth will at once begin, fresh runners will be thrown out and take root in the loosened soil, and an excellent stand of plants will be secured for a promising future crop.

This practice can be recommended if the work is judiciously performed and the season not too dry, but we have occasionally seen strawberry beds considerably damaged when burned too closely during protracted dry weather. If it is deemed advisable to treat the bearing beds in this manner sufficient help should be on hand to proceed with the work immediately after the fruit is harvested; for if the work of mowing and burning is delayed until after the rush of the raspberry season is over the plants will already have begun new growth, which they do soon after fruiting, and if the work is then proceeded with the crowns of the plants will be injured to such an extent that they will never fully recover.

It is never advisable to retain a strawberry bed after the second crop is harvested, as the third season the fruit is invariably small in size and of inferior quality. Should the bed be very dirty after a first crop it will even pay better to plow it down than to attempt to clean it, as it requires much less labor to set out a new plantation than reclaim an old one when it has become overrun with weeds and grass.

To make certain of always having a promising bed of strawberries for the following year a new one should be planted out each spring.

The San Jose Scale.

To the Editor FARMER'S ADVOCATE:  
SIR,—The proposed United States Federal Bill, drafted by a committee of nurserymen and entomologists at Washington last March, providing for the inspection of nursery stock and fruit imported into the United States, and the inspection of nursery stock only when shipped from one State to another, has caused a good deal of warm discussion on the part of nurserymen and fruit growers. This inspection is to be held at the expense of the nurseryman. The bill was to have gone into effect on July 1st; it now seems probable that it will be more fully discussed and perhaps amended at the meeting of the Association of American Nurserymen, at St. Louis, June 9th and 10th. The agitation brought about by the rapid spread of the San José scale will undoubtedly lead to important results. The opinion has been expressed that the Canadian climate would in itself prevent the development and spread of this dread Californian pest. We should not experiment in this matter. The manifest duty of every Canadian fruit grower and nurseryman is to use the utmost caution in importing scions or nursery stock. A package should not be received from the United States unless accompanied by a certificate from the State Entomologist or other State officer to the effect that the nursery from which the consignment came had been inspected and found free from San José scale. In guarding their own interests, the leading nurserymen of the United States have already had their stock inspected, and are prepared to furnish a certificate with each shipment. In a recent letter to the press by Prof. J. B. Smith, of New Jersey, the following occurs: "I have had at least as much experience with the San José scale as any individual station worker, and I believe the insect is to be dreaded more than any other pest that has ever invaded the Eastern United States. No one who has not seen it in badly infested orchards can have any idea of its ravages and of the difficulty in dealing with it." With regard to the distribution of the scale by means of the fruit, Victor H. Lowe, Entomologist of the Experiment Station at Geneva, N. Y., is quoted as follows in an address at the last meeting of the Western New York Horticultural Society:

"At present the San José scale is doing its worst work in this State on Long Island. It has been found from one end of the Island to the other. On two different occasions we found fruit exhibited at the Long Island fairs which was badly infested. Since that time we have observed it in the nurseries there.

"As early as July of 1894 we found pears infested with the San José scale for sale on fruit stands in New York, Brooklyn, and Jamaica, L. I. In the first two instances all the infested fruits observed were Bartlett pears from California, while at Jamaica not only infested pears from California but also infested pears grown on the Island were found for sale in the market places. This, together with the fact that infested fruit was sent to the Long Island fairs, not only that year



and the year following, but this year as well, indicates almost criminal carelessness on the part of those responsible."

While the danger from this latter source to us in Canada is probably very slight, as California pears and plums are largely shipped to Eastern Canada and consumed there, yet as a possible avenue of infection it should not be lost sight of.

JOHN CRAIG, Horticulturist.  
Central Exp. Farm, Ottawa.

**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.]

**Miscellaneous.**

**ASHES AS A FERTILIZER.**

G. H. HORNING, Brant Co., Ont.:—"What value as fertilizer should be put upon pine or basswood ashes as compared with those from hardwood?"

[According to analyses of ashes from different woods made at the Ontario Agricultural College last year the ashes contain the following percentage of elements:]

Variety.	Potash.	Phos. Acid.	Lime.
Maple, hard	9.31	2.03	45.24
Ash, black	25.30	1.20	49.04
Pine	11.22	4.03	20.28
Elm	35.37	.45	23.64
Beech	7.58	1.39	41.21
Apple	4.54	1.31	44.93
Basswood	9.39	5.28	33.42
Poplar	10.42	2.98	23.38

As potash is the chief fertilizing element in wood ashes, a comparison of the amount in the above varieties will indicate fairly their comparative values.]

**GOITRE IN LAMBS.**

SUBSCRIBER:—"I have had serious losses of lambs in my flock from being born with lumps in their throat on each side of the windpipe, varying in size from that of a hazelnut to that of a hen's egg. Some strangled at birth, others lived a few days, others survived several months. I feed my sheep well and give them good care. What is the cause and cure?"

[This trouble is known as goitre and is an enlargement of the thyroid gland. It is generally attributed to a superabundance of lime in the water drunk, which is a doubtful conjecture. Treatment is of little avail and is hardly worth attempting. Prevention is the only hope and we believe is practicable. The treatment of the ewes is the secret of success. Avoid close confinement of the in-lamb ewes during winter months. Keep them out in the fields by day till late in the fall and make them take exercise in winter by feeding some part of their fodder out of doors. Feed no turnips before lambing, or very few, and these whole, thrown on the ground so that the ewes get exercise while scooping them and do not eat them too rapidly. Avoid giving free access to ice water. A small allowance of bran and oats is good. Keep salt within reach at all times. See that the ram you breed from is free from disease and cull out any ewes which have it, as it is somewhat hereditary, though not always so.]

**DOGWOOD.**

ROBT. MOORE, Brant Co., Ont.:—"Could you inform me through the ADVOCATE as to how dogwood can be propagated for garden use? It is very scarce in this part, but still yields an abundance of flowers, which would make it an ornament to the yard. I have never been able to find any seeds or sprouts."

[The specimen received is *Cornus florida*, or flowering dogwood. It is a beautiful flowering shrub or tree which grows, under favorable conditions, 20 to 30 feet high. The flowers have four greenish-white petals, each about two inches long and depressed at the center of the end. Its bark is extremely bitter. This plant grows best in sandy, peaty soils, in a rather moist, shady situation. One fine specimen of this tree is growing near a pond not far from London, Ont. It may be readily increased by cuttings or by suckers, either of which operation should be performed in the autumn. When suckers come up from the root they can be separated from the plant along with a portion of root. Dividing down through the center of the root when two or more stems are present is an equally satisfactory method of propagation.]

**PERMANENT PASTURE FOR PIGS.**

S. P., Middlesex Co., Ont.:—"I have three acres of land which I want to use as a permanent pasture for pigs. It is black loam, walnut land, well drained by nature. I sowed rye last summer as soon as wheat was off, pastured it all fall and some this spring. It grew up and headed out and is plowed under. Now I want to know what to sow for permanent pasture?"

[We do not see that you can do better than sow rye and timothy early in September, and a variety of clovers in the spring. The rye would furnish pasture this fall and next spring, and could be cut early and repeatedly and allowed to remain as a mulch, or raked off and removed if too heavy for mulch. Sow six pounds timothy seed in the fall, and in early spring six pounds red clover, two pounds alsike, two pounds Dutch white clover per acre. Kentucky blue grass would probably do well on the soil described, and as it develops slowly would come in to take the place of the red clover, which will disappear after the second year. It is a very light seed, and should be sown at the rate of about a bushel an acre in the spring, and harrowed in.]

**CYPRUS SPURGE.**

G. B., Westminster Tp., Ont.:—"I enclose you specimen of a low, yellow-flowered plant (weed as far as I am concerned) which has got complete possession of a plot about twenty feet square on my lawn. What is it and how can I get rid of it?"

[The plants in question belong to the Euphorbia or Spurge family, which have the following properties: An acid, stimulant and poisonous principle, residing chiefly in the milky juice, pervades the whole order. The plant before us is

**PLAN FOR HOG PEN.**

H. N., Halton Co., Ont.:—"I intend building a hog pen to accommodate 100 hogs. What material should I use to secure a dry, warm pen in winter? What size will be necessary?"

[It takes a pretty large pen to accommodate 100 hogs comfortably. A building 30 x 60, with feed passage 5 or 6 feet wide down the center lengthwise, and six pens 10 x 12 feet on each side, might answer the purpose if you do not think ten pigs too many for a pen of that size. Our own opinion is that six or eight is enough for such a pen. We gave our ideas on this subject in answer to a similar question in the ADVOCATE for Feb. 15th, 1897, page 86. Wooden walls, double-boarded, with felt paper between, are both warm and dry. Of course, they should be on a concrete or stone foundation, say one foot above the ground. Concrete is said to be drier and warmer than stone-work for walls, and if good gravel is within reasonable distance, would probably be about as cheap, and if properly built, more durable than anything else for walls. This might be used to the height of the ceiling, say seven or eight feet, and a wooden structure above for a loft for bedding if preferred. For the ground floor concrete is, no doubt, the best material. At a rough estimate the cost of concrete walls 30 x 60 feet, 7 feet high, would be: 45 barrels Queenston cement at \$1 per barrel, about 30 loads gravel, and 7 to 10 days' work. A considerable quantity of small stone can be worked into the center of the concrete wall.]

**SHEEP LOSING WOOL.**

R. E., Ontario Co., Ont.:—"My sheep lose their wool, the rams in February, and the ewes in April. Some are nearly naked now. What is the cause, and how can it be avoided?"

[Examine them carefully for scab. If there are white, crusty scabs on the skin on back or sides, and the sheep bite at you when these are scratched, it is scab, and should be dealt with vigorously and at once. Shear the sheep and apply some one of the prepared "dips" in good strength; apply it as warm as the sheep can bear, and break the scabs up so that the solution gets to the bottom of the disease. Repeat in a week or ten days, and again later if any remain. Disinfect the walls of pens and the fences of the yard where they have rubbed, as the germs will live for months. It may be ticks, or what is worse, small white or red lice, which cause the trouble. In this case the dip should be poured on the back and sides, or better, shear the ewes, and dip lambs and ewes a few days later. If all sheep were treated for ticks and lice at the beginning of winter by pouring the "dip," opening the wool every few inches, we are of the opinion there would be no vexation from their losing their wool in winter or spring. We strongly advise shearing

**The Old Lords of the Prairie.**



A GROUP OF NORTHWEST BUFFALOES.

known as Cyprus spurge (*Euphorbia cyparissias*). It is really a herb, growing from a few inches to a foot or more high, bearing greenish-yellow flowers in umbels like the flowers of the carrot. The leaves are narrow and grow quite close together on the smooth green stem. It has been introduced as a flower, and being tenacious of life it has stuck to its home wherever planted, and in some cases has spread from its first situation.

It is difficult to suggest a remedy that might be carried out successfully without breaking up the sod, when a summer's hoeing and working would be almost sure to destroy the last vestige. Seeing that the patch is only twenty feet square, it would seem quite possible to destroy this weed by the use of a spud or old butcher knife as fast as the plants appear above the surface. They should be cut off beneath the surface of the ground. Late this autumn grass seed could be sown which would thicken up all right next year. If matted over completely it will be necessary to dig up the plot.]

**YOUNG ABBOTSBURN.**

ROBT. WARWICK, Huron Co., Ont.:—"Could you kindly furnish me with the facts as to who was the breeder and exhibitor of 'Young Abbotsburn,' the champion over all beef breeds at the World's Fair, Chicago, and very much obliged?"

[Young Abbotsburn 6236 110679 was calved June 20th, 1894. He was bred by J. & W. B. Watt, Salem, Ont. He was sired by Abbotsburn (Imp.) and out of Village Blossom (Imp. in dam). Young Abbotsburn was exhibited at the World's Fair by the late Col. T. S. Moberly, Richmond, Ky. His winnings were first for Shorthorn bull three years old and over, first for best Shorthorn bull any age, and sweepstakes for best bull three years and over open to all beef breeds.]

all yearlings in March or early in April, and if ewes are in good condition or are to lamb late would shear them in April too. They thrive so much better relieved of their wool that we are sure it pays.]

**CLAY BOTTOM FOR SILO.**

F. L., Lambton Co., Ont.:—"Is it safe to build a round silo on the bare ground; will not rats be likely to damage the ensilage?"

[We know of several cases where round silos are built on the ground with only clay bottom, and have heard no complaint about rats doing damage. We would advise building a concrete or stone foundation to the level of the ground for the structure to stand on, and no doubt a concrete bottom would be safer as far as the rats are concerned, but we think it is not really necessary in the case of a stave silo at least.]

**THE ESTABLISHMENT OF A CHEESE FACTORY.**

JOHN J. WATSON, Renfrew Co., Ont.:—"The farmers in this vicinity are anxious to start a cheese factory. How should the undertaking be gone about?"

[Prof. J. W. Robertson, Dominion Agricultural Commissioner, has issued a bulletin directing the establishment of cheese and butter factories, which has been of much service to many who desired to enter upon co-operative dairying. The bulletin points out that the basis of establishment may be (1) private enterprise, whereby some individual or firm undertakes to provide buildings and to conduct the business; (2) the foundation of joint stock companies or co-operative associations.

Under the first plan the manufacturer may charge such a rate per pound of cheese as may be agreed upon with the patrons who furnish the milk, in consideration of which the manufacturer will undertake to manufacture cheese of first-class

merchandise quality and to provide all furnishings required in the making, boxing, and packing of the same.

The collecting of milk is sometimes done at the expense of the manufacturer and sometimes it is delivered at the factory by the patrons.

By another method under private enterprise the manufacturer may carry on the business and meet all expenses incident thereto, in the providing of furnishings, etc., for a stated per cent. of the product.

By the co-operative plan a company may be formed to conduct the business as a manufacturer in a similar capacity and on similar lines to those mentioned above, or it may conduct business in a special way for the benefit of its shareholders who furnish milk.

A certain charge per pound of product may be charged by the company similar to that outlined for the private enterprise scheme. The balance between the receipts and the expenditures of the company in its manufacturing capacity may be distributed as a dividend among the shareholders according to the amount of stock which they hold, or otherwise as they may direct.

The product from such quantities of milk may be manufactured at a fixed rate per pound, sufficient to cover the actual running expenses of the concern, and a slight additional charge, say 1/2 cent per pound, for quantities of milk furnished in excess.

A general meeting of the patrons called for the purpose should designate some individual as salesman for the disposal of the products of the factory. The joint stock companies' and co-operative associations' plan is authorized by an Act to provide for the incorporation of such cheese and butter manufacturing associations, which was assented to by the Ontario Legislature in 1888.

The latest plans and suggestions for cheese factories and creameries, or a combination of the two, we have seen are contained in the new dairy work, entitled "Milk and its Products," by Prof. Henry H. Wing, of Cornell University, a review of which was contained in May 20th issue. We have arranged for a number of copies, which can be ordered through this office at \$1 each or for two new yearly paid-up subscribers to the FARMER'S ADVOCATE.

A useful bulletin on the above subject was lately issued by Prof. Dean, of the Ontario Agricultural College.]

CURING CLOVER.

READER, Waterloo Co., Ont.:—"Could you or some of your correspondents give me, through your valuable paper, the best and most practical method of curing clover for hay?"

[See letters on curing hay on pages 271 and 272 of this issue.]

MARKETS.

Toronto Markets.

Buying for export to the United Kingdom and the States was very dull. Receipts of stock to-day (June 11th) were 63 cars of cattle, 140 sheep, 85 calves, 20 cows, about 1,500 hogs.

Export Cattle.—Canadian cattle are not receiving the attention desired by our exporters; the last shipments of cattle sold at a loss. The general run of prices was 3 1/2c. per lb. to 4 1/2c. per lb. A few choice sold at 4 1/2c. Quite a few head are lying over at the sheds for export. There were a good many inferior cattle on offer. Prices ruled 3 1/2c. to 4 1/2c. per lb.

Mr. Rolph, of Markham, shipped to New York State a load of pedigree Jersey bull calves; these have all been tested by the Government Inspector for tuberculosis, and found to be free from the disease.

Mr. Gold, of Boston, was here and bought a dozen carloads to ship via that port.

Mr. Snell and Mr. Eakins sent through about 40 carloads to Montreal.

Butchers' Cattle.—A good demand and prices well held; if the market progresses at the present rate it will be only a question of a very short time until the whole of the annex must be taken for cattle, and a new lairage erected for the hog market. There was a fair demand for good and choice cattle, nearly all the common cattle were left unsold. Prices ruled at 2 1/2c. to 3c. per lb. for common cattle. For choice to extra good 3 1/2c. per lb. Very few outside buyers for this class of stock.

Bulls.—Export bulls were steady at 3 1/2c. to 4c. per lb. Stock and thin bulls were difficult to sell. Choice export bulls wanted.

Stockers.—About four loads were taken for Buffalo. The buying was slow, and prices practically unchanged at 2 1/2c. to 3c. per lb.

Feeders.—Only a few taken by distillery men at 3 1/2c. to 4c. per lb. About 20 head for the Walkerville distillery.

Sheep.—Only a few on offer, selling at \$3 25 to \$3 35 per cwt.

Yearling Lambs.—Choice, weighing from 100 lbs. to 110 lbs., sold at 5 1/2c. Anything heavier sold at 5c. per lb.

Lambs.—There was a fair demand, all sold at good prices—5c. to 5 1/2c. per lb. for yearlings. Spring lambs were firmer at an advance of about 1 1/2c. per head; all sold at \$3.50 to \$5 per head.

Calves.—Only a few on offer. Mr. Fisher, from Iowa, wants 200 next week for export. Mr. Kinnear will take all on offer at from \$4 to \$6 per head. Choice veals sold readily, poor not wanted.

Milk Cows.—Mr. W. Ryan reports this market as quiet, prices ruling at \$20 to \$30 each; only a very few good ones on offer.

Hogs.—The offering very light; all on offer sold readily at the advance, market firmer. Choice bacon hogs sold at \$5 65 per cwt., weighed off cars. Light hogs, \$5.10 per cwt.; thick fat, 1c.; light, \$4.90 to \$5.10; thick fat, \$4.75 to \$4.90; sows, 3c. to 4c. per lb.; for hogs prospects are good for another rise, and the market very steady.

Dressed Hogs.—Light, lean hogs will be taken by the local packers at \$6.60; light fat, \$6. The market firm at advancing prices; tone good, but deliveries are very light.

Butter.—The market easier; offerings heavy; supplies of dairy rolls large. Good reports are received from country districts; pasture excellent and production of butter large, 15c. to 16c. per lb.; creamery, 17c.

Eggs.—The local market is steady; demand has slackened owing to the quality not being so good. Prices are unchanged at 9 1/2c. to 10c. per doz. for choice strictly new-laid.

Hides and Skins.—Hides and skins are quiet, prices unchanged. No. 1 green, 7 1/2c. per lb.; No. 2, 6c. to 7c. per lb. Steer hides, 8c. per lb. Skins—Calfskins, No. 1 green, 30c.; No. 2, 7c.

Wool.—Farmers' lots, 18c. for washed and 11c. for unwashed. Jobbers' lots delivered here at 19c.; 16c. for rejected. Wheat.—Ontario markets were active to-day. Owing to small supplies this market is hardening. One load of wheat sold at 73c. per bushel; one load of red wheat sold at 71 1/2c.; 300 bushels of oats at 25c.

Hay.—Seven loads per day at \$11 to \$12 per ton. Straw at \$6.50 to \$7 per ton. Baled hay, No. 1, at \$10 to \$11 per ton.

Table with columns for item and price. Items include Export cattle, Butchers' choice, Butchers' good, Butchers' common, Bulls, Feeders, Stockers, Sheep, Yearling lambs, Spring lambs, Calves, Milk cows, Choice bacon hogs, Hogs, light fat, Hogs, thick fat, Sows, Steers, Dressed hogs, Butcher, Eggs, Hides, Wool, Wheat, and Straw.

Montreal Markets.

Export Cattle.—The very bad advices being received from the British markets have not been slow in having an effect on this market, yet decidedly not as bad as would be expected. It is hard to realize why exporters seem so anxious to both secure and fill space. Any shipper holding space could readily dispose of it. Consequently, though prices have been forced down about 1c. per lb., the fair demand experienced prevents a decline proportionate with cable advices received. Choice stock is selling from 4 1/2 to a shade, possibly 1/2 more; very good from 4 1/4 to 4 1/2.

Butchers' Cattle.—Supplies lately not being overly heavy the tone of the market has ruled fairly steady, butchers having to pay 4 1/2c. to 4 3/4c. and in cases of extra good cattle 4 1/2c. in order to fill their wants. Fair to good heaves range from 3c. to 3 1/2c. and 4c. per lb., while common goes as low as 2c. per lb.

Sheep.—Receipts of sheep are steadily increasing and the market is in consequence falling slightly, choice stock for export making not more than 3 1/2c. to 4c. per lb.; butchers' stock 3 1/2c. to 3 3/4c.

Lambs.—The number of lambs are also on the increase and the price paid lower than during the last two weeks, the best being obtainable for about \$3.50 each, from that down to \$1.50. Calves plentiful, none too good; ranging from \$1.50 to \$5.

Live Hogs.—Receipts of hogs on Monday last were very light, any sales that transpired being on the basis of \$5.35 per cwt. for the top grades.

Hides and Skins.—The beef hide market is at the present steady and rather strong in tone, but dealers hold that there is not much prospect of any change in values in the immediate future; that is as far as any upper movement is concerned. In calfskins the weakness and decline of one cent per lb. noted in our last report has somewhat recovered, caused doubtless by a sale of upwards of 11,000 skins last week to an American firm. As yet, the prices remain steady at the decline. Lamb skins in the wool have advanced 10c. to 20c. each and clipped skins 5c. to 15c. each. Green salted hides, heavy and light, Nos. 1, 2, 3, are 8c., 7c., 6c. per lb.; calfskins, No. 1, 8c.; No. 2, 6c. per lb.

Space.—At the present moment, notwithstanding the very bad cables being received, there is practically no space to be had for the balance of June, and even into July. All the Glasgow space right up to the end of July has been booked, 45 shillings being the amount named. Heavy deals covering the month of July are also reported, and the figure said to be around 47 shillings sixpence for two feet six inch measurement. That means the space has been let to carry American cattle.

The Horse Market.—Shippers who have been caught with horses here during the past two weeks have been somewhat unfortunate, as they had been purchased to sell on a much better market than at present prevails, some of them going so far as to state the difference to be fully \$15 to \$20 per head. The let up in the export movement has been solely the cause for this decline, as otherwise there is a good demand for local wants. Heavy drafts have sold from \$190 to \$225 per pair; drivers all the way from \$90 to \$150 each.

Canadian Live Stock Export.

The following are the live stock reports for the weeks ending Wednesday, June 2nd and 9th, as prepared by R. Bickerdike, of the Live Stock Exchange, Montreal:

Table showing live stock reports for various ports including London, Liverpool, Bristol, and Newcastle for different weeks.

The British Markets.

Cables from all ports in Great Britain show trade to be completely demoralized, and shippers are in the way of losing from \$10 to \$20 per head on their cattle landed and to arrive. Some idea of the loss sustained can be gleaned when the price obtained for these heaves—4 1/2c. to 5c. per lb.—here and the price paid for them—9c. to 10c. per lb., dressed beef—is considered. They will lose the freight, feed and all expenses, and in some cases something more.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.)

Following are the current and comparative prices for the various grades of live stock:—

Table with columns for CATTLE, HOGS, and SHEEP, showing present and two weeks ago prices for various grades like 1500 lbs. up, 1350 @ 1500, etc.

The Illinois Legislature passed the law prohibiting artificial butter makers from using coloring matter to make it look like genuine butter. There has been a good deal of legislation of this kind and the oleomargarine people feel that they are in hard luck.

There is quite a boom in the calf market. Farmers who are short on cattle will be very apt to keep their calves to replenish the decimated supply of cattle. Young stock cattle are scarce, as well as old ones, and the demand for stock calves is growing as the scarcity becomes more apparent.

About 21,500 head of Canadian cattle were received at Buffalo from February 1st, the date of the removal of the restriction imposed on Canadian shipments, to May 31st inclusive, and the number is not as large as expected.

Colorado, Montana, Wyoming and Dakota ranchmen who depend upon buying young cattle in the south instead of raising steers here have been this spring and summer, and report Texas and southwestern owners as holding for crazy prices.

A train load of 20 cars of Oregon cattle sold in Kansas City this week. There were 661 head in the lot, including 177 cows which averaged 800 lbs. and sold at \$2.75. The steers sold to feeders at \$4 to \$4.50.

McNamara & Marlow, of Big Sandy, Montana, have purchased the entire herd of the Home Land and Cattle Co., estimated as consisting of 30,000 head. This is by far the largest sale of range cattle made since 1885, and was a cash transaction. The price is reported to be \$25 per head, involving about three-quarters of a million dollars.

A lot of 108 fed Western steers belonging to the Standard Cattle Co., of Nebraska, sold at \$1.70, averaging 1,383 lbs. The Lance Creek Cattle Co. sold 86 head of 1,285 lb. steers at \$4.65.

Uncle Dick Stafford, of Tarkio, Mo., marketed 96 head of 1,119 to 1,141 lb. fed Texas steers at \$4.55. T. B. Hord obtained \$4.60 for 52 head of 1,090-lb. Western steers, and \$4.35 for 64 heifers averaging 892 lbs.

Armour is beginning to talk very bullish on provisions. He and other packers have a large amount of product put up at higher prices than present hog prices would warrant, and therefore may not want values weakened too much until they can get themselves well adjusted to the new order. Mr. Armour says that if this year's hog crop should be a short one there would be a great rush to buy hogs and hog products, as the present supply of corn is largely too soft to be of good keeping quality. However, the members of the live stock trade here generally understand that these big people sometimes talk in public one way while their agents are acting in private very differently.

Iowa last year lost 2,300,000 hogs from the so-called hog cholera. Had these hogs all lived the country at large wouldn't have gotten as much per head for its hogs, but the individuals whose herds were decimated would have been better off.

The 3,322,095 hogs received at Chicago the first five months of this year averaged 238 lbs., against 241 lbs. the corresponding period last year, when 3,134,471 arrived. The hogs are of good quality and yet the proportion of light weights is large considering the abundance of corn. Light hogs are relatively not as high as a year ago.

W. S. Long of San Angelo, Texas, was here with four decks of sheep which sold for \$4.35. He reports the range is in fine condition, and both cattle and sheep are unusually fat. About 40,000 sheep are to be shipped yet from San Angelo, but the best have been forwarded. Western sheep-men are getting ten cents for their clips now, against seven cents a year ago, and the difference is very great in the aggregate.

About 200,000 lambs were fed at Fort Collins, Colorado, this year, an authority from there expects 25 to 50 per cent. more lambs will be fed next winter than last. The alfalfa crop there is the best in years.

A cattleman thinks if the farmers could only have half a corn crop this year they would be better off. The corn prospects at present are not very good owing to continued dry, cold weather.

A special sale at the Stock Yards, Chicago, June 8th, 25 horses sold at \$105 to \$250 for single drivers and \$185 to \$800 for carriage teams.

The word from all parts of the West is that good horses are extremely scarce.

The horse auction at the Stock Yards, Chicago, is quite brisk for this season of the year. One day recently quite a lot of drivers on the market sold in the auction for \$90 to \$200 for medium to extra choice heavy weights. One 3,800-lb. team was sold for export to Germany for \$400. Drivers were in steady demand at \$65 to \$200 for common to good high-acting steppers. The export buying of chunks was brisk, several choice offerings being carried up to \$90 to \$100, although the bulk of the sales were negotiated around \$70 to \$85 for export quality, with common and medium 1,300 to 1,400 lb. chunks slow at \$40 to \$65.

Equestrian day will be celebrated in Chicago this year with a splendid turnout of horsemen and women.

The Winnipeg Industrial.

On July 19th will open the seventh annual exhibition held under the auspices of the Winnipeg Industrial Association. The Association is not a joint stock company; its members have no pecuniary interest in its financial success; its directors receive neither pay nor reward beyond the gratification of seeing their efforts to promote the various interests represented and to furnish entertainment for the people duly crowned with success; and, judging from present indications, they shall again this year receive their reward. The Winnipeg Industrial serves as nothing else can to illustrate at a glance the marvellously rapid and substantial development made by Western Canada in the few short years since it was opened for settlement. The large and excellent exhibit of live stock and industrial products made last year was simply a revelation, and the people of Eastern Canada could not do better than time a visit to the West so as to attend the Industrial.



## ONE O' THEM STILL, STUBBORN KIND.

"My-oh!" said Mrs. Ewens. "Here it's nine o'clock an' all them clo'es are a-switchin' out on that clo'es-line yet, an' that girl still out a-drivin' calves to pastur'! It didn't take me two mortal hours to drive calves to pastur' when I was a girl. I can't see where in the world she can have gone to."

"She went out on the back porch an' lifted her voice shrilly—'Min-dee! Min-d-e-e!'"

"Yes, mother."

A young girl came around the corner of the house. Both her hands were filled with great, golden buttercups.

Mrs. Ewens started. "Oh," she said, "there you are! Well, it's high time. I'd like to know what kept you two hours a-drivin' calves to pastur', miss?"

"I was gathering buttercups."

The girl went up the steps slowly. There was a flush on her face that spread gradually down to her throat. She was not pretty, but there was something in her blue eyes that attracted even strangers.

"Oh, you was a-getherin' butacups, was you?" Mrs. Ewens' look was withering. "Well, how often have I told you to not go a-trollin' around wastin' your time; an' all them yesterday's clo'es out on that line yet?"

Mindwell went into the big kitchen. Her lips were trembling. She bunched her fingers hastily into an old blue pitcher. Then she tied a gingham apron around her slender waist, and going to the sink in one corner commenced washing dishes. Her mother followed her.

"Oh, now, look at you! Soakin' the soap all to pieces in the dish-water! Ain't I told you fifty times if I have once not to lay your soap in the dishpan an' pour hot water on it? What ails you?"

"Nothing, mother."

"Nothin', aigh? Your as stubborn's your father ust to be! Don't go to settin' your lips together that way when I ask you things. I had a plenty o' that in my day. That's the Ewens a-stickin' in you. You didn't git any o' that from me. I ain't one o' them still, stubborn kids!"

Mindwell went into the big kitchen. Her lips were trembling. She bunched her fingers hastily into an old blue pitcher. Then she tied a gingham apron around her slender waist, and going to the sink in one corner commenced washing dishes. Her mother followed her.

"Oh, cry! said Mrs. Ewens contemptuously. "As if cryin' would put that plate back in my best chiny set! I wish you'd do your cryin' before you break up things insid' o' after! Mebbe that would do some good."

Mrs. Ewens stopped abruptly. With a change of countenance she leaned forward to look through the open door.

"Why, where on earth can that org'n be goin' to?" She moved along, step by step, to keep it in view.

"Mindy, who do you s'pose has got a new org'n?" Her tone was pleasant and confidential. Curiosity had put her anger to rout.

"I don't know," said Mindwell. She was laying the pieces of china away tenderly.

"Why, if my name's Ewens, it's a-turbin' into 'Mis' Parmer's gate!' She closed the door partially. "I don't want she should ketch me watchin'. It's gone up to the door an' stopped, an' she's come out a-givin' orders. There's Tilley come out, too. Lanky thing! As if she'd ever learn playin' Mindy!"

"Yes, mother."

"Do you hear what I'm a-sayin'? Where'd they git the money for a new org'n? They owe a debt at the post-office store, and they ain't sold their potatoes yet. Where'd they git their money at?"

"Oh, I don't know," said Mindwell wearily.

"You don't know? No, you never do know anything about your neighbors. All you ever know is to go a-gatherin' butacups or dandy-lines, with all them clo'es a-switchin' every which way fer Sunday! You ain't worth your keep lately, a-writin' stories fer magazines, an' nine out o' ten of 'em the editors won't have."

The girl's face grew scarlet. A lump came into her throat, but she held it there silently. She took the clothes basket from the pantry and went out. Her lips were set together in the way her mother called stubborn.

Mrs. Ewens sat down by the table.

"Mercy!" she said, leaning her cheek on her thin knuckles. "The look in that girl's face scares me sometimes. I wish I hadn't twitted her about the stories, but she does rile a body so. If she'd talk back I'd git over my mad sooner, but she won't. I wish I hadn't said that. Land knows I'm proud enough when the editors do take one o' her stories, an' go carryin' it around showin' it to the neighbors. I'd ort to be ashamed. An' I am. Well, I'll make a peach cobbler fer dinner, with some nutmeg dip; she's awful fond o' that."

Mindwell gathered the clothes from the line and carried them to the porch.

"You'd best sprinkle 'em out there in the cool, Mindy," said her mother in a conciliatory tone. "You can use the bench. I'm making a peach cobbler an' some nutmeg dip on the table."

The girl turned her head and looked away to the mountains. Her eyes blurred with sudden tears at the unexpectedly kind tone. Below the hill on which they lived the deep blue waters of Puget Sound ebbed to the ocean. In the golden distance Seattle sat upon her sloping hills, her towers and spires aflame in the morning light, and all her windows shining like brass. On all sides the heavily-timbered hills swelled upward, folded in purple haze, to the chains of noble snow mountains that reach around Puget Sound, glistening like pearls.

"There comes Mis' Cav'niss," observed Mrs. Ewens. "She comes ever so often, rain or shine. What's she got on her head? A new spring sundown! Well, she's a-pushin' the season."

Mrs. Ewens moved stilly to the edge of the porch.

"Why, Mis' Cav'niss!" she exclaimed. "You ain't been here fer an age. Come right in."

"No, I can't stop," Mrs. Cav'niss laughed; little wrinkles ran up each side of her thin nose. "The postmaster asked me if I was coming up by here to bring a letter for Mindy, and, of course, I said yes."

Mindwell turned eagerly and took the letter. "Oh," she said, "I'm so much obliged, Mrs. Cav'niss."

After Mrs. Cav'niss had turned away Mindwell sat down on a stool and tore the letter open with trembling fingers. She grew pale as she read.

It was a long letter. She read it through twice, her lips moving as she read it the second time and a blur thickening over her eyes. Then she flung her arms down on the bench and her head upon them, and burst into a very passion of sobbing.

"Why—whatever!" said Mrs. Ewens solemnly. "I never see you take on that way. Where's your story at? Did you go an' fergit to put in stamps?"

She waited a while, watching the girl impatiently.

"Why don't you answer me?" she cried. "Where's your tongue gone to all of a sudden, aigh?"

"Oh, mother!" Mindwell jumped up and ran to her mother. She threw her arms around the withered throat and kissed the hard old cheek. "Oh, mother, it's from the editor of that Boston magazine. He's taken the story and sent me thirty dollars, mother! And he says I have great talent, but that I need education and experience that I can't get here. And if I can afford it he wants me to go to Boston and study. He'll give me work on his magazine to pay my expenses—but there are the traveling expenses and the private tutor—"

"Tutor! What do you want of a tutor? Didn't you learn all they could teach you at the district school?"

Mrs. Ewens went into the kitchen and got down stiffly on one knee before the oven to look at the cobbler, and Mindwell followed her.

"We can afford it, can't we? I'll go 'tourist' and take my lunch. I'll study so hard, mother."

"What do you want to study for? If your education wa'n't good they wouldn't take your stories, I reckon."

"It might be better, mother. I need experience too—and I can't get it here."

"Well, I got a plenty of it," said Mrs. Ewens, with unconscious pathos, "an' I've lived here most all my life."

She got up slowly and stood looking at the girl. Her face was gray as ashes.

"Do you want I should give you money to go an' leave me in my old age an' my ploorisy? You can have it and go—if you're in earnest."

"Oh!" It was a cry of pain. "It's only for a year. Think what it means! Mother, if you had your life to live over, and got a chance to get a good education—"

She stopped. Her mother's face had quivered—that stony old face that never betrayed emotion! None knew so well as they who have no education what it is to go through life without it.

Mrs. Ewens went into the pantry and shut the door. In trivial, everyday affairs she was a small-minded, nagging woman; in large affairs she now proved herself great. Her hard life had taught her bitter self-control when it came to

real sorrow. She had not had time for the luxury of grief. When she came out of the pantry her face settled into its usual lines. She took the cobbler from the oven.

"Mindy," she said, "you can have the money. I'd just as soon you'd go. You had best git them clo'es sprinkled. This cobbler's all done."

It was a month later. Mindwell hurried along the little path to the station. Her trunk had gone by boat to Seattle, where she was to get her ticket to Boston.

Her mother had said good-bye without any emotion. Tears had sprung to Mindwell's eyes, but the old woman had said only, "Now don't go to actin' the dunce."

But how very old and gray she had looked! And how bent! Mindwell had never noticed it before. The ache of it was in her heart now. She saw the long, lonely year stretching drearily before her mother.

The train was an hour late. She walked on the little platform. The ache sank deeper. She could not get it out of her heart. A sob came into her throat.

"I'll run back and kiss her again," she whispered.

Mrs. Ewens was sitting by the kitchen table. Her head was bowed upon her arms. The hearth was unbrushed. The dishes were piled, un washed, in the sink.

Mindwell came softly to the door and stood there.

"Oh, Lord, Lord," her mother was saying. "I ain't never prayed any, so I'd orter be ashamed to now, when I'm in such trouble. But I must talk to somebody. Lord, and there's nobody to bother now but you. You'll forgive me if it ain't right. My old heart's broke. My only child has gone an' left me. I don't blame her. I've been cross an' ugly, and I've nagged at her. I've struggled agin my temper. A body never gits any credit fer the times they conquer their temper, but you know how I loved her, Lord, an' how proud I was o' her. I had to work in other people's kitchens when I was a girl; an' since I've got her I've slaved an' saved, so she'd never have to do that. A whole year, Lord! An' me so old, an' sick so much with the ploorisy—"

Mindwell slipped away, shaken to the soul. She went around the house and sat down on the front steps. She leaned her face within her hands and sat there for a long, long time. At last she stood up slowly, trembling. Her face was white. Her eyes went to the silent, lonely mountains. A moment longer the struggle lasted. Then something that was beautiful shone in the girl's face. The exaltation of one who has conquered came into her eyes.

Mrs. E. M. JONES, OF BROCKVILLE, ONTARIO'S FAMOUS JERSEY BREEDER, AND AUTHOR OF "DAIRYING FOR PROFIT," "AT THE SOUND OF THE BELL," ETC.



MRS. E. M. JONES, OF BROCKVILLE, ONTARIO'S FAMOUS JERSEY BREEDER, AND AUTHOR OF "DAIRYING FOR PROFIT," "AT THE SOUND OF THE BELL," ETC.

When the train came Mrs. Ewens went to the door and sickled her hand above her dim eyes to get a last glimpse of her girl. Her face was quivering.

At that moment Mindwell stepped upon the porch. Her mother started.

"For pity's sake!" she exclaimed. Her face changed.

"Did you go an' git left?"

"No, mother, I didn't get left, but I'm not going."

"You ain't a-goin'!" She spoke harshly, ashamed of her display of emotion. "Why ain't you a-goin'?"

"I've changed my mind." The exaltation was still in her eyes. "I've been thinking, mother. I guess if there's anything in me we'll find it out right here just as well as in Boston. And if there isn't, there's no use wasting my time going to Boston. Maybe I'll get some education here that I couldn't get there, anyhow."

"My-oh! I never see your beat! You'r just like your father, a-changin' like a weather-sign, fer all you're one o' them still, stubborn kids! Well, if you ain't a-goin', hurry on your old clo'es. It's high time them calves was druv to pastur'!"

Twenty minutes later Mindwell was following the calves down the path through the firs.

"Maybe the world won't think as much of me as it would if I had a fine education," she said, setting her lips together, "but I guess I'll think more of myself."—The Ladies Home Journal.

## MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

At the present time all attention is centered on England, where, in a few days, will be celebrated the Diamond Jubilee of Her Majesty the Queen, whose sixty years' reign, the longest of any English sovereign, has covered a period of progress and prosperity unequalled in the annals of history. No other sixty years has seen such advance in science, such marvellous development in education, such wonderful inventions, and such universal progress in all that pertains to the growth of humanity.

We treat the wonders of to-day lightly because we are accustomed to them, but that makes them none the less wonderful.

Think of the countless millions who have died without ever hearing of such things as cablegrams, telephones, telegraph lines, trolley cars, ocean steamships, or any of the thousand and one marvellously ingenious inventions with which most of us are familiar and regard as necessities.

How our forefathers would have scouted the idea that a machine which would fly through the air like a bird could be made; how they would have laughed at the prophecy that a time would come when a man could sit comfortably in his own home and talk to a friend hundreds of miles away! It is not the fact that the Queen has reigned longer than any other British sovereign that makes the coming Jubilee remarkable, but the fact that it has compassed such a wonderful period of human development.

Already countless numbers have set sail for England to witness the grand and impressive ceremonies which will be held on the 22nd of June, and in London preparations are being made for the most magnificent royal spectacle that has ever been witnessed.

It is said that the service will be held in the open air, on the west steps of St. Paul's Cathedral; that grand and imposing structure forming a picturesque background. Immediately in front will be seated the venerable lady who for sixty long years has ruled over millions.

Surrounding her will be representatives of Church and State and the nobility of England. From all parts of the British Empire the men most prominent in public affairs will assemble on this momentous day to pay their tribute of loyalty and devotion to our beloved Queen, while foreign nations will also honor her by the presence of appointed representatives of high rank. Loyal subjects will congregate from all parts of the United Kingdom to participate in a nation's felicitations to her who so long has ruled beneficently and well. The scene around St. Paul's will be unparalleled in effectiveness, and can neither be very well imagined nor described.

How the hearts of the multitude will beat when the grand song of thanksgiving ascends to heaven and our loved and venerable Sovereign will bow her head in lowly reverence, acknowledging the personal and national blessings vouchsafed her during her long reign. What rousing cheers will rend the air as the procession passes through the gorgeously decorated streets, lined with soldiers, and military and naval officers, mounted on horses gaily caparisoned. Perhaps the most touching scene of all will be in Hyde Parke, where thousands of children are to assemble to do Her Majesty honor.

You can easily imagine how her eyes will grow moist at this spectacle, and her kind and motherly heart beat in unison with theirs, as with cordial graciousness she receives their youthful homage. At the close of this memorable day one earnest wish will animate all hearts, that our gracious Queen may long be spared to rule with the same wisdom and beneficence which has hitherto characterized her reign.

MINNIE MAY.

Ranks First.

Lynd, Minnesota, May, 1897.

To the Editor FARMER'S ADVOCATE:

SIR, I consider your paper to be one of the best agricultural papers published.

O. C. GREGG,

Supt. Minnesota State Farmers' Institute.

**"A Question."**

What the question is we are not told, but assuredly must it have reference to  
 "Love that is first and last of all things made,  
 The light that moving has man's life for shade;  
 Love that the whole world's waters may not drown,  
 The whole world's fiery forces burn not down;  
 Love that is fire within and light above,  
 And lives by grace of nothing but of love."

The tender, dreamy expression on the face of the fair, sweet maid leads one to imagine that a favorable answer will be ultimately given to the handsome young lover at her side, so anxiously waiting her reply.

German landscape painting is characterized by a touch of romance, which finds a ready response in the hearts of all young people, and is not unpopular even with those who have long since left the flowery realms of romance to walk in the more enduring paths of everyday realities. The massive old walls of the garden make a most pleasing background for the figures of the young lovers; the delicate touches of the sun, as it is reflected through the leaves, being a very effective feature in E. Blair Leighton's painting.

**THE CHILDREN'S CORNER.**

**The Golden Fleece.**

(Continued from page 253.)

As it had been prophesied that a man with one sandal should cast King Pelias from his throne, he had given strict orders that nobody should come into his presence unless both sandals were securely tied on. He kept an officer in his palace on purpose to examine people's sandals, and to supply them with a new pair at the expense of the royal treasury as soon as the old ones began to wear out. In the whole course of his reign he had never had such a fright as the sight of Jason's bare foot gave him. But, being a bold and hard-hearted man, he took courage, and began to consider how he might rid himself of this terrible one-sandaled stranger.

So, with a crafty and evil smile on his face, he said:

"What would you do, my friend, if a man by whom you were doomed to be ruined and slain stood before you and in your power?"

Jason guessed that the king had suspected his errand, and intended to turn his words against himself, but he scorned to tell a falsehood. Like an upright and honorable prince, as he was, he determined to speak out the real truth, and tell the king precisely what would be the most prudent thing to do if he had his worst enemy in his power. Therefore he said, in a firm and manly voice:

"I would send such a man in quest of the Golden Fleece."

This enterprise, you must understand, was considered to be the most difficult and dangerous in the whole world. The eyes of King Pelias sparkled with joy, therefore, at this reply.

"Well said, wise man with the one sandal!" cried he. "Go, then, and at the peril of your life, bring me back the Golden Fleece."

"I go," answered Jason, quietly, "but if I return to Tolchos with the prize, then, King Pelias, you must step down from your throne and give me your crown and sceptre."

"That I will," said the king, with a sneer. "Meantime I will keep them very safely for you."

The first thing Jason did was to visit the Talking Oak of Doelona and ask it what course was best to pursue. This wonderful tree stood in the center of an ancient wood. Standing beneath its spreading branches, Jason said aloud, "What shall I do in order to win the Golden Fleece?"

In a few minutes the leaves of the oak began to rustle gently. Presently the sound grew louder, like the roar of a high wind, although the other trees were perfectly still. Each leaf seemed to be a tongue, and all the tongues were talking at once, so that Jason could distinguish nothing. But the noise grew broader and deeper, until it resembled a tornado sweeping through the oak, and then, though it still sounded like the wind, it was also like a deep bass voice. The words, spoken as distinctly as a tree could be expected to speak, were: "Go to Argus, the shipbuilder, and bid him build a galley with fifty oars."

At Jason's request, Argus consented to build him a galley so big that it should require fifty men to row it, although no vessel of such a size had heretofore been seen in the world.

When the new ship, which was called the Argo, seemed to be quite ready for sea, Jason, who was sensible enough to appreciate the value of good

advice, visited the Talking Oak again. Standing beside its huge trunk, he inquired what he should do next. The whole tree remained silent at first, then the foliage of one great branch began to rustle.

"Cut me off!" said the branch, as soon as it could speak distinctly. "Cut me off! Cut me off! and carve me into a figurehead for your galley."

So Jason cut the branch from the tree, and a carver, who was a moderately good workman, engaged to make the figurehead. But, strange to say, he found his hand guided by some unseen power, and a skill beyond his own, through his tools and hands, shaped out an image which he had never dreamed of. When the work was finished, it turned out to be the figure of a beautiful woman, with a helmet on her head from beneath which long ringlets fell down upon her shoulders. On the left arm was a shield, and in its center appeared a lifelike representation of the head of Medusa with the snaky locks. The right arm was extended, as if pointing onwards. The face was grave and majestic, and the lips seemed just ready to open and utter words of deepest wisdom.

Jason was delighted with his figurehead, and when it was set up in the vessel's prow, he said, gazing into the calm, majestic face of the statue, "Now I must go to the Talking Oak and inquire what next to do."



"A QUESTION."

"There is no need to do that, Jason," said a voice. "When you desire good advice you can seek it of me."

The oaken lips had certainly moved, and the voice had come from the statue's mouth. Recovering from his surprise, Jason bethought himself that, as the image had been carved out of the wood of the Talking Oak, it was most natural that it should possess the faculty of speech. But certainly it was a great piece of good fortune that he should be able to carry so wise a block of wood along with him in his perilous voyage.

"Tell me, wondrous image," exclaimed the young man, "tell me, where shall I find fifty bold youths to row my galley? They must have strong arms and brave hearts, or we shall never win the Golden Fleece."

"Go," replied the statue; "go, summon all the heroes of Greece."

So he sent messengers to all the cities asking for forty-nine of the bravest and strongest young men alive to row his vessel and share his dangers. And Jason himself would be the fiftieth.

[TO BE CONTINUED.]

**THE QUIET HOUR.**

**"For My Sake."**

Three little words, but full of tenderest meaning;  
 Three little words the heart can scarcely hold;  
 Three little words, but on their import dwelling,  
 What wealth of love these syllables unfold!

"For My Sake" cheer the suffering, help the needy,  
 On earth this was my work; I give it thee.  
 If thou wouldst follow in thy Master's footsteps,  
 Take up My cross and come and learn of Me.

"For My Sake" let the harsh word die unuttered  
 That trembles on the swift, impetuous tongue;  
 "For My Sake" check the quick, rebellious feeling  
 That rises when thy brother does thee wrong.

"For My Sake" press with steadfast patience onward,  
 Although the race be hard, the battle long.  
 Within My Father's house are many mansions;  
 There thou shalt rest and j in the victor's song.

And if in coming days the world revile thee,  
 If "For My Sake" thou suffer pain and loss,  
 Bear on, faint heart; thy Master went before thee;  
 They only wear His crown that share His cross.

**Small Courtesies.**

In this hurrying age it behooves us all to cultivate a habit of being generous in the bestowal of small courtesies, especially upon the aged and lonely. One who is in the whirl of a busy career may never miss the slight attentions, but another who sits apart and sees life's "great occasions drifting by" is apt to feel hurt if notice is withheld. It is the sign of a gracious spirit to cherish such persons in thoughtful remembrance and to recognize them in all possible ways. "What a beautiful letter writer your friend is!" said a dear old lady, in a pleased tone, to her daughter. In point of fact, it was a quite ordinary epistle, but it contained a cordial message to the old lady, whom the writer had never seen, and the unexpected attention brought sunshine into the dull monotony of her days. In our correspondence, and in all the interchange of social life, let us take more pains to notice the unnoticed.

**For Jesus' Sake.**

A little gift for Jesus' sake,  
 Unknown to ear or eye;  
 A little breath of kindness left  
 Adrift in passing by;  
 A smile reflected in some face;  
 A little worthy praise;  
 A touch upon some lonely hand  
 To sweeten many days;  
 Remembrance shown in little things,  
 Small favors scarcely seen;  
 A written word; a spoken word;  
 A flower heart midst some green;  
 A breath of incense daily given  
 In simple homely ways;  
 Because in man we see the Christ,  
 And noblest forms of praise.

**Little Things.**

"Despise not the day of small things" was written long ago, and has a deeper meaning than we fain would give it.

We very early realize that there is much to be accomplished in every station around us. Duties crowd thick and fast, and how will we meet the responsibilities faithfully in the small things as well as the great? The smallness does not prove them insignificant, or of less merit, but only declares the noble nature of him who does them. He is the one who will leave his footprints on the sands of time and a lesson to each heart.

"It is not the deed we do,  
 Though the deed be never so fair,  
 But the love, that the dear Lord looketh for."

Hidden with lowly care  
 In the heart of the deed so fair.

Now turn to some of love's sweet ministrations, and what is remembered there? The box of precious ointment broken, embalmed that name in fragrance undying.

The good Samaritan with his wine and oil left a sweet example, to still pour the balm on wounded humanity. Even the cup of cold water is not forgotten.

"Behold us, the rich and the poor;  
 Dear Lord, in thy service draw near  
 One consecrateth a precious coin,  
 One droppeth only a tear;  
 Look, Master, the love is here."

With words alone we may give solace to some weary, careworn brother, revive some drooping hope, or cheer some lonely life. They fall like the gentle dews, and joy and gladness repay the giver. Sum it all up, little things are not in vain, but are often priceless in their worth.

**One's Friends.**

Money can buy many things, good and evil; all the wealth of the world could not buy you a friend nor pay for the loss of one. "I have wanted only one thing to make me happy," Hazlitt writes:

"but wanting that, a true friend, I have wanted everything." And again: "My heart, shut up in the prison-house of its rude clay, has never found, nor will it ever find, a heart to speak to."

We are the weakest of spendthrifts if we let one friend drop off through inattention, or let one push away another. One good friend is not to be weighed against the jewels of all the earth. If there is coolness or unkindness between us, let us come face to face and have it out. Quick! before love grows cold. Life is too short to quarrel in, or to carry black thoughts of friends. If I was wrong, I am sorry; if you, I am sorrier yet; for should I not grieve for my friend's misfortune?

The mending of your fault does not lie with me; but the forgiving it does, and that is the happier office. It is easy to lose a friend; but a new one will not come for calling, nor make up for the old one when he comes.

**A Friend to Farmers' Wives.**

To the Editor FARMER'S ADVOCATE:

"Please allow me space in your valuable paper for a few lines pertaining to the comforts and conveniences of farmers' wives and daughters. I was prompted to write by an article I saw in a previous number of the ADVOCATE written by an unfortunate sister. It is pretty hard that we should have to fight through the press for home comforts and things to make work easy, but housekeeping on the farm means so much more heavy work than in the city. I do not mean to complain of our dear husbands, but I will say that when they are well fed and kindly cared for they are very apt to become indifferent and heedless, neither thinking nor caring how hard the family has to work under many difficulties. I think the trouble is the farmer's brains are so absorbed with fine horses, fine barns, thoroughbred cattle, and every convenience on the farm to make work easy that he quite forgets how his family is struggling to make his home comfortable and attractive. A farmer must be very shortsighted if he fails to see that all this means not only hard work and skillful management but is a great strain on the nervous system. Of course they all love their families dearly, but that love should show itself in a thousand little ways. Let me enumerate some of them. First of all, a man should be a gentleman in his own home, always bringing sunshine there; a farmer's wife has so much to try her nerves, not like her city sisters who have everything brought to the door prepared for use. Farmers should appreciate everything their wives do, not look on them as if they were a machine or a football; they are human beings, and want to be treated as such.

"A smile and a kind word do not cost anything, yet how they brighten a home. I think housekeeping on a farm is complete drudgery, unless a husband does something towards elevating it. Men generally like their wives to meet them with a smile, but if the wife has been trying to cook over a smoky stove, with the rain coming down through the roof, a miserable doorstep, and many other annoyances, it is not easy for her to present a cheerful appearance under such adverse circumstances. I would like to see them keep their equilibrium. I do not expect the men to take up this subject; they will prefer reading the ADVOCATE to learn more of improved farms, I am afraid, and remain indifferent to improved housekeeping."

**Some Greens.**

SPINACH, DANDELIONS, AND BEETS.

All greens should be thoroughly washed in several waters. Delicate beet greens are in abundance, and, like spinach and many other greens, they are spoiled by being cooked in too much water. A cupful of water for half a peck of greens is sufficient. Many of these delicate greens are better if cooked in melted butter or the drippings from fried bacon. Put the butter into a saucepan and place it over the fire; put in the washed greens, cover them and cook from fifteen to twenty minutes, stirring frequently to keep them from scorching. Turn them into a hot dish and season with a little more butter and the salt and pepper necessary. Garnish the dish with slices of hard-boiled eggs.

Wilted greens are much nicer than the name would imply. Wash and cut the roots from half a peck of very young greens. Cut the leaves into pieces and put them in a large spider. Beat one egg until light and stir into it half a cupful of cream. Put over the fire and stir until it begins to thicken; then remove and add a teaspoonful of butter, salt and pepper, and two tablespoonfuls of vinegar. Pour the sauce over the prepared greens and stir over the fire until they are heated and tender. Serve with crisp bacon.

To cook and prepare spinach: wash half a peck through several waters to free it from grit, and remove the wilted and yellow leaves. Put in a saucepan, and if not drained there will be water enough to steam; but if drained add a small cupful and cook fifteen minutes. Season with salt and pepper and drain in a colander. Turn into a chopping bowl and chop very fine. Put the chopped greens into a spider with two tablespoonfuls of butter and more seasoning if required and stir over the fire until it is heated through. Have ready bread sliced, cut into squares, and fried in butter. Pile the hot spinach upon them and garnish each with a slice of hard-boiled egg. Mayonnaise dressing is frequently served with spinach cooked in this way.

**Wanted It Longer.**

Carlyle was wont to tell a good story about the anxiety of Scotchmen to build on ground which they owned rather than on that held on a lease, no matter how long the term of years.

Once a year an old tailor came to his parents' house for a shilling a day and his food, to "make down" the father's clothes into new suits for the boy. As the house was badly lighted, the tailor brought with him a round sod of turf as large as the top of a small table.

Placing it on the floor, he stuck into it a stick, with a split vice on the top, which held a candle like a vice, and sitting by it on the floor, worked from morning till night.

The tailor's ambition to purchase the house in which he lived made him industrious and saving. But the owner of the house wanted a high price for it, so the negotiations went on for four years. At length the two contracting parties held a meeting, at which each was represented by a lawyer. A draft deed was produced and the house-owner's lawyer began to read aloud:

"I, John—, hereby agree to let, lease, etc., for 999 years—"

"What's that you said about letting and leasing?" struck in the tailor. "I tell you that I'll have naething to do with the transaction ava, unless I can buy a house out-and-out to a' eternity!"

"Well, now," said the lawyer, winking at the tailor's lawyer, "suppose we add a nine figure to it and then see how it reads."

"I, John—, hereby let, lease, etc., for 9,999 years."

But even for that term it was only after much persuasion that they secured the tailor's acceptance of the deed.—*Scottish Nights.*

**Disadvantages of the Farmer's Wife.**

When I read the woes of that Manitoba farmer's wife it struck a responsive chord in my heart, as I had been wishing—yes, longing—for some one to speak out on their behalf. The farmer's wife is, really and truly, the hardest worked and the poorest used of any one in the country; I mean more particularly in the way of labor-saving appliances. She is so self-sacrificing that she waits till everyone else is supplied, then as there is nothing left for her needs she has to go without. Men get all the machinery they need (and some they don't need). Perhaps it is a binder which does good work, but has not all the up-to-date fixtures, so it is traded off as part payment for a new one. I know a farmer who has most of the labor-saving machinery going and his wife is glad that he has it; but that same wife has used her sewing machine nearly thirty years, though it is not at all up-to-date; she has baked and cooked on the same old stove over twenty years, and it was a second-hand one then, bought that the man might have the price of a new one for himself. Then every farmer's wife knows what a time she has in getting a little "fixing up" done around the house. In the first place she must feed her husband well to get him in good humor before she mentions the subject, then she must have saw, hammer and nails ready to use, and then wait to hold the boards in place or hand the tools as required. But I feel as if I could not do justice to this subject, so I will stop short, hoping others will take it up. MRS. EVERGREEN.

**"She Noddit to Me."**

The following poem, which recently appeared in the *Bon Accord*, a weekly comic journal published in Aberdeen, attracted the notice of the Queen, and Her Majesty wrote expressing a desire to be furnished with the name of the author:

I'm but an auld body  
Livin' up in Deeside,  
In a twa-room'd bit hoosie  
Wi' a toofa' beside,  
Wi' my ooo and my grumpy  
I'm as happy's a bee,  
But I'm far prooder noo  
Since she noddit to me!

I'm nae sae far past wi'—  
I'm gie trig and hail,  
Can plant twa-three tawties,  
An' look after my kail;  
And when oor Queen passes  
I'm oot to see,  
Gin by luck she might notice  
And nod oot to me!

But I've aye been unlucky,  
And the blinds were aye doon,  
Till last week the time  
O' her vesit cam' roon'.  
I waded my bit apron  
As brisk's I could dae,  
An' the Queen lauch'd fu' kindly  
An' noddit to me!

My son sleeps in Egypt—  
It's nae eese to freit,  
An' yet when I think o't  
I'm sair like to greet.  
She may feel for my sorrow—  
She's a mither, ye see—  
An' maybe she kent o't  
When she noddit to me!

From a French journal comes this little anecdote of a tutor and his royal pupil: The lesson was in Roman history, and the prince was unprepared. "We come now to the Emperor Caligula. What do you know about him, prince?" The question was followed by a silence that was becoming awkward, when it was broken by the diplomatic tutor. "Your highness is right," he said; "perfectly right. The less said about this emperor the better."

**Puzzles.**

All work for this department should be addressed to Ada Armand, Pakenham, Ont.

**1.—HISTORICAL PUZZLE.**

- 1.—Early inhabitants of England.
- 2.—A general who won fame in India.
- 3.—A large bay in Canada.
- 4.—A noted French general.

The initials of these spell the Christian names of the following:—

- 1.—An infamous English king.
- 2.—The author of a noted religious work of the 17th century.
- 3.—A great Canadian statesman.
- 4.—A British leader who died on the field of battle in Spain.
- 5.—The discoverer of Newfoundland.

F. W. ROLPH.

**2.—LOGOGRIPH.**

If you are whole you are "pleased."  
Behead and 'twill all be "complete."  
If you want a preposition released  
Double behead  
And then "I" am led  
To the front to take my seat.

Just four letters still remain;  
Curtail and I'll cry "for shame";  
Behead instead,  
Then you'll be dead,  
And we'll ne'er see you again.

A. P. HAMPTON.

**3.—CHANGED HEADINGS.**

An ointment = Part of the hand.  
To speak = A fur-bearing quadruped.  
To chew = A cluster.  
Froth = To wander.  
Suitable = New.  
Part of the hand = A spice.

ADDA WHETSTONE.

**4.—NUMERICAL WORD PUZZLE.**

- (1) A hundred, five, one, nought and an E,  
You often many hear, but never can see.
- (2) One thousand, two fives, joined, nought and A N  
Is the choicest of blessings given amongst men.
- (3) Two hundreds, a fifty, a nought and a K  
Is seen by most people at least once a day.

ADDA WHETSTONE.

**5.—CONUNDRUMS.**

1. What is the longest word in the English language?
2. At what time of the day was Adam created?

JENNIE STEWART.

**6.—CHARADE.**

In glen and in ground  
My head's to be found,  
And my last is "to come on shore."  
If these you combine  
You'll surely find  
The fleshy organs of plants.

ADDISON SNIDER.

**7.—TRANSPOSITION.**

Oaw tthru, fi huot eht eurt lost'duw rape;  
How woss eht eal's lashl arpe ni navi;  
Eercr dan downs yth icencsoos ekep;  
Ormf oolhw srowd adn ddees fainer.

ROABN. J. S. CRERRAR.

**Answers to May 15th Puzzles.**

- 1.—C R A M
- 2.—Nectar (Neck—tar).
- 3.—Bay—o—net.
- 4.—A cannon.
- 5.—Eve.
- 6.—Quebec.

7.—Count that day lost,  
Whose low, descending sun,  
Views from thy hand  
No noble action done.

- |     |               |            |           |
|-----|---------------|------------|-----------|
| 8.— | E             | 9.—C h i n |           |
|     | A L E         | A          | N e a r   |
|     | A B A S H     | A          | D i s H   |
|     | E L A S T I C | A          | N n A     |
|     | E S T O P     | N          | H e r O L |
|     | H I P         | O          | M a g I   |
|     | C             | E          | S o f A   |

Canadian Homes.  
North Carolina.

**SOLVERS TO MAY 15TH PUZZLES.**

Maggie Scott, D. W. Campbell. Also, Maggie Scott, Clara Robinson, A. P. Hampton, for May 1st.

**Strawberry Shortcake.**

Two eggs, half a cupful of butter, two cupfuls of flour, sifted, with one heaping teaspoonful of baking powder, three-quarters of a cupful of milk, one cupful of powdered sugar. Stir sugar and butter to a light white cream, add the eggs, one at a time, stirring a few minutes between each addition, then the flour and milk. Do not stir any more than you can help after the flour is added. Butter two good sized jelly tins and dust them with flour, divide the cake mixture equally in the pans. When done dust a pastry board with powdered sugar, turn the cakes out of the pan on to the board, move them a little every few minutes, to keep them from sticking to the board. Clean one quart of nice ripe strawberries, put them in a dish, sprinkle over half a cupful of sugar. Let stand a half hour. Shortly before serving, lay half the strawberries between the two layers and cover the top of the cake with the other half, serve with cream.

**To Make a Good Whitewash.**

For a good whitewash for your bedroom ceiling put a piece of lime weighing about five pounds in a granite pan or bucket; pour on it a gallon of water, allow it to boil and slake until the steaming is over; take from this two quarts of the liquid lime, put it in a wooden or granite bucket, and add sufficient water to make it rather thin. Add a small amount of pure indigo, sufficient to give it the proper color; add a teaspoonful of salt and half a teaspoonful of lampblack; stir well. This will give you a perfectly white ceiling; if you wish it colored add one of the colorings, which you may purchase at any drug store, stating that it is to be used with lime.—*June Home Journal.*

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

A cable despatch from England states that the Prince of Wales' biennial sale of Hackney horses on his farm at Wolverton on Thursday, June 10th, was largely attended and a great success, aggregating over \$42,000. Sir Walter Gilbey purchased the highest-priced animal, the mare New York and foal, for \$2,910.

John Miller, Perth Co., Ont.:—"The Advocate is still improving and is the best for farm knowledge from our best writers."

Mr. Thos. Way, Hastings Co., Ont., under date of May 21, 1897, remarks that "The Advocate always gets there with everything in its season."

Prof. H. H. Dean, B.S.A., Professor of Dairy Husbandry at the Ontario Agricultural College and Experimental Farm, recently issued a special bulletin containing plans of buildings and methods of conducting cheese factories and creameries. A number of the best combined cheese and butter factories in Ontario are well described. Hints to patrons as well as points on changing cheese factories into winter creameries are useful and to the point.

NOTICES.

A young horseman, who is a good groom, rider and driver, wants situation. See wanted advertisement.

The 1897 prize list of the Ottawa Central Canada Exhibition has come to hand from the Secretary, E. McMahon. The dates claimed for holding the show are September 17th to 23th. The prize list is tastily and well gotten up. The needs and wants of exhibitors at this show receive the greatest consideration both before the show and each day of its duration. The prizes offered amount to \$14,900, as well as numerous gold, silver and bronze medals, and diplomas.

"Of Interest to the Farmer and Dairyman" is the title of a readable little booklet, a copy of which we have received, published by the E. B. Eddy Co., Hull, Montreal and Toronto, dealing with the subject of indurated fibre-ware, which has so largely come into use in the case of pails, tubs, pans, etc. It is one of the surprising developments of modern mechanism. Copies of the booklet will be forwarded to any one applying for same to the Eddy Co.

In his report of eighty pages Mr. A. W. Campbell, the Provincial Instructor in Road-making, indicates the great need for better highways in many portions of Ontario, and describes in a practical manner how good roads can be constructed. Mr. Campbell has visited a large number of townships and towns and has given instruction which is already bearing fruit in a number of places. In some localities short sample streets were improved under his supervision, and in other places complete sets of modern roadmaking machinery have been purchased as a result of his teaching. The report really is a valuable and practical treatise on road construction and repairs. It is issued by the Ontario Department of Agriculture and should be carefully perused, especially by municipal councillors, pathmasters, etc.

A PLUCKY CANADIAN GIRL.

It is wonderful what modern inventive genius has done to lighten labor, particularly in the manner machinery has simplified and expedited work on the farm. In no phase of farm life is this more striking than in the operation of harvesting grain and grass, and that leads to a very interesting incident which took place in the last harvest near Courland, Ont. Mrs. L. Hillis, a widow, with a young daughter 14 years old, found herself at the beginning of her harvest with thirty acres of grain to cut and no one to help her do it. In this predicament her little girl proposed that if she was permitted to drive the Pony binder that her mother had just bought, she would undertake to cut the



grain herself. The first day's work was entered into with great misgivings, but little Adah Hillis was plucky and stuck right to it day after day until she had harvested the whole 30 acres, her mother meanwhile following the machine and shocking the grain. Mrs. Hillis in telling of her experience after harvest in a letter written to the Deering Harvester Co., Chicago, the manufacturers of the binder, said: "We used it in a very heavy field where our old binder could hardly cut at all, and my little girl ran it herself without anyone giving her any assistance. The levers are so easy to operate and the machine is so light in draft that the team can handle it on the sand hills. We harvested about 30 acres of grain this year without a man in the field. My oldest boy is about nine years old and I am a widow, and that is the cause of my little girl having to handle the machine herself. When I thought of buying I looked and inquired for the best and lightest and easiest operated machine made, and I think I have it." Little Miss Hillis seconded her mother's letter by one in which she says: "I had no trouble with anything. The Pony binder is light and easy on the team, and my weight on the seat will balance the tongue. The levers are so easily handled that I can sit in the seat and operate the machine without inconvenience. My age is now fifteen years, but I was fourteen when I did the harvesting."

GOOD BOOKS FOR THE FARM LIBRARY

RELIABLE, ENTERTAINING, HELPFUL.

One of the most encouraging signs of the times in connection with the pursuit of farming is the increasing circulation of good agricultural papers and the demand for books on agriculture. Once men begin to study their business as they ought, and to industriously apply sound principle in their work, then is there success in store. It pays to read. So it has been in the past, is to-day, and will be in the future. With the demand comes the supply. The latest noteworthy contribution to agricultural literature are two admirable series called "The Rural Science" and "The Garden Craft," published by the Macmillans, of New York and London (Eng.). Seven of these volumes we have already received for examination, and can, without hesitation, commend them to our readers, not only because of the value of their contents, but their mechanical get-up. They combine the results of the latest scientific research with the best practice, each one being written by a specialist. Not only are they up-to-date, but written in language that can be read and understood at the fireside. In order to bring these works within access of the farmers of Canada we have effected arrangements with Messrs. Macmillan whereby they can be secured through this office on very reasonable terms.

"The Fertility of the Land"

(115 pages, illustrated and well indexed.) A summary sketch of the relationship of farm practice to the maintaining and increasing of the productivity of the soil. A modern, thoroughly practical and comprehensive work. By I. P. Roberts, Director of the College of Agriculture and Professor of Agriculture in Cornell University. Price \$1.25; or for two new paid-up subscribers to the FARMER'S ADVOCATE at \$1 each.

The Soil—Its Nature, Relations, and Fundamental Principles of Management

By F. H. King. New York and London: Macmillan. Contains accurate information regarding the condition and changes of the soil. Up-to-date and well illustrated. 300 pages. It answers the How and Why of a hundred problems in actual farm work. Price 75 cents; or for two new paid-up subscribers to the FARMER'S ADVOCATE at \$1 each.

Milk and its Products

By Prof. H. H. Wing, Cornell. New York: Macmillan & Co.; pages, 280. A complete, well illustrated, modern treatise on dairying, tracing the subject detail from the cow to the cheese box and butter tub. Contains all about milk secretion, milking, testing and making. A work that every Canadian and American dairy farmer should have on hand. Price, \$1.00; or for two new paid-up subscribers (at \$1 each) to the FARMER'S ADVOCATE.

The Nursery Book

By Prof. L. H. Bailey, Cornell University. New York: Macmillan & Co.; 365 pages, 152 illustrations. This book is just what it claims to be, a complete guide to the multiplication of plants, treating the subject in six chapters, and dealing in minute detail with the several branches of orchard, garden and lawn work, under the headings of seedling separation, layerage, cuttage and graftage, with full directions for propagating, planting and training for the best results. Price, \$1.00; or for two new paid-up subscribers (at \$1 each) to the FARMER'S ADVOCATE.

Spraying of Plants

By Prof. E. G. Lodeman, Cornell. New York: Macmillan & Co.; pages, xvii. + 399. Its author, Prof. Lodeman, is instructor in horticulture in Cornell University. Spraying as a means of combating the injury done to farm, garden and orchard crops by fungi and insects is now an essential branch of horticulture. This useful manual will answer almost everything you will think of asking about spraying, and suggest many other useful hints you might not think of. Price, \$1.00; or for two new paid-up subscribers (at \$1 each) to the FARMER'S ADVOCATE.

The Horticulturist's Rule Book

By Prof. L. H. Bailey, Cornell University. New York: Macmillan & Co.; 4th edition; 312 pages. A compendium of useful and valuable information for fruit-growers, truck gardeners, florists and others. The index contains 2,000 entries, showing the great range of its contents. It is full of useful information relating to injurious insects, with remedies and preventives; recipes for the destruction of insects, for the cure of plant diseases, and preventives; recipes for the destruction of insects, on lawns, their preparation and care, and the weeds and mosses which affect them, with the means for their removal, besides scores of other practical things that every farmer and fruit-grower will want to know some time during the year. Price, 75 cents; or for two new paid-up subscribers to the FARMER'S ADVOCATE.

"The Forcing Book"

A manual of the cultivation of vegetables in glass houses.—By Prof. L. H. Bailey, Cornell University, N. Y. Published by The Macmillan Co., New York and London, Eng. This work is written especially for the commercial grower of winter vegetables, but contains much that is intensely interesting, showing the modern demand for what is choice and early and the modern methods of production whereby frost, snow and the short, dark days are all set at naught. It is full of hints for the amateur in growing vegetables for his own table. Price, \$1.00; or for two new paid-up subscribers to the FARMER'S ADVOCATE.

Plant-Breeding

By Prof. L. H. Bailey, Cornell University. New York: Macmillan & Co.; pages, 293. Anyone desirous of improving the seed he uses will derive much encouragement and instruction from a perusal of this book. While Prof. Bailey maintains, with reasons well set forth, the advantages that may come with a change of seed, he emphasizes again and again in different connections the necessity of selecting the best plants for seed, of being alert to discover and preserve favorable individual differences and variations. Price, \$1.00; or for two new paid-up subscribers (at \$1 each) to the FARMER'S ADVOCATE.

"Dairying for Profit; or, The Poor Man's Cow"

By Mrs. E. M. Jones. We recommend all interested in buttermaking to obtain a copy of this valuable book. In order to stimulate its circulation we will give two copies to anyone who will send us the name of one new subscriber accompanied by one dollar. Price, 50 cents each.

"Vegetable Gardening"

A manual on growing vegetables for home use and marketing; by Samuel B. Green, Professor of Horticulture in the University of Minnesota. 224 pages, 115 illustrations. Most practical, comprehensive and up-to-date work yet published. A copy for three new paid-up subscribers.

"The Silo and Ensilage"

Prof. Woll's new book—How to build, fill, and feed from a Silo. Most complete work yet issued. Any subscriber sending us one new subscription and \$1.00 will receive a copy, paper bound; or, for two new subscriptions and \$2.00, a copy well bound in cloth. Price: paper, 50 cents; cloth, \$1.00.

Sheep—Breeds and Management

By John Wrightson, M. R. A. C., F. C. S. Most complete and up-to-date work on Sheep-rearing. Twenty-three full-page illustrations. For three new subscribers.

"A First-class Collie"

To any subscriber sending us the names of ten new yearly paid-up subscribers we offer a young Collie, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont.

Premiums by mail or express, as most convenient. Charges prepaid except on animals.

THE FARMER'S ADVOCATE HAS NO EQUAL.

"I would not do without the Farmer's Advocate if it cost me \$5.00 per year."—J. B. HOBBS, Lambton Co., Ont.

Agents wanted in every locality. Liberal cash commission allowed if preferred. A copy of the Christmas number goes to each new subscriber. Payable in advance, \$1.00. Send for free sample copies.

The WILLIAM WELD CO. (Ltd.), London, Ontario.

NOTICES.

The *Christian Guardian*, that vigorous and well-conducted journalistic exponent of the Methodist Church, treated its readers to a special number recently in connection with the great International Epworth League Convention to be held in Toronto on July 15-18, when 20,000 are expected to be present. It contained portraits of leading men of that denomination both in Canada and the United States, and a great deal of specially prepared matter. Such a publication, and the convention itself, will give a great, broadening and healthful impetus to the young people's movement.

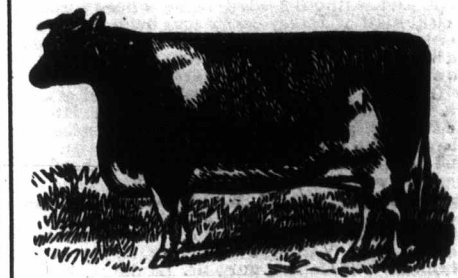
The *Globe* "did itself proud" and appropriately signaled the year's great Royal event from the newspaper standpoint by its Jubilee number, issued on June 9th, supplemented with a large and striking portrait of Her Majesty, showing her as she is to-day and, in shadow outline, as she was in 1837. It has an attractive colored cover, and some 150 beautiful photo-engravings to adorn equally interesting reading matter; beginning with William Wilfred Campbell's Jubilee ode, "Victoria," and ending fittingly with "God Save our Queen."

WHAT SALT WILL DO.

Salt renovates grass lands, sweetens herbage and prevents mustiness in hay. Salt moistens dry soil. Salt benefits horses, improves their coats and keeps them in good health. Salt improves the crops, makes the grain plumper, the straw stiffer and brighter, ripens the crop earlier. Salt increases the yield and improves the quality of the milk. Farmers cannot do without salt. Salt is a necessity for the farm as much as it is for human beings. The money spent on salt is one of the best investments a farmer can make.

Arthur Johnston,

Greenwood P. O. and Telegraph Office,



HAS FOR SALE AT EXCEEDINGLY LOW PRICES

EXTRA GOOD SHORTHORN BULLS

fit for service; also an equally good lot of Cows and Heifers, the best we ever offered.

Send for Catalogue and prices. Enquiries answered promptly. Claremont Stn., C.P.R., or Pickering Stn., G.T.R. Our motto: "No business, no harm." 5-1-y-om

PURE-BRED POULTRY PRIZE-WINNING STOCK.

Lt. Brahmans—Cock (2 yrs.), \$1.50; yearling hen, \$1 each. Dk. Brahmans—Cock, 1 hen and pullet, trio \$3.50. Buff Cochins—Cock, 1 hen and three pullets, pen \$5; Partridge Cochins—Cock (2 yrs.) and two cock's, \$1.50 each. Black Cochins—Cock and pullet, pair \$2. Golden Wyandottes—four yearling hens, lot \$3.

Address: Spettigue & George, Mention Advocate. LONDON, ONT.

J. G. CLARK, Woodroffe Stock Farm, Ottawa, Ontario,

HAS FOR SALE

Three Clydesdale Mares

Weighing from 1,650 to 1,800 pounds, and their colts from 1 to 3 years old. Choice young Yorkshires of both sexes. Choice Young Ayrshires of both sexes For Sale Cheap.

"La Canadienne"

ALL STEEL HAY PRESS.



MODEL 1897.

Always a success in the past, and still without a rival. This is not a "cheap" press, but the BEST PRESS for the LEAST MONEY. Well built. Best materials and workmanship. Catalogues, prices, etc., on application to

J. B. DORE & SONS,

on LAPRAIRIE, QUE.

WANTED—By a young horseman, situation. High-class stable preferred. Good groom, rider and driver. Testimonials. Address—"ROYAL," Box 828, Montreal, Que.

THE EXCELSIOR LIFE INS. CO. Issues the best PROTECTION and INVESTMENT.

The Company is foremost in features essential to success, and the security is unsurpassed. Agents wanted. E. F. CLARKE, President.

ADVERTISE IN ADVOCATE

GOSSIP.

Mr. Hugh Bertram, of Vine Mount, to whom we sent a premium Collie three months ago, says: "The pup is a beauty now. I have been more than repaid for the little trouble I had getting the ten subscribers."

David Morton & Sons, Hamilton, Ontario, under date of June 9th, write:—"In reply to your postal card on further insertion of advertisement, would say that for anyone who has stock for sale we can recommend the FARMER'S ADVOCATE, as in reply to our advertisement we had a number of enquiries, and have disposed of all our Ayrshires."

The Ontario Government has appointed a Forestry Commission to examine and report upon the forests of the Province. The members of the commission are E. Rathbun, Deseronto; John Bertram, Toronto; Alex. Kirkwood, Chief Clerk of the Crown Lands Department; J. B. McWilliam, Superintendent of Forest Rangers, Peterboro, and Thomas Southworth, Clerk of Forestry.

A. & G. Rice, Currie's, Ont., report the sale of the Holstein bull, Tirania, Baron, recently advertised in the FARMER'S ADVOCATE, to Messrs. Sleeth Bros., Quebec. He went through without man in charge, thanks to the arrangements made by the D. S. E. A. with the railway company. Drink was provided for the trip in a novel and original way. A large cake of ice was placed in a tub, which melted down as fast as required and did not all splash out. The purchasers report that "the bull arrived safe, in good condition, and we are well pleased." This is an old story. All bulls shipped from Brookbank, ten in number this season, have pleased their purchasers. Calamity Jane, winner of sweepstakes twice in Provincial Dairy Show, is now giving 32 to 33 lbs. milk daily. She is now in her eighth month since calving.

SPRING VALLEY HERD OF JERSEYS.

Just one mile west of the town of Brantford, close by the main line of the G. T. R., is the Spring Valley farm of Mr. John Prater, a well-kept and well-cultivated farm, where a good, useful herd of Jersey cattle has been bred and maintained for nearly twenty years, founded on high-class animals, bred close from imported cows from the Island of Jersey, and crossed with richly-bred bulls deep in the blood of the St. Lambert, Stoke Pogis and Vitor Hugo, and other potent strains of blood selected always with a view to strength of constitution and deep-milking propensities. The herd at present consists of some thirty-five head, a large proportion of which are promising heifers, some having produced their first calf, and principally got by the richly-bred and successful sire Yankee's Pegasus 2248, by One Hundred Per Cent, a pure St. Lambert, being full brother in blood to Stoke Pogis 3rd, sire of Mary Anne of St. Lambert; record 36 lbs. 12 ozs. butter in seven days, and of twenty cows averaging over 20 lbs. in a week. The dam of Yankee's Pegasus was Yankee's Dream, imported from the Island. She was in the first prize herd at Toronto exhibition, and had a record of 25 lbs. in seven days, and was a model dairy cow. Among the more notable cows in the herd at present is Hugo's Delight, a large and handsome light fawn daughter of King of Peel, a very successful show bull, deeply bred in St. Lambert strains, and of St. George's Heroine, by Count St. George, sire of Countess Madge M72, who has a record of 18 lbs. in fourteen days as a two-year-old. Count St. George won first prize at the Royal Jersey show, and sold for \$2,600. Hugo's Delight is a Coomassie cow, being a granddaughter of Khedive, a son of imported Coomassie, and sire of Princess 2nd, whose record of 16 lbs. 12 ozs. in seven days has never been equalled, and stands as the most marvellous dairy performance in bovine history. Hugo's Delight is individually as good as her breeding, and is a model cow in dairy conformation, with a perfectly shaped, large and capacious udder, well-balanced fore and aft, with large teats squarely placed, large and tortuous milk veins, long level quarters, neat head and horns, and the desirable wedge-shaped form. If well-handled and shown under favorable conditions, we believe she has the material to make a successful show cow in first-class company. Another prominent number in the herd is Spring Valley's Pride, by King of Peel, and out of the imported cow Black Diamond's Queen, from the Island of Jersey, with a record of 15 lbs. 3 ozs. full sister to the great Island show bull Welcome 166, first prize over all Jersey, who sired Jersey Boy 92, the sire of Oakland's Cora, who tested 19 lbs. 9 ozs. in seven days in midwinter. The dam of Oakland's Cora tested at the Provincial fair at Guelph in 1886, at public test, 3 lbs. 1 1/2 ozs. in one day, being at the rate of 26 lbs. in seven days. Spring Valley's Pride is a breezy-looking solid light fawn cow, with neat head and horns, deep body, a well-formed and well-balanced udder, and well-placed teats, and has proved an exceptionally good breeder of promising heifers. The herd is largely made up of sisters, daughters and granddaughters of these two fine cows. Orange Dinah, a richly-colored, solid fawn cow, and evidently an extra good worker, is by Orange Carlo, and out of Rubano Star, by Rubano by Stoke Pogis 3rd, dam Clover Leaf Star, a granddaughter of LeBrocq's Glory, by Farmer's Glory 4870, first prize over all Jersey and at the English Royal Show; sire of Beulah de Gruchy, 22 lbs. 2 ozs., and of several other cows testing from 15 lbs. to 19 lbs. in seven days. Carlo's Stella is a recent addition to the herd, purchased at Mr. J. C. Snell's sale. She is a handsome and promising lemon-fawn, daughter of the great show bull, Carlo of Glen Duart, champion over all Canada three times, and of Stella Rienza, by Rienza of Winnikee. The bull at present at the head of the herd is Queen's Kaiser, by Kaiser Fritz, a bull of fine quality and rich breeding (said to have been sold at one time for \$500), dam Albert's Queen. Queen's Kaiser is a bull of strong constitution, fine quality and rich solid color, with fine shoulders, deep fore ribs and flank, long level quarters, mellow and rich-colored skin, and cannot fail to prove a good sire. A few well-bred high-grade Jersey cows and heifers are kept. These are bred for performance in the dairy, and look like business cows. Mr. Pulfer is generally open to sell a few, either registered or grades, and always prefers that intending buyers call and see his stock before purchasing. But he will answer all letters of enquiry, and may be depended on to treat his customers fairly.

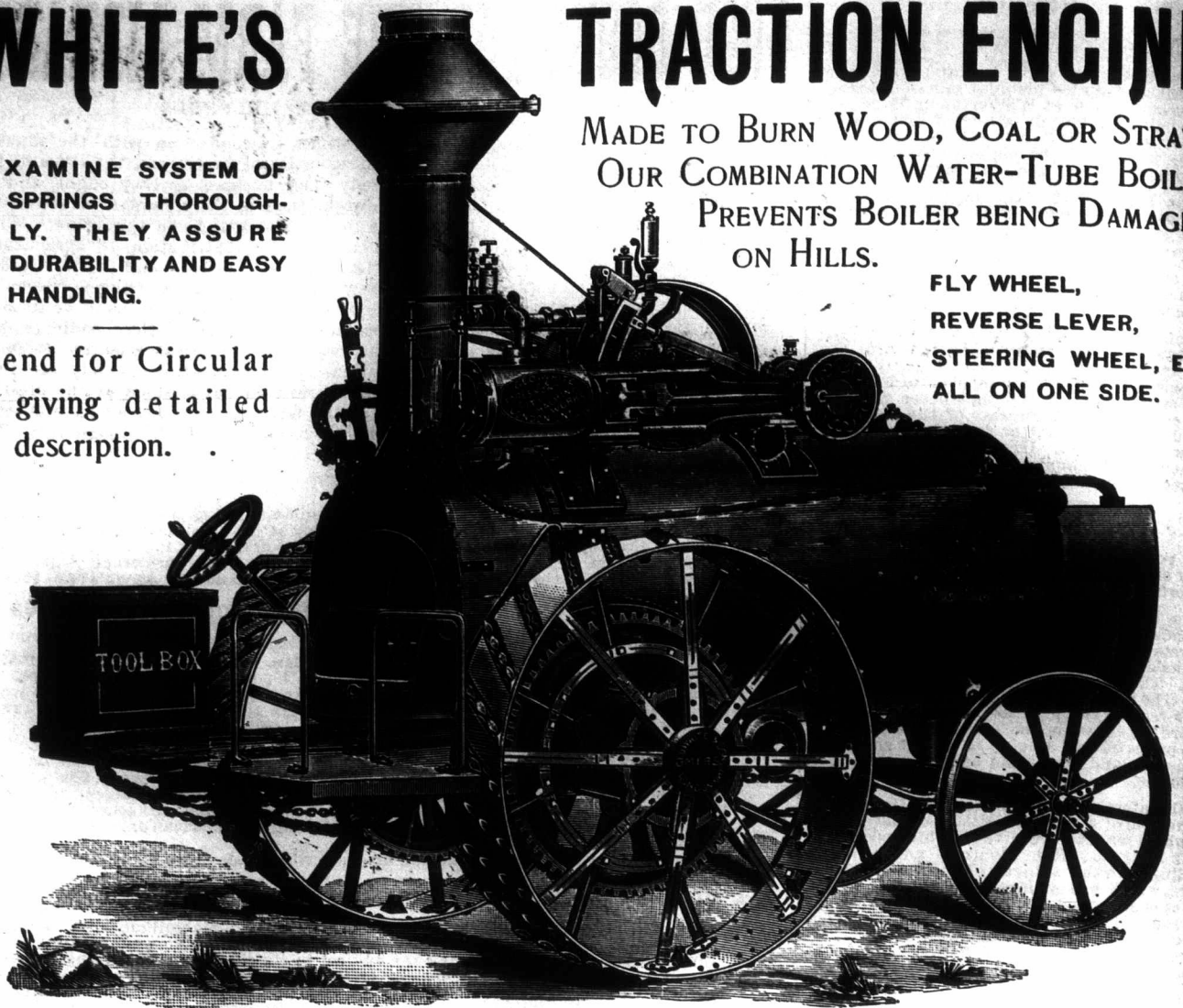
WHITE'S TRACTION ENGINE

EXAMINE SYSTEM OF SPRINGS THOROUGHLY. THEY ASSURE DURABILITY AND EASY HANDLING.

Send for Circular giving detailed description.

MADE TO BURN WOOD, COAL OR STRAW. OUR COMBINATION WATER-TUBE BOILER PREVENTS BOILER BEING DAMAGED ON HILLS.

FLY WHEEL, REVERSE LEVER, STEERING WHEEL, Etc., ALL ON ONE SIDE.



GEO. WHITE & SONS, = London, Canada.

THOS. ALLIN & BROS. LAKE VIEW FARM, OSHAWA, ONT.

Breeders of SHORT-HORN Cattle and SHROPSHIRE Sheep. 2 choice young bulls now for sale, also a few choicely-bred cows and heifers. Hard-times prices. Correspondence solicited.



F. BONNYCASTLE & SONS, CAMPBELLFORD, ONT.

Breeders of Shorthorn Cattle, Cotswold Sheep and Berkshire pigs. Heifers, calves and bull calves for sale at prices to suit the times.

FOR SALE! Good Young Cows

two years old yearlings and heifer calves out of imported and home-bred cows, and the imported bulls, Royal Member and Rantin Robin. Come and see them, or write, if you want something special. H. CARGILL & SON, Station on the farm. Cargill Sta. & P. O., Ont.



RIVER BOW STOCK FARM. B. SNARY & SONS, Croton, Ont.

Short-horn Cattle, Poland-China, Duroc-Jersey, and Chester White Swine, and Leicester Sheep. We now offer for sale five good young bulls, and also heifers of choice quality and breeding, sired by Chief Captain, a son of Indian Chief. Young pigs of both sexes & all ages at exceedingly low prices.



1864. HILLHURST FARM. 1894. HACKNEY HORSES.

Shorthorn and Aberdeen-Angus cattle, Shropshire and Dorset-Horn sheep.

M. H. COCHRANE. 16-2-y-om HILLHURST STATION, P. O.

A. J. WATSON, CASTLEBERG, ONT.

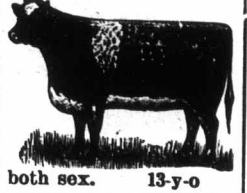
(ASHTON FRONTVIEW FARM), breeder of choice SCOTCH SHORTHORNS. Young stock of either sex, and choicest breeding, for sale at reasonable prices. Correspondence solicited. Bolton Station, C. P. R. 22-2-y-o

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

Telegraph office, Burlington Station, G. T. R. BREEDERS Short-horns, Shropshires, and Berkshires. Have on hand and for sale twenty choice one and two year old rams, four pair of extra good yearling ewes, and a nice lot of Berkshire boars and sows from two to six months old. Farms one-half mile and one and one-half from Burlington Station, G. T. R.

THE GRAND VALLEY STOCK FARM

G. & W. GIER, Props., Grand Valley, Ont., Breeders of Short-horns and Imp. Yorkshires. We offer for sale young bulls, cows and heifers of choice breeding and good quality at very low prices; also choice young Yorkshires of both sex. 13-y-o



Hawthorn Herd

of deep-milking SHORTHORNS for sale. Heifers and cows of the very best milking strain. Inspection invited. 13-y om WM. GRAINGER & SON, Londonboro, Ont.

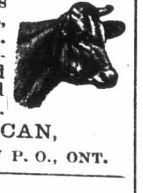
FOR SALE. A few choice SHORTHORN HEIFERS, also two BERKSHIRE BOARS fit for service, sired by J. G. Snell's Enterprise. Prices right. Correspondence solicited. F. A. Gardner, BRITANNIA, PEEL COUNTY, ONT.

H. I. ELLIOTT, RIVERVIEW FARM, DANVILLE, P. Q.

Breeder of Scotch Shorthorns, Southdown sheep, Par. Cochins and B. Minorca fowls. 15-1-y-o

The Don Herd of Jerseys

Comprises the choicest strains obtainable, including St. Lambert, Tennessee and combination blood. Am now offering a choice yearling Bull of superior quality and strong breeding, from imported stock. Also a choice bull calf. Address: DAVID DUNCAN, 9-1-y-o DON P. O., ONT.



8 Beautiful Heifer Calves

2 Bulls, and a number of Cows All A. J. C. Club; best strains.

J. CARPENTER, Winona, Ont.

JOHN PULFER, BRAMPTON, ONT.

Breeder of choice reg. and high-grade Jerseys of fine quality. Also TAMWORTH SWINE. Young stock always for sale at prices that should sell them. 12-2-y-o

GOSSIP.

It is said that in some parts of California, where hog-raising is made a business, pig plantations have been made expressly that they may furnish food for the swine.

On Monday, June 7th, a sale of Shorthorn cattle, the property of Mr. T. C. Patteson, Toronto, was conducted at Eastwood, when some ten animals were sold.

Mr. W. F. Stephen, Brookhill Farm, Trout River, Que., in writing to change his advertisement, says: "There has been a great demand for young Ayrshire stock this season, both male and female, and I am pretty well sold out of young stock. My bull from Nellie Osborne has done remarkably well and is getting fine stock. Enclosed find cheque for \$25, amount of advertising account now due."

At the recent Philadelphia horse show, Senator Cochrane, of Hillhurst Farm, P. Q., made a creditable record in a number of Hackney contests. The celebrated Barthorpe Performer won first in a strong three-year-old class. In two-year-olds, Hillhurst Sensation, by Hayton Shales and out of Miss Baker, was placed 3rd, while Lady Isabel, by Hayton Shales, made an equally good standing in two-year-old fillies.

H. I. Elliott, Danville, Que., writes:—"My cattle and sheep are all out now. The pastures are excellent this spring owing to so much rain. Stock in general are doing well. King James (Imp.) has left me a fine lot of calves which are coming on well. I have a grand show calf by him out of Duchess of Gloster B., which will be heard from later on; also a Nonpareil and Lovely. Southdowns have sold well the past year, and the outlook for them promises to be good."

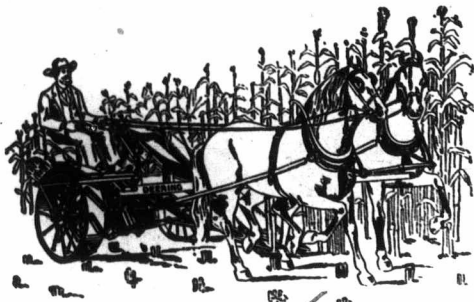
At a recent meeting of the Fellows of the Royal Botanic Society of London, Eng., on recommendation of the council, Dr. Wm. Saunders, Director of the Experimental Farms, was elected a corresponding member of that Society. This honor entitles the recipient during his life to all the privileges connected with the gardens of the Royal Botanic Society in Regent's Park, which contain a very large and interesting collection of plants, shrubs and trees gathered from all quarters of the world.

Mr. Jas. Atkinson, B.S.A., an Ontario Agricultural College graduate of 1896 and gold medalist of 1894, has just been appointed to the position of Experimentalist and Assistant Lecturer in Agriculture at the Iowa State Agricultural College and Experimental Farm at Ames Iowa. Mr. Atkinson has had a valuable schooling in experimental work along with Mr. C. A. Zavitz, B.S.A., at the "Guelph Farm," where he has distinguished himself because of his thoroughness and methodical system. He will assume his new duties about July 1st.

The eggs of mongrel hens sell for 7 or 8 cents per dozen, while it is not uncommon to get from 75 cents to \$1 for setting of pure-bred eggs. Why not have some of these layers of high-priced eggs and those of a sort that will lay large eggs and keep at it. Messrs. Speittgugue and George, of London, make some favorable offerings in this issue of a number from their breeding pens. To indicate the quality of this firm's fowls, it will suffice to state that they won at the World's Fair, at Chicago, 1st on Partridge Cochins, 1st on White Leg-horn hen, 3rd on W. Leghorn cockerel and 3rd on Brown Leghorn cockerel. Try them, and do not delay.

# Deering Corn Binder

The only successful Corn Binder made. Cuts and binds 8 to 12 acres per day, drawn by two ordinary horses.



Is quickly adjustable for varying lengths of crop, and the only one that is. The greatest invention of the decade. Doubles the value of every farmer's corn crop.

DEERING HAY RAKES are in the greatest demand because they are modern, durable, easily operated, and do the cleanest work. Made in widths varying from 8 1/2 to 12 feet.

## DEERING BINDERS AND MOWERS HAVE ROLLER AND BALL BEARINGS.

Such bearings have been applied to Deering machines since 1892 and are only recently being imitated by American and Canadian manufacturers.

DEERING BINDER TWINE is strong and flawless. Made in the Deering Twine Mills, the largest and best-equipped in the world.

REPAIR PARTS for Deering machines are kept constantly on hand by our local agents in every part of the Dominion, or can be shipped promptly from our permanent branch house at London, Ontario.

### DEERING HARVESTER CO.

Permanent Branch House, LONDON, ONTARIO. Factory and Main Offices, CHICAGO, U.S.A.

## GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

Mr. J. C. Snell, Snellgrove, Ont., writes:—"There is a steady demand for good young Berkshires, in sympathy with the improved prices in the market for bacon hogs, which promise to reach high-water mark as the summer advances. The conditions are all in favor of profitable production of pork at the present time. Feed is cheap and pork is dear, and a pig of the proper type will make better returns for feed he eats than any other stock on the farm. Orders for pigs this month have come from four Provinces and three States, and enquiries from the extreme east and west attest the wide circulation of the FARMER'S ADVOCATE."

P. J. Cogswell, Brighton Place Herd, Rochester, N. Y., writes:—"Cretesia's Rachel 8998 dropped a heifer calf January 11th last, and gave in seven days from March 27th to April 3rd 16 lbs. 8 ozs. of choice, well-washed butter, salted 1 lb. per pound. Her daily average of milk during the test was 40 lbs., and her daily average for seventy-five days, commencing January 15th, was 39 1/2 lbs. Cretesia's Rachel is a handsome dark fawn with black points, and is a granddaughter of Exile of St. Lambert 18637, by Rachel Spencer 50974. Rachel Spencer has a test of 23 lbs. 3/4 ozs. of butter in seven days, and she holds the highest milk record of all the daughters of Exile, having given 53 lbs. in one day. Cretesia's Rachel's sire was Cretesia's Albert Pogis 21730."

James I. Davidson & Son, Balsam, Ontario, write us that they have made the following sales:—To Mr. James Hunter, Green Ridge, Manitoba, the Clydesdale stallion Pride of Balsam [2189], who weighed 1,725 pounds when 21 months and 15 days old. He is a bright bay; sire was Tuffy (imp.) [2123] (9153), who was a prize winner in every competition, winning the gold medal at Ottawa in 1895, and sold for \$1,000 cash. Pride of Balsam's dam, Kate Hill 2nd, won the first prize for the best imported or Canadian-bred mare at the spring show, Toronto; first at the Industrial, also the medal for the best mare and two of her progeny (being the Pride of Balsam and his full brother). Pride of Balsam has been shown on several occasions, and never left the ring without a prize. We have yet some good Clyde mares and fillies, and will breed eight of them this season. We also sold to Mr. Brewster McIntyre the bull Scottish Prince 6th, sire Scottish Prince—14925—, dam Necklace 20th, by Hospodar (imp.). To A. Graham, Pomeroy, Man., the heifer Necklace 21st, by Sittytton Chief—17060—, dam Necklace 17, by Councillor of State (imp.); also to Joseph Watson, Greenbank Ont., Village Boy 10th, by Scottish Prince, dam Village Beauty 3rd, by Vanguard. Sold to W. H. Lochart, Whistby, Scottish Prince 5th, by Scottish Prince, dam Necklace 20th, by Hospodar (imp.). To A. Graham, Pomeroy, Man., the heifer Necklace 21st, by Sittytton Chief—17060—, dam Necklace 17, by Councillor of State (imp.); also to Joseph Watson, Greenbank Ont., Village Boy 10th, by Scottish Prince, dam Village Beauty 3rd, by Vanguard. Sold to W. H. Lochart, Whistby, Scottish Prince 5th, by Scottish Prince, dam Necklace 20th, by Hospodar (imp.). To John S. Robson, Manitou, Man., Village Boy 12th, by Scottish Prince, dam Village Beauty 4th, by Hospodar (imp.). Hospodar (imp.) was exported back to England, also a son of his.

## BROOK HILL AYRSHIRES....

are still to the front. Two fine bull calves for sale. Orders taken for young stock. Speciality in bull calves. Correspondence solicited. W. F. STEPHEN, Trout River, Que.

## OAK POINT STOCK FARM Ayrshires FOR SALE.

I have now for sale a choice lot of young bulls and heifers of fine quality, and bred from best milking strains. Particulars on application. J. B. CARRUTHERS, Kingston, Ont.

## Maple Cliff Stock Dairy Farm

Ayrshire Cattle, Berkshire and Tamworth Pigs. Special offers for this month—Bull calf, Jock of Maple Cliff, 7 months old, by Gold King, and from Mysie Carrick (a very deep milker), \$35. Berkshire pigs, 1 month old, \$5.00 each; Tamworths, 2 months old, \$7.00 each. R. REID & CO., Hintonburg, Ont. 20-1-y-o One mile from Ottawa.

## GLENGARY STOCK FARM.

My herd comprises the best strains procurable. Am now offering young bulls and heifers descended from the importation of the late Thos. Brown. JNO. A. McDONALD, JR., Williamstown, Ont. 1-2-y-o

## Maple Cliff HERD OF... Ayrshires

Are noted for their successful show-yard career. Choice quality and heavy milking families. A few exceptionally choice young animals of both sex now for sale. Priced in keeping with the times. For particulars address ROBERT ROBERTSON, Prop., 16-2-y-o COMPTON, QUE.

Choice Ayrshires of deepest milking strains. Largest and oldest herd in Ontario. We have choice young stock of both sexes bred by Leonard McDowd, a sweepstakes bull at Ottawa. Also choice Shropshires, and a fine lot of Berkshire pigs for sale. Visitors met at Queen's Hotel. Give us a call. J. YULL & SONS, CARLETON PLACE, ONT.

## "Gem Holstein Herd." STOCK FOR SALE!

We only keep and breed registered Holstein-Friesians. We have now some choice young bulls and heifers, also some older animals, all of the very best dairy quality, that we will sell, one or more at a time, on reasonable terms. Correspondence solicited. HILLIS BROTHERS, BEDFORD PARK P.O., ONT. Shipping Station, Toronto. 7-y-o

## BROOKBANK HOLSTEIN HERD.

Champions for milk and butter. Eight have placed in money in actual tests. Sir Paul De Kol Clothilde in service, in whose veins flows the blood of such record-breakers as Pauline Paul, Clothilde, De Kol, Mercedes, Netherland Twisk, etc. Nineteen nearest relatives average 22 lbs. of butter in one week. Orders taken for Holstein calves and Poland-China pigs. A. & C. ERICK, Oxford Co., Ont. CURRIE'S CROSSING.

MAPLE Holstein-Friesians. For rich blood-HILL Holstein-Friesians. ing, heavy production, and uniformity of type, the Maple Hill Herd is not excelled by any in America. My cattle have won over \$1,000 in prizes in the last three years, and I never had as many crack show animals as at present. Many are closely related to Netherland Hongerveld, De Kol 2nd, and De Kol 2nd's Pauline, whose official butter records have never been equalled. Write or visit— 11-y-o G. W. CLEMENS, St. George, Ont.

## HOLSTEINS

None but the best are kept at BROCKHOLME FARM, ANCASTER, ONT. Write me for prices if you want first-class stock at moderate figures. Holsteins in the advanced registry. Yorkshires all recorded. 12-y-o R. S. STEVENSON, Prop.

## HOLSTEIN BULLS FOR SALE.

Two 2-year-olds and a yearling; also some young females; all bred in the purple, as their pedigrees will show. Prices right. A. C. HALLMAN, New Dundee P. O., Springbrook Stock Farm.

**W. C. EDWARDS**  
AND COMPANY,  
IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q.

Pine Grove Stock Farm, ROCKLAND, ONT.

**Ayrshires, Jerseys, Shropshires, Berkshires.**

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogis of St. Anne's heads the Jerseys. The young stock are all from time-tried dams. ED. McLEAN, Manager.

**Shropshires and Scotch Shorthorns.**

The imported Cruickshank bulls Knight of St. John and Scottish Sportsman are at the head of this herd of Imported and Home-bred Cows and Heifers of the most approved Scotch families. 7-1-y JOS. W. BARNETT, Manager.

**BELVEDERE STABLES** are still  
**6 of my Best Jersey Cows**

Kept for use of my own and daughter's families, but I do not wish to increase the number, hence I can usually offer something uncommonly choice. Just now I have

**1 BULL, NEARLY 2 YEARS OLD,**  
1st prize winner, and fit for any herd.

**1 SPLENDID BULL CALF, 7 MOS. OLD**  
The best, I think, I ever raised.

**1 EXTRA BULL CALF, 3 MOS. OLD.**

**MRS. E. M. JONES,**  
Box 324. BROCKVILLE, ONT., CANADA.

**LEE FARM REGISTERED JERSEYS.**

Bulls fit for service, \$50 each  
Heifers in calf, 50 "  
Young cows in calf, 75 "  
Heifer calves, 30 "

Solid colors. None better bred in Canada for dairy purposes. Come and personally select, or write for description and pedigrees.

**E. PHELPS BALL,**  
Lee Farm, Rock Island, P. Q.

**FOR SALE!**  
**2 FINE YOUNG REGISTERED JERSEY BULLS,**  
about 17 months old; heifer and bull calves, and a choice lot of young Berkshire pigs. Prices right.

**D. H. KETCHESON, MENIE P. O.**

**GLEN ROUGE JERSEYS.**

**WILLIAM ROLPH,** Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 22-y-o

**WILLOW GROVE HERD OF JERSEYS.**  
Sweepstakes herd of 1893, 1894, 1895 and 1896.

**J. H. SMITH & SON,** Highfield, Ont.

are offering 12 females, to calve shortly: one first prize bull, dam Elena of Oakdale (19 lbs. 4 oz. of butter in seven days), grand dam Menies 3, A. J. C. C., test 20 lbs. 1 oz. in seven days. Dam of bull won 1st prize in dairy test, Guelph, 1896, and he is half-brother to King of Highfield. -om

**Prize-Winning AYRSHIRES FOR SALE.**

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.

**JAS. McCORMICK & SON,** ROCKTON, ONT. 20-2-y-o

**JNO. SANDILANDS,** Williamstown, Ontario,  
BREEDER OF CHOICE  
**Ayrshire Cattle.**

Young stock of both sexes now for sale at farmers' prices. -om

**AYRSHIRES FOR SALE.** Six choice young Bulls, one and two years old, by Earl of Percy. My spring calves are by Douglas of London 1381, bred by D. Morton & Son. Prices right. **F. W. TAYLOR,** Hoard's St., G.T.R. o Wellman's Cor., Ont.

ADVERTISE IN THE ADVOCATE.

**The Philadelphia Horse Show.**

It has been satisfactorily proven that an open-air summer horse show can be made a real success. For six years the Philadelphia show at St. Martin's Green, Wissahickon Heights, has drawn together a large concourse of magnificent animals and correspondingly admiring and sport-loving crowds. This show is not run for profit, but for sport, and while the desired object is realized in a high degree each year, there is invariably a little surplus of funds to return to the favorably-situated grounds in the way of improvements for future exhibitions.

At Philadelphia, as in Toronto, Hackneys do much to make the show. The exhibitors of this breed include almost all the leading Hackney breeders of the Eastern States, except Mr. F. C. Stephens, of Attica, N. Y., while Canada was ably represented by Hon. M. H. Cochrane, Hillhurst Farm, Hillhurst, Que. The ribbons were tied by Messrs. R. P. Sterricker, Springfield, Ill.; R. W. River, New Hamburg, N. Y.; and Robert Bell, Mr. E. Bowman, Ont. The competition for stallions and mares of much interest to horsemen, as some of the great sires of the day were there with their families. Cadet led the winners, followed in order by Enthorpe Performer, Old Wildfire and the seventeen-year-old Phaeton.

Hackneys in harness and under saddle were numerous and sensational. Tanems and four-in-hands filled large and good classes. Thoroughbred stallions, having to be shown on the line, were judged as suitable sires of saddle horses. Some half dozen gamey individuals, ranging from seven to seventeen years, made up a good class. The winner was found in Willul, by Anstruther, followed by Circassian, by Alarm, a fresh 16-hand chestnut seventeen years.

The exhibit of trotters was a little disappointing because of the small number of stallions shown, but a good showing of young stock and some particularly fine roadsters in harness delighted many horse lovers. Stamboul was an outstanding winner in stallions, while his progeny, as well as that of Director and Election, stood well in younger classes. In the driving classes for trotters, Mr. E. T. Stotesbury, of Philadelphia, won on a grand pair. He is the gentleman that made entries for the Canadian Show but did not bring his horses forward. We are now more than ever disappointed that he did not come to Toronto. His winning pair have marks of 2:20 1/4 and 2:17, and are very flash.

Both under the saddle and in heavy harness a great improvement was shown this year over former occasions. The classes were large and contained a high average of excellence.



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GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

H. Bennett & Son, St. Williams, Ontario:— We write you to tell you of a freak of nature we have this spring in the shape of a colt born with no fore legs whatever; a fine colt in every way but this. This colt was sired by the celebrated trotting stallion "Postmaster," dam Dolly Stanton, a highly-bred mare. The demand for Berkshires is increasing, and we think the outlook is good for first pigs. We have some right good ones to dispose of at reasonable prices.

E. GAUNT & SONS, ST. HELENS, ONT.

The herds and flocks of E. Gaunt & Sons, St. Helens, Ont., were looked over on a recent trip north, and at the head of the Shorthorns we found the young stock bull, General 22083, two years old, sired by Rantin Robin 1858 (imp.), dam Medora 12th 22006, by Sultan Selim (imp.) 4129. General was bred by Thomas Russell, Exeter; is dark red in color, in present form weighing about 2,200 lbs.; has a very powerful substance of bone—in fact, looks as if he were capable of carrying at maturity 2,800 lbs. without being burdened. He has good length of body as well as immense depth and thickness. One is impressed with his extraordinary development without the appearance of coarseness. As a calf he won 1st at London, and has not been shown since except at local fairs. He is very active on his feet and in service and of excellent disposition. Admiral, 16 months, bred to the farm, red roan in color, sire Earl of Moray 16188, dam Melody 21792, by President (imp.) 1412, g. dam by Lord Lovel, is a very growthy, good animal, full of quality, with sufficient bone. Of him Mr. G. says: "We reserved Admiral to use on some of our young heifers and special cows and he has proved himself a good live worker." His pedigree is clean enough to qualify him for any standing, coupled with his superior individuality.

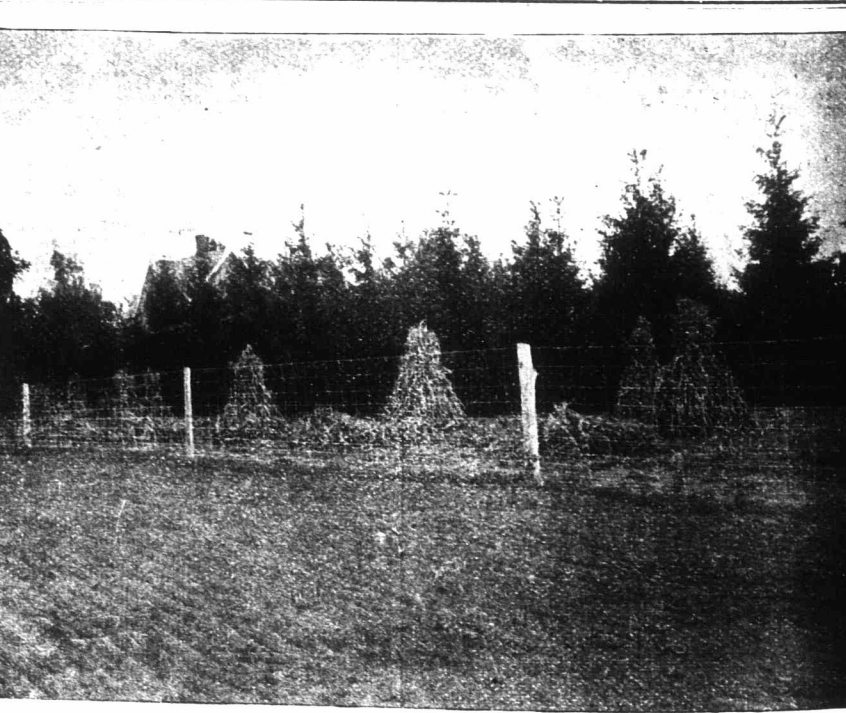
In the field pasturing are nine model heifers, two and three years old, having grand substance, with length, depth and thickness, and of superior breeding, in color about equally divided in reds and roans. Also pasturing were four yearlings by Earl of Moray, the sire of the two two-year-olds. These are all up to high-standard perfection. An aged cow, Lady Lovel, by Lord Lovel, dam Vacuna 6th, has true beefing qualities, being well and uniformly developed. She has been a very successful breeder, and to the Admiral. In condition she tips the scales at 1,960 lbs. and could easily be made to weigh a ton. In the field among the bunch we noticed her two-year-old dark roan heifer, Lystra, by Earl of Moray. She is much the same type as her dam. Her yearling, Lystra 2nd, by Earl of Moray, is of the same type; in color she is red and white, and has a very stylish, impressive appearance. Ethel Buckingham, full sister of the red bull calf out of Eva Buckingham, sired by Earl of Moray, dark red in color, is also a full sister to the three-year-old heifer, Vanora. Taking them as a bunch they are of good lot, having sufficient substance combined with quality and gilt-edge breeding. After tea, we visited the matrons now milking, and among them we noticed Ethel Buckingham, eight years old, sired by Lord Lovel, dam Miss Booth. She is a dark red of grand form, showing beefing qualities in her size, depth and thickness of substance, while her matronly appearance recommends her as an all-round cow. She has been a very regular, successful breeder. Her calves have all done well. Her yearling Mina Buckingham and three-year-old Vanora are now on the farm. Leona, out of Eva Buckingham and sired by Imp. President, is a five-year-old roan cow that bears out the characteristic dairy features of her relative, having an immense udder. In her present form she will weigh about 1,800 lbs., which, coupled with the quality she possesses, makes her a very attractive animal in the herd. She has had three calves, all of which are on the farm at present. Caprice, four years old, bright red in color, sire Earl of Moray, dam Eda Buckingham, in conformation is much the same as Leona, possibly a little lower set. She carries her head in a stylish manner. She is now suckling her second calf, which cannot take all her milk, although it is a big, strong calf. Her udder is in the way behind her, and in volume and of good conformation. Mr. G. says: "Although the cows are in excellent form, they were fed very sparingly last winter, and they have always been able to give a good account of their food, a feature possessed in their line of breeding." Of youngsters there are nine calves—four bulls and five heifers—by General, ranging from five months down, all from cows on the place, all good creditable animals, and impressed with the superior substance of bone possessed by the sire. Two bull calves and three heifers are solid reds. Ten cows in all, reds and roans, of much the same type as those noted, have all been bred to General and Admiral, as well as the heifers on the farm, being 15 in all bred this year. Messrs. Gaunt have a large herd of females on hand and feel that they can spare several fine animals this fall, which will no doubt find homes in good herds where they will do ample justice to the purchaser.

In the flock of Leicester sheep we found in all some 96 head, 40 of which are lambs of this cross, which are a good strong, even lot. Mr. G. says: "We had good luck with our lambs, which were mostly females, having sustained very few losses. The lambs are growing up very even and doing well, the ewes being of good size and well covered, which has always been one of the chief objects in view in making selections. The yearling ewes number about a dozen, much the same in type as the matrons of the flock. The males comprise one two-shear-ram and three shearlings, which are in no way behind the balance of the flock. The rams are a strong, showy, well-covered lot. Messrs. Gaunt have been very successful in the showing, and have sold many show flocks, among which was a two-shear ram to Quebec parties for show purposes. Also have placed several stock and show rams with Prince Edward Island parties, which have given a good account of themselves.

The sales of cattle this season have been mostly confined to animals sold to head herds in Ontario. The demand being very active all through the season, all young bulls being sold before the demand was fully supplied.

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Isaleigh Grange Stock Farm. Special May Sale! Consisting of five choice young Ayrshire Bulls fit for service, two Guernsey Bull Calves and the best lot of young Blue Large Yorkshire Pigs. T. D. M'CALLUM, Mgr., QUEBEC.