

H. H. Grisdale
Exp Farm Dec 15, 1900

FARMER'S ADVOCATE



BREAKING THE
20TH CENTURY S9D

CHRISTMAS 1900

10 CENTS

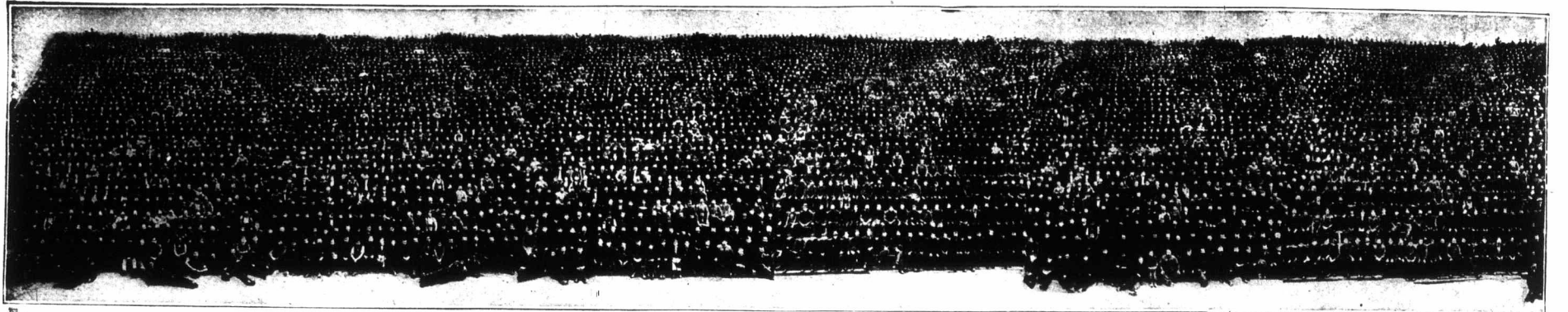


THE MACHINES THAT MADE AMERICA FAMOUS



DEERING LIGHT - DRAFT IDEALS

THE BEST LINE OF GRASS AND GRAIN HARVESTERS ON EARTH.



NINE THOUSAND PERSONS EMPLOYED BY THE DEERING HARVESTER COMPANY.

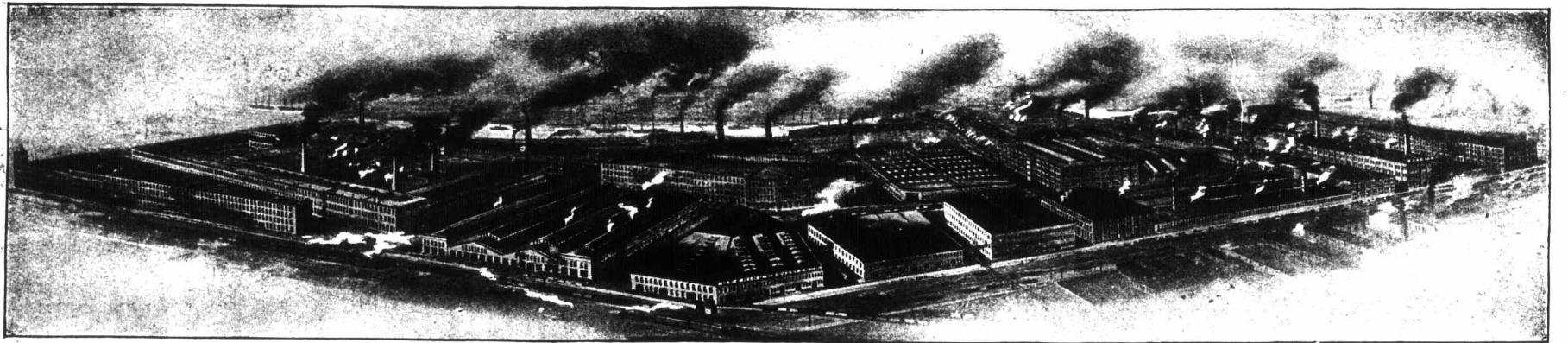
This engraving is reduced from a photograph 18 feet in length. The original is shown in the main exhibit of the Deering Harvester Company at Paris Exposition. The continuation of this picture near bottom of page.

The Deering Line for 1901 includes :



Grain Binders, Mowers, Rakes, Oil.

Corn Binders, Reapers, Twine, Knife Grinders.

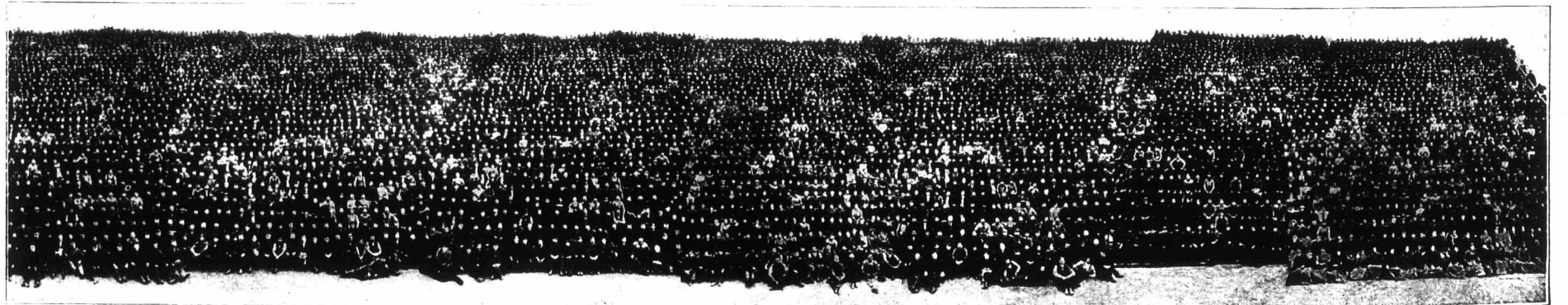


DEERING HARVESTER WORKS, CHICAGO, U. S. A.

The largest harvester works in the world. Eighty five acres in area. Employed 9,000 people, in addition to 13,000 local agents in America alone, during 1899. Largest in output, sales, and size of plant.

The DEERING FACTORY was first to introduce the following valuable inventions and improvements :

- Marsh Harvester, 1858. Appleby Binder, 1878. Single-Strand Binder Twine, 1880. All-Steel Frame Binder, 1885. Roller and Ball Bearing, 1891.



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Factory and Main Office :

CHICAGO, U. S. A.



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Railway Lands....

THE CANADIAN PACIFIC RAILWAY LANDS consist of the odd-numbered sections along the Main Line and Branches, and in the Lake Dauphin District in Manitoba and the Saskatchewan, Battle and Red Deer River Districts in Alberta. The Railway Lands are for sale at the various agencies of the Company in Manitoba and the Northwest Territories, at the following prices:

- Lands in the Province of Manitoba, average \$3.00 to \$6.00 an acre.
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- Lands west of the 3rd meridian, including most of the valuable lands in the Calgary District, \$3.00 per acre.
- Lands in Saskatchewan, Battle and Red Deer River Districts, \$3.00 per acre.

TERMS OF PAYMENT.

The aggregate amount of principal and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the remainder annually thereafter, except in the case of a settler who goes into actual residence on the land and breaks up at least one-sixteenth thereof within one year. Such settler, on evidence of residence and cultivation, is entitled to have second instalment deferred for two years from date of purchase, the remaining payments falling due annually from that time.

The following table shows the amount of the annual instalments on a quarter-section of 160 acres at different prices:

160 acres at \$3.00 per acre, 1st instalment \$71.90 and nine equal instalments of \$60.00		
" " 3.50 " " " " " " " "	83.90	70.00
" " 4.00 " " " " " " " "	95.85	80.00
" " 4.50 " " " " " " " "	107.85	90.00
" " 5.00 " " " " " " " "	119.85	100.00
" " 5.50 " " " " " " " "	131.80	110.00
" " 6.00 " " " " " " " "	143.80	120.00

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. on the amount paid in excess of the usual cash instalment.

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It has been established for over FORTY YEARS, and during that time has built up a record for fair and honorable dealing with its policy-holders. It has large resources; its rates are low and in settlement of losses it is prompt. Agencies in every district throughout Ontario.

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LITTLE
HELPS

Salt is a little thing, but it can either spoil or improve your Butter and Cheese, as you elect. Impure Salt will spoil it.

WINDSOR
SALT

which is as good a Salt as can be made, will improve it.

AWARDED SILVER MEDAL, PARIS EXHIBITION, 1900.

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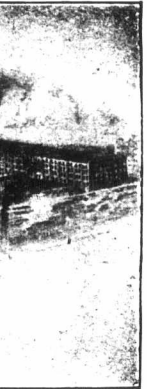
DEERING HARVESTER OIL

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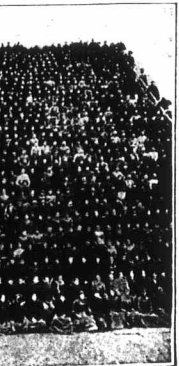
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wine, Grinders.



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DEERING BINDER TWINE

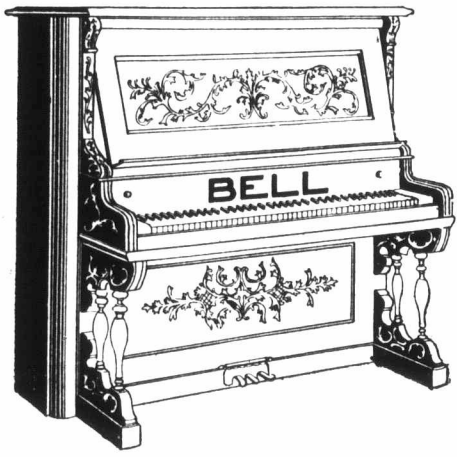
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We also make

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MULTI-TONE DEVICE,
giving orchestral effects
in a PIANO.



"It is admitted by those who have thought much on the subject, that the people of our country allow themselves too little relaxation from business and other cares. If this be so, and for my part I think there is no doubt of it, they will find in the cultivation of music a recreation of the most innocent and unobjectionable kind."

—W. C. Bryant.

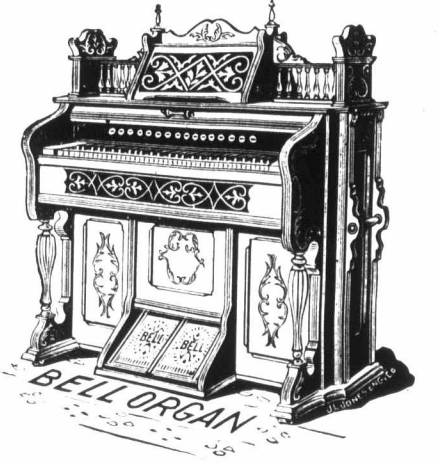
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producing pipe qualities in
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PIANOS AND ORGANS

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THE **BELL ORGAN & PIANO Co., LIMITED.** GUELPH.

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SYDNEY, N. S. W.

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Easy Terms.

GOOD SOIL. PURE WATER. AMPLE FUEL.

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In the Prince Albert, Duck Lake and Rosthern Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway.

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For full information concerning these Districts, Maps, Plans, etc., FREE, apply to

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440 MAIN STREET,

WINNIPEG, MAN.

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enjoys the proud distinction of being the most popular tea in every Province of the Dominion of Canada.

"The best value for the least money" is its motto

Blue Ribbon Ceylon Green Tea (machine-made, pure and wholesome) is becoming very popular and will soon displace Japan Tea

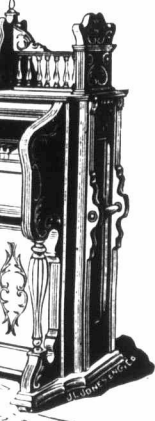
Try it.

Instrument is not

ELL
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SERAPHONE,
qualities in

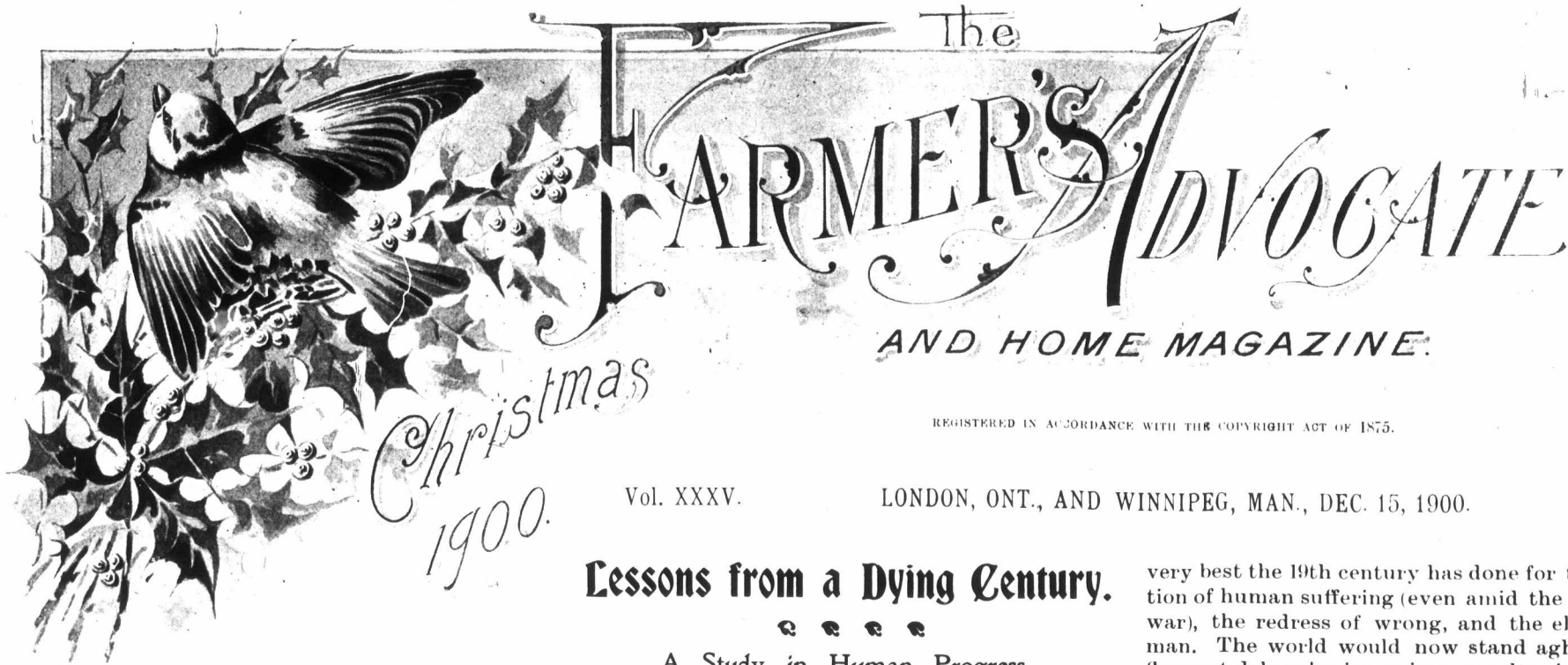


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Vol. XXXV.

LONDON, ONT., AND WINNIPEG, MAN., DEC. 15, 1900.

No. 516.

Lessons from a Dying Century.

A Study in Human Progress.

Turn the Furrow New.

Turn the furrow new, turn the furrow true,
See the fields of promise spread beyond the view
Fields that through the ages never yielded wages
Waiting, honest yeoman, now for you!

A new thing is stirring abroad,
The fairest our fair land can show,
'Tis the man of his hands who is proud of his place
With his feet next the soil, April's smile on his face,
His eyes all aglow
'Neath the calm eye of God,
Breaking Twentieth Century sod.

Canadian, whatever your name,
Your mission, your office, your aim—
So that you be honest—be wise:
Consider this man of the plow
A new era opens for all,
The future looms vast in our eyes.
Heed the stir at your heart, heed the national call:
'Neath the calm eye of God,
In humility bow,
Quit the sin that beseteth your own heart, and now
Turn your Twentieth Century sod.

O'er poison-vines insidious, creeping, creeping
(Sly parasites that sap your garden-plot),
O'er blind moles in their burrows sleeping, sleeping
(Slaves of the past)—plow deep and let them rot,
And turn the furrow new,
And turn the furrow true,
For 'neath high Heaven, the harvest given
Depends at last, oh! honest man, on you.

You man of the pulpit, the bar,
The scalpel, the mattock, the pen,
You man of the ship, of the car,
You man, the leader of men,
You man of the mart, of the mine,
You man of the sword that has smitten
With valor supernally-fine
The foeman who fought against Britain,
While the sands, the last sands of this century roll,
Surveying the field, the vast field of your soul
'Neath the calm eye of God
Turn your Twentieth Century sod.

Turn the furrow new, turn the furrow true,
See the fields of promise spread beyond the view
Fields that through the ages never yielded wages
Waiting, oh! Canadian, now for you.

ROBERT ELLIOTT.

Canada moves from the 19th to the 20th century on a wave of Imperial progress. Out of the bloodstains of beleaguered garrisons on the dusty veldt flowered a patriotism that drew swiftly together the sons of Britain from all around the world. As Chamberlain puts it, "The year 1900 witnessed the Empire born again in sympathy and aspiration." For Canada it was an hour of destiny. Despite geography and the cold calculations of philosophers, our national future was clearly defined with the Old Land across the sea.

When our kinsfolk of the United States were battling with a decadent power to force the release of her crushing clutch upon the Cuban, Blood, chilled for a century, rightly reasserted itself, and the attitude of Briton and Canadian killed forever the occupation of the political demagogue, who for generations has exploited himself as tail-twister-in-chief to the British Lion. The speeding century saw the birth of a new Saxon fraternity.

We flatter ourselves, as Tennyson puts it, that we are "the heirs of all the ages in the foremost files of time," or even to quote the British Columbian, Clive Wolley: "There have been none like us, and none to tame our pride." But with the tragic Transvaal record of the past year before us, comes like a flash the realization that Rudyard Kipling had a prophetic vision when in 1897 (the Queen's Jubilee year) he penned the "Recessional" Hymn—

"Lord God of Hosts, be with us yet,
Lest we forget, lest we forget."

And have there not been in other departments of human effort eras just as remarkable as the 19th century? We have erected some amazing structures. But did not ancient Egypt build the ponderous Pyramids and embalm her kings by processes the permanence of which defy the centuries? Has the Victorian or any other age duplicated the splendors of ancient Grecian art and philosophy? Where shall we look for another Italian Renaissance, with its glorious achievements in architecture and painting? And with all our schools and books and learning, do we dream of another Elizabethan era in literature? The truth seems to be that in every age, the waves of human effort ebb and flow, and, in one direction or another, expend their mighty energies; but beneath it all runs ever onward an oceanic current of progress.

The past one hundred years has been rightly designated a wonderful utilitarian century. Among its chief achievements we count:

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|------------------------------------------|--------------------------------------|
| 1. Railways. | 10. Gas and Electric Lighting. |
| 2. Steam Navigation. | 11. Photography. |
| 3. Electric Telegraph. | 12. Roentgen Rays. |
| 4. Electric Motors. | 13. Spectrum Analysis. |
| 5. Telephone. | 14. Anesthetics and Antiseptics. |
| 6. The Phonograph. | 15. Abolition of Slavery. |
| 7. Friction Matches. | 16. Enfranchisement of Masses. |
| 8. Machinery and Science in Agriculture. | 17. Mercantile Combinations. |
| 9. Refrigeration of Foods. | 18. Expansion of Christian Teaching. |

As never before, our age has witnessed the diffusion of learning among the masses, and the harnessing of natural forces to do the work of man; but its crowning glory has been the unchallenged recognition of the beneficent application in human relations of the principles promulgated 2,000 years ago by the Nazarine, to whom, in the last analysis, must be traced the inspiration and initiative of the

very best the 19th century has done for the alleviation of human suffering (even amid the horrors of war), the redress of wrong, and the elevation of man. The world would now stand aghast at the flagrant debaucheries, crime, cruelty, immorality, and nameless horrors that dominated England a century ago. Despite the ebullitions of wars, precipitated by an unenlightened Kruger or Empress Dowager, industrial upheavels and reactionary outbursts, humanity moves forward to the goal of an eternal purpose. It is a significant fact that at the century's close the most truly popular, widely read and closely studied of all books is the Bible, and that the great heart of humanity loves to encircle with laurel the names of David Livingstone, Florence Nightingale, William Wilberforce, Earl Shaftesbury, Abraham Lincoln, William Ewart Gladstone, and Frances Willard.

Earl Roseberry, addressing the students of Glasgow University, bids the British nation gird its loins for the conflicts of the future. The 20th century, he said, would be a period of keen, intelligent, and almost fierce international competition, more probably in the arts of peace even than in the arts of war. In his view, the time had come to remodel the educational apparatus for the training of warriors, merchants and statesmen to battle for the Empire's existence. But it must be more than a mere struggle of the jungle in the mercantile arena! Someone has said that "a counting-house passes away, but a school remains." The 19th century has seen educational methods delivered from some benighted and benumbing features; but what the new century needs above all else in education is that the emphasis be laid upon character, so that men will not be in the pitiable danger of having more property than manhood. In wealth and outward splendor, Babylon had no rival in ancient times, but she placed no true estimate upon men. Her civilization centered in no faith. Her palaces and hanging gardens became the places of selfishness and sensuality, and as Dr. J. W. Lee records: "Over her history has settled the stillness of the desert, the gloom of eternal night." On the other hand, he says, Grecian life in a couple of centuries before 300 B. C. secured itself immortality in MEN, who have been teachers of the race:—Epaminondas, Pericles, Socrates, Plato, Aristotle, Sophocles, Pindar, Herodotus, Thucydides, Demosthenes, Aeschines and Pheidias still live in the world's ideals of philosophy, literature, oratory, sculpture and architecture. But ceasing to emphasize men, thinking only of material results, and rent with discord and strife, Greece degenerated and became the pauper of civilization.

Old Imperial Rome, mistress of the world, relying upon military prowess, unsustained by the genius of liberty, bereft of manhood, filled with dissension, political corruption and moral rottenness, ignominiously perished before the barbarians. Has history, then, no lessons for The Greater Britain? While the 19th century is bequeathing to the 20th a legacy of splendid achievements, she sends on, in addition to the yet unregenerate millions, the peril of an excessive devotion to materialism, a proneness to the idolatry of gold, white slavery in industrial centers, great evils entrenched and legalized, unredressed wrongs, calling loudly to the reformative and constructive statesman of the COMING TIME, with its new duties, to which he must bring the security of deeper knowledge, the courage of a new vision, and the inspiration of new watchwords, "not," to quote the words of Lowell, "attempt the future's portal with the past's blood-rusted key."

Retrospective and Prospective.

Agricultural Thinkers on the Achievements of the Past and the Pathway to Future Success.

1st.—Considering the extension and the general progress of Agriculture, and the advances made in scientific investigation, stock breeding, grain cultivation, horticulture, dairying, etc., what would you regard as the most remarkable achievement or feature of the past century?

2nd.—Having in view present tendencies and methods of farming, improved transportation, the nature of the demand for human foods, and the probable civilization of Asia, what would seem likely to be the chief characteristics of successful farming in the future?

WORKING WITH NATURAL LAW.

1st. The application of scientific knowledge and methods to every department of life and work.

2nd. Fighting it out on the same line: conquering nature by obeying law.

G. M. GRANT, Principal,
Queen's University, Kingston.

TRANSPORTATION AND MIXED FARMING.

1st. I consider that the improved means of transportation by rail and water, with improved farming machinery, are the most remarkable features in the agriculture of the nineteenth century, as by them the farmers have been enabled to increase their output of grain, stock, dairy produce and poultry, and to place them on the markets of the world at the least expense in time and money, and this has enabled us to bring the fertile prairies of Manitoba under cultivation, furnishing homes for thousands of industrious farmers.

2nd. Prospective.—I would place the growing of grains and grasses, along with the judicious breeding of good horses, cattle, sheep, pigs and poultry (commonly called mixed farming), as the chief characteristics in the farming of the future. I place the growing of grasses as the most important item in the rotation of farm crops. I consider the grasses the foundation of successful farming.

Mekiwin, Man. G. S. MCGREGOR.

LESSENING THE WASTE.

1st. I would say that scientific investigation, and the application of its results, is the most remarkable achievement of the past century. We see it in the improved method of tillage, in live stock, dairying, horticulture, and every branch of agricultural industry.

We are simply controlling and manipulating the forces of nature, and it is the scientific knowledge, skill and industry exercised in controlling these forces that makes Canada, at the close of the nineteenth century, stand pre-eminent as an agricultural country.

2nd. So far as the Province of Ontario is concerned, live stock, dairying and horticulture are likely to be the three chief branches of agricultural industry, with a tendency toward more intensive methods—producing greater results from smaller areas. Improved transportation facilities will bring the producer and consumer in closer touch, and at the same time extend our markets, and will greatly lessen the waste of products and of energy.

Simcoe Co., Ont. G. C. CASTON.

IMPROVED LIVE STOCK AND INTENSIVE FARMING.

1st. On a retrospect of the agriculture of the past century, I would say that its chief features are:

1st.—The great improvement in the various pure breeds of all kinds of live stock.

2nd.—The introduction of improved machinery used in all the operations of the farm, and without which the immense areas of virgin soil in new countries could not have been brought into cultivation; and

3rd.—In older countries the application, on scientific principles, of artificial manures to the land.

2nd. In view of the rapidly increasing population of the world and the opening up of the semi-civilized nations of the East to the trade and commerce of the West, I would say that the chief characteristic of the agriculture of the coming century will be *intensive farming*, i. e., more thorough cultivation of the soil, combined with an increase in the number and improvement in the quality of the live stock kept on the land.

The farmer who plans his methods on these lines, and judiciously and vigorously puts them into operation, will be the successful farmer of the coming century.

Niagara Falls, Man. W. M. WALLACE.

FIXATION OF NITROGEN—CONTROLLING GROWTH AND REPRODUCTION.

I would say that the most important advance in the science of agriculture during the past century has been the discovery of the role which bacteria play in the fixation of free nitrogen.

While there will undoubtedly be many important improvements in the mechanics of agriculture during the coming century, I believe that the advance in this direction will be comparatively small, and that the great steps of progress hereafter are to be made in the direction of a larger control of the forces which govern growth and reproduction, rather than in the extension of mechanical invention.

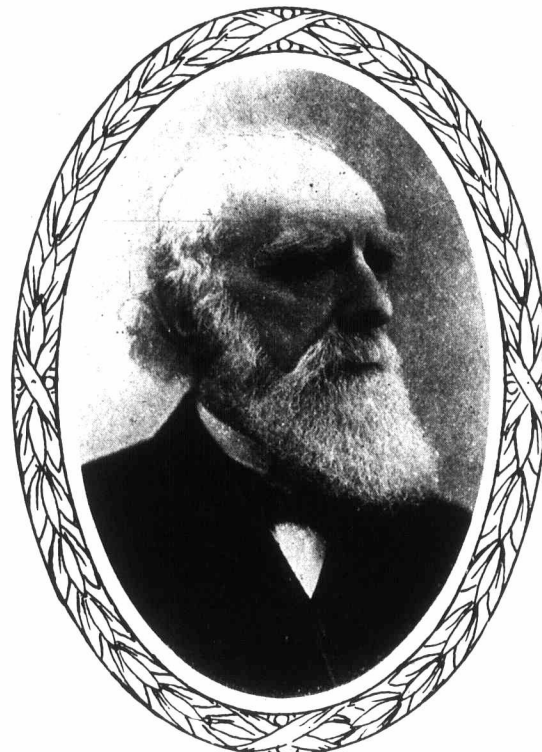
Until the invention of the reaping and threshing machines, brawn was the farmer's chief reliance. With the perfection of farm machinery, mechanical skill became more important than brute strength. Henceforth this skill must be supplemented and directed by that highest faculty of the human intellect—the ability to comprehend, co-ordinate and use invisible and intangible forces of nature, of whose existence, even, our fathers were ignorant.

CHAS. E. THORNE, Director,
Ohio Experiment Station.

APPLICATION OF MECHANICS—SPECIALIZATION AND CONCENTRATION.

I think it is generally conceded that the application of mechanics to agricultural pursuits has done more to advance agriculture than any other one thing during the present century. Take the self-binding harvester, for instance—embodying, as it does, so many well-known mechanical principles. Without it, I venture to say that a sufficient number of laborers could not be obtained to harvest the crops of the world.

As to your second query, I cannot say that I lay claim to prophetic gifts sufficiently to outline the different characteristics of successful farming in the future. No doubt the most successful farmers will be specialists to a large extent. As in manufacturing, those manufacturers have been most successful who have devoted themselves largely to special



LORD STRATHCONA AND MOUNT ROYAL.

(Formerly Sir Donald A. Smith.)

single lines, so I believe it will be with the farmer. The development of corn as a food for man and beast has reached an advanced stage in the United States and is rapidly interesting Canadian farmers, more especially in Ontario. No doubt it will have its influence in future farming operations.

Looking at the question in a broader sense, just how far the principles of concentration and development can be applied to large allied farming interests is a question that will be much discussed in the near future, and it may be that to some extent at least there will be a tendency in this direction, and that farming operations, like other industrial pursuits, will be carried on most successfully in a large way.

Toronto, Canada. W. E. H. MASSEY.

THE MARCH OF PROGRESS.

A new edition of Webster's International Dictionary issued this year has an appendix of 25,000 words and phrases that have come into the English language since 1890, and it is a significant fact that nineteen-twentieths of them are technical or scientific. This discloses, by the language of the people, the rapid and vast advance of science, and in a survey of the passing century one cannot but be struck with the applications of scientific knowledge in human effort. And in common with every other domain, it embraces agriculture.

1st. (a) Of the century's specific achievements in agriculture, I would put in the very front rank the establishment of pure breeds of live stock, which has made breeding a science, created herd-books and a new literature, gave competitive exhibitions their life, raised feeding, general management and housing to a higher plane, stimulated trade in animals and their products throughout the whole civilized world, and set men thinking everywhere—improved live stock and successful farming

have gone hand-in-hand. (b) The creation of the Agricultural Press and the establishment of Agricultural Colleges and Experiment Stations are mighty incentives and aids to progress. (c) In Canada, the century's greatest event in agriculture was the opening to cultivation of our illimitable and fertile West.

2nd. (a) The successful farmer of the 20th century must be equipped with knowledge, and must direct his operations in harmony with natural law. (b) He must apply to his business the same principles that bring success in mercantile and manufacturing enterprise.

OBSERVER.

THE TREASURE OF THE TWENTIETH CENTURY.

In answer to your question, I beg to express my hope and belief that the greatest treasure the twentieth century has in store is a new aim of education. Another Renaissance is dawning; words, empty shells and lifeless symbols, will cease to be offered for ideas and realities. The generation that will grow up under the conditions developed by a proper aim of education will feel with Wordsworth—

"My heart leaps up when I behold
A rainbow in the sky,
So was it when my life began,
So is it now I am a man;
So be it when I shall grow old,
Or let me die."

To the properly-educated man the rainbow is not less wonderful than when he first saw it as a child: on the contrary, the deeper his insight into the substances and forces which cause that beautiful phenomenon, the more wonderful and heart-lifting it will become. For him who learns to see them, there are rainbows in the soil, rainbows in the corn, rainbows in the orchard, rainbows in the pasture-field, rainbows in the dairy. As the farmer's mind opens to a more sympathetic and intelligent conception of the objects and forces which serve him, or which he has to obey, the more pride and delight will he take in his noble profession. The farmer, surrounded by his growing crops and herds, is, if he had the training to perceive it, in a more wonderful place than a world's-fair machinery hall. Legitimate agriculture can never promise its followers large store of gold, but more largely than any other industry it can secure them the realization of Agur's prayer. When pursued with an intelligent interest, begotten by the right kind of education, it will confer rewards for body and mind that gold cannot purchase. It will yet be said that life is worth living when it is lived on the farm.

London Normal School. J. DEARNESS.

THE VISION OF A VETERINARIAN.

1st. (a) In connection with animal industries are the more accurate scientific knowledge of the causation of contagious disease in farm animals by bacteriological methods, and the discoveries by Pasteur and Koch of methods of rendering animals immune by injections of antitoxines, and the diagnosis of tuberculosis by the tuberculin test, rendering stock-raising a safe investment for capital. The advancements made in cold storage and rapid transportation, together with the more general appreciation by stock-breeders of purity of blood, certainly constitute very remarkable features of the past century in this connection. (b) As to grain-growing, horticulture and dairying, I would consider the reclaiming of vast areas of land by irrigation in India, Egypt and America, the improvements in agricultural machinery (especially mowers, reapers, manure-spreaders, stacking machines, etc.), improvements in milling machinery, rapid transit on steel rails, and fast ocean steamers fitted up with refrigerators and cold storage, have led to wonderful progress in these industries, and constitute remarkable achievements which have been developed during the century.

2nd. Judging from the present tendencies, I would expect that the farmer of the future would require to take advantage of his opportunities (which are very great) of acquiring scientific knowledge of agricultural chemistry, fertilization, drainage, and irrigation. He must bring his land into the highest possible state of cultivation. He must breed none but animals which will command the maximum price in his market. He must learn how to prepare his animals for sale. Mixed farming will prove to be most profitable, including crop-growing, stock-raising, and dairying. Advantage must be taken of labor-saving machinery and motive power (electricity will play an important part in this), and he, knowing that the present and prospective development of rapid transit will greatly increase his competitors, will not fail to utilize his opportunities to produce the best at a minimum of cost. Agriculture in the future, to be profitable, must be conducted on scientific principles.

DUNCAN MCEACHRAN,
F. R. C. V. S., Edin.; D. V. S., McGill, etc.

HON. MR. LONGLEY DISCUSSES PRODUCTIVE CAPABILITIES.

The most wonderful achievement of the past century, as it would present itself to my mind, would not relate to material progress of the country at all. The entire attention of the world seems at the present time centered upon mere material affairs, and hardly any person can be induced to stop and reflect, even for a moment, upon the development of the spiritual part of mankind. Indeed, it seems to me that the world has about lost faith

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in the idea that there is anything beyond this life worth thinking about.
The experience of the past century has amply demonstrated, it seems to me, the fact that the world has no trouble in meeting its food supply. The theory of Malthus has been dispelled up to this present date. My own conviction is that the resources of the soil have not been developed to anything approaching full capacity. Probably, if the



ANGUS MACKAY.
Supt. Indian Head Experimental Farm.

necessity required it, double the food supply of the world could be produced in the course of a very few years.

Looking to the next century, I can only say that, having regard to the wonderful inventive genius of the human race, I have no reason to doubt that as population and wealth develop, agriculture will develop with it; that the food supply will be steadily increased, and I see no indications whatever that there will be lack of sufficient food to eat during the twentieth century. There may be places in which the failure of crops in any particular year might lead to suffering, as recently in India; but, if the matter be looked into closely, it would be found, I think, that where these periods of famine come they result from lack of diligent forethought and industrious preparation. In North America there is no likelihood of a famine, because the people are sufficiently prudent to keep a little in advance of immediate necessities.

I do not think that the capacity of North America to produce wheat has reached anything approaching the limit. The Dominion of Canada could probably multiply its output of wheat by five in the course of the next twenty or thirty years if the emergency arose. The fact that wheat is low is the best proof that there is no immediate danger of scarcity, and what is true of wheat is equally true of other commodities. Canada does not produce one barrel of apples to-day where she could, if the emergency required it, produce fifty.

It is probable, however, that the pressure of population will ultimately permanently enhance the position of the agriculturist. The first consideration of the human race, as a means of existence, is to eat; and, as population grows greater, the responsibility will be greater upon those who are called upon to provide the food by which the hundreds of millions of people exist; and, therefore, if I were going to venture upon a prediction concerning the 20th century, it would be that the farmer would steadily advance to a more advantageous and commanding position in the world, and that no profession or calling offers greater inducements for security and happiness.

J. W. LONGLEY, Attorney General.
Halifax, N. S.

IMPLEMENTS AND THE "HEATHEN CHINEE."

Your questions brought to my mind a little incident that occurred a few weeks since. I had met an old friend who was noted for having a somewhat speculative philosophy of his own. We were talking of the unseasonable season of 1900, when he asked me, "Did you ever observe that the ends of centuries have often been marked by strange freaks of nature?" I replied I had seen the end of so few centuries I hardly liked to offer my experience as evidence, and I felt like giving you the same answer, but your questions set me to thinking and comparing the farming of to-day with the farming of my early recollection, and only for the name I would hardly recognize them for the same occupation, and following along that line brought me to your first question, what has contributed most largely to this change, or "What has been the greatest achievement of the last century with regard to agriculture?" My boyhood was spent

in a new part of Ontario, and when I look back and compare the farming implements of that time with those of to-day, I feel no hesitation in saying the improvement in farming implements has been the greatest achievement of the century in regard to agriculture. A good deal less than half a century ago there were very few men who had seen a machine for *even cutting grass or grain*. In those days a farmer considered his harvest practically finished when it was cut and bound ready for stooking; to-day the real work of harvesting begins there. I remember very well the first time I saw a mowing machine at work. I drove a good many miles to see it, so did hundreds of others. It was near the City of London, and I remember, as well as though it were yesterday, seeing Mr. Robson drive up with the mowing part of a combined McCormick machine. He had three big horses to haul it, and a small shanty on each end of the cutting-bar to clear the track and keep the cut grass from clogging the machine, and he made the fur fly, also the grass. But if our Manitoba boys were to meet that machine near town they might perhaps mistake it for a windmill out for a lark, but they would never suspect it was a mowing machine. A few years earlier there were lots of men who had never seen a horse-rake, and did not believe such a thing could be made or was needed—the hand rake was good enough. What would the boys think now of going out to rake up a field of hay with a twenty-inch rake?

Your second question I will answer by asking one or two more. Is there a man living who can forecast the future of "Civilized Asia" for a quarter of a century? Will it be a customer, or a competitor, for our food stuffs? Will it be a repetition of India: breaking down our markets for a year or two, and then asking us to feed them until they can do it again? I suppose nine men out of every ten could answer these questions! I am the tenth, but if you will jog my memory at the end of the next century I can probably give a more intelligent answer. But to go back to the question of civilizing the "Heathen Chinese." How is it to be done? We have tried opium, and missionary, and gunpowder, with indifferent success. It is true he looks kindly to the opium, but being only a "Heathen Chinese," he could never be taught to assimilate the missionary or make the most of him as his Island neighbors did. The gunpowder treatment is still on trial, and if by a free and judicious use of it we can persuade every man, woman and child (for the sake of peace) to eat two bushels of Western wheat and fifty pounds of Western meat each year, they might in time learn to appreciate our missionaries and incidentally furnish us the means of keeping up the supply. Truly, "Peace has its victories as well as war." That is a fine sentiment to close with, and wishing you and your readers prosperity and happiness, and all the compliments of the season, I am,
WILLIAM LYNCH.

Westbourne, Man.

The Master's Poor.

He frowned and shook his snowy head,
"Those clanging bells! they deafen quite
With their unmeaning song," he said,
"I'm weary of it all to-night—
The festive air of Christmastide—
The merriment of passer-by—
The sentiment on every side—
The empty wishes which they cry

"The gladness—sadness—I'm so old
I have no sympathy to spare,
My heart has grown so very cold
And hard, I do not seem to care
How many laugh, or long, or grieve,
In all the world this Christmas Eve.

"There was a time, long, long ago
They take our best, the passing years—
Ah me! for the old life and glow
I'd give—what's on my cheek?—not tears!
I have a whim—to-night I'll spend
Till eyes turn on me gratefully,
An old man's whim, just to pretend
That he is what he used to be.

"Religion seems an empty sound,
No comfort do I find in creed,
But maybe, as I go around
And minister to those in need,
The Christ who in the manger lay,
Will meet me somewhere on the way.

"An old man's whim!" he muttered oft,
And cast his wealth on every hand,
But strangely warm, and strangely soft,
His old face grew, for self and pride
Slipped from him in the tender glow
That kindled at the thanks, the prayer,
He looked into his heart and lo!
The old-time faith and joy were there!

The law of love is sweet and plain
Who, helpful enters at the door
Of poverty, and want, and pain,
Will find the Master with His poor,
"Ring out, old bells!—right gladly ring!"
He cried, "for grand the song you sing."

Xmas, 1900.

JEAN BLEWETT.

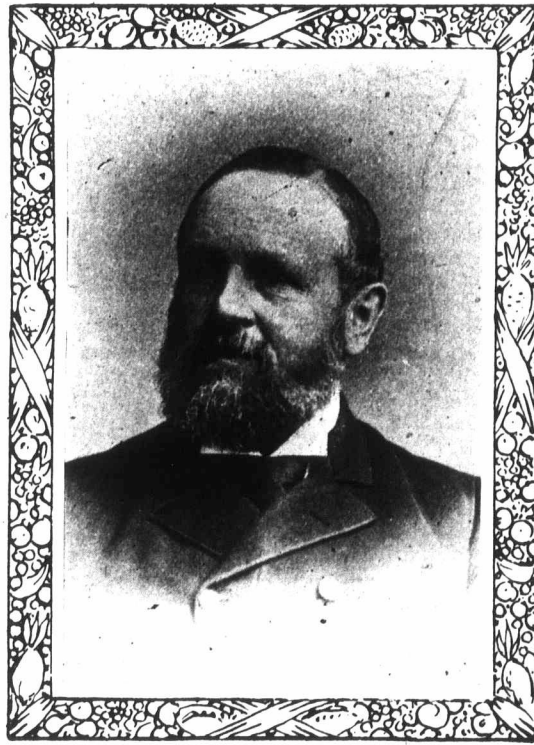
The Charm of Christmas Time.

BY WASHINGTON IRVING.

There is something in the very season of the year that gives a charm to the festivity of Christmas. At other times we derive a great portion of our pleasures from the mere beauties of nature. Our feelings sally forth and dissipate themselves over the sunny landscape, and we "live abroad and everywhere." The song of the bird, the murmur of the stream, the breathing fragrance of spring, the soft voluptuousness of summer, the golden pomp of autumn—earth with its mantle of refreshing green, and heaven with its deep, delicious blue, and its cloudy magnificence—all fill us with mute but exquisite delight, and we revel in the luxury of mere sensation. But in the depth of winter, when nature lies despoiled of every charm, and wrapped in her shroud of sheeted snow, we turn for our gratifications to moral sources. The dreariness and desolation of the landscape, the short gloomy days and darksome nights, while they circumscribe our wanderings, shut in our feelings also from rambling abroad, and make us more keenly disposed for the pleasure of the social circle. Our thoughts are more concentrated—our friendly sympathies more aroused. We feel more sensibly the charm of each other's society, and are brought more closely together by dependence on each other for enjoyment. Heart calleth unto heart; and we draw our pleasures from the deep wells of loving kindness which lie in the quiet recesses of our bosoms, and which, when resorted to, furnish forth the pure element of domestic felicity.

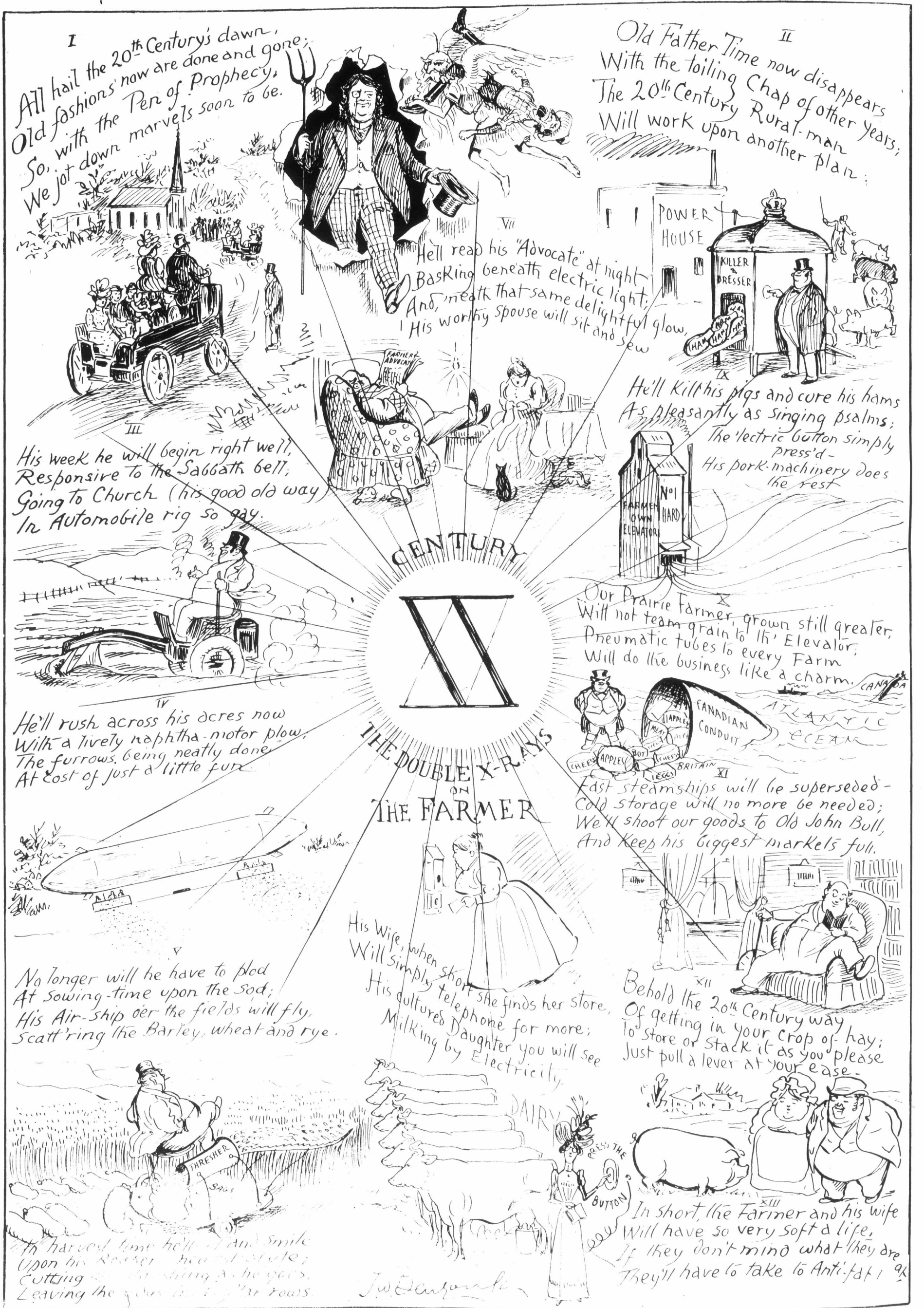
The pitchy gloom without makes the heart dilate on entering the room, filled with the glow and warmth of the evening fire. The ruddy blaze diffuses an artificial summer and sunshine through the room, and lights up each countenance in a kindlier welcome. Where does the honest face of hospitality expand into a broader and more cordial smile—where is the shy glance of love more sweetly eloquent—than by the winter fireside! And as the hollow blast of wintry wind rushes through the hall, claps the distant door, whistles about the casement, and rumbles down the chimney, what can be more grateful than that feeling of sober and sheltered security with which we look around on the comfortable chamber and the scene of domestic hilarity.

The English, from the great prevalence of rural habit throughout every class of society, have always been fond of those festivals and holidays which agreeably interrupt the stillness of country life; and they were, in former days, particularly observant of the religious and social rites of Christmas. It is inspiring to read even the dry details which some of the antiquaries have given of the quaint humors, the burlesque pageants, the complete abandonment to mirth and good-fellowship, with which this festival was celebrated. It seemed to throw open every door and unlock every heart. It brought the peasant and the peer together, and blended all ranks in one warm, generous flow of joy and kindness. The old halls of castles and manor-houses resounded with the harp and the



HON. SENATOR FERGUSON, P. E. I.

Christmas carol, and their ample boards groaned under the weight of hospitality. Even the poorest cottage welcomed the festive season with green decorations of bay and holly; the cheerful fire glanced its rays through the lattice, inviting the passengers to raise the latch and join the gossip-knot huddled around the hearth, beguiling the long evening with legendary jokes and oft-told Christmas tales.



I
All hail the 20th Century's dawn,
Old fashions now are done and gone;
So, with the Pen of Prophecy,
We jot down marvels soon to be.

II
Old Father Time now disappears
With the toiling Chap of other years,
The 20th Century Rural-man
Will work upon another plan.

III
His week he will begin right well,
Responsive to the Sabbath bell,
Going to Church (his good old way)
In Automobile rig so gay.

VI
He'll read his "Advocate" at night,
Basking beneath electric light,
And, neat that same delightful glow,
His worthy spouse will sit and sew.

IX
He'll kill his pigs and cure his hams
As pleasantly as singing psalms;
The 'lectric button simply
press'd -
His pork-machinery does
the rest.

IV
He'll rush across his acres now
With a lively naphtha-motor plow,
The furrows being neatly done
At cost of just a little fur.

X
Our Prairie Farmer, grown still greater,
Will not team grain to th' Elevator;
Pneumatic tubes to every Farm
Will do the business like a charm.

V
No longer will he have to plod
At sowing-time upon the sod;
His Air-ship o'er the fields will fly,
Scatt'ring the Barley, wheat and rye.

His Wife, when short she finds her store,
Will simply stop she finds her store,
His cultured Daughter you will see
Milking by Electricity.

XI
Fast steamships will be superseded -
Cold storage will no more be needed;
We'll shoot our goods to Old John Bull,
And keep his biggest markets full.

XII
Behold the 20th Century way
Of getting in your crop of hay;
To store or stack it as you please
Just pull a lever at your ease.

In harvest time he'll get a smile
Upon his Redder-headed side;
Cutting and threshing as he goes,
Leaving the year in better rows.

XIII
In short, the Farmer and his wife
Will have so very soft a life,
If they don't mind what they are
They'll have to take to Anti-fat.

J. S. D. 1914

Some Canadians who Have Added Luster to 19th Century Literature.

BY FRANK LAWSON.

HE will be the greatest Canadian who recognizes most thoroughly the developing genius of the Canadian people."

No Canadian has done more than Mr. Cooper himself to awaken our countrymen to a realization of the worth of our native authors.



ROBT. BARR.

literary booming to separate the wheat from the chaff, and there is every reason to believe that our cousins beyond our borders are often fed on husks in their scramble for the freshest supply of what is being served.

No Canadian disputes Goldwin Smith's title to the very highest rank among men of letters. His pure English and his lofty entertaining style are lauded on every hand.



DANIEL WILSON.

vastness, that those who have never travelled over can scarcely realize. Mr. Fraser's latest effort is along the line of Ernest Seton-Thompson's animal romances, and not inferior to that master's charming and subtle work.

In our estimation of writers, it is not unreasonable that we follow the leadings of reviews to some extent.



GOLDWIN SMITH.



THOS. D'ARCY MCGEE.

noble precepts or the charm they have thrown around the common experiences of our daily lives.

Robert Barr has accused us of not being a reading people, and has called the world's attention to the fact that we spend more money annually in whisky than in books.



WILLIAM KINGSFORD.



JEAN BLEWETT.

biographer. Sir John W. Dawson's original researches in scientific channels commend his works to the thoughtful student, and he will be ever appreciated, especially by the many who are drawn to him by his religious and reverential spirit.

Grant Allen, a native of Kingston, will long continue to hold a high rank as a popularizer of science and also as an entertaining novelist, although in the latter field it would have been better for himself and his readers if he had not let his desire for notoriety lead him into a false idea of social life.



BLISS CARMAN.



FREDERICK GEO. SCOTT.

of Winnipeg, in his drama, "Tecumseh," has given us a faithful delineation of Indian life. Dr. Wm. Henry Drummond, in his "Habitant" poems, has amusingly pictured our French-Canadian farmer, and John E. Logan ("Barry Dane") has given us entertaining sketches of camp life in the West.

Western Ontario can boast one of the sweetest and most natural writers of romance (both in prose and verse) in Jean Blewett, whose "Heart Songs" we all love; and in E. Pauline Johnson, the spirited Mohawk maiden, a unique and interesting genius.



CHAS. SANGSTER.

There are too many others that have claims for recognition as adding luster to the century's literature for me to feel satisfied with my limited space.



SIR JOHN W. DAWSON.

Every branch of our young country has witnessed as great development in our young country proportionately in every branch as among a like number of inhabitants of any other section of the globe.



J. W. BENGOUGH.



GILBERT PARKER.

and who borrowed money to publish "Saul," his great masterpiece, which he was never able to repay—it is too true that we let Charles Heavyside die in poverty. It is also true that we only accorded Isabella Valancy Crawford scant meed of praise after she had died of a broken heart because of our slight recognition of some of the finest verses that our language possesses.



ARCHIBALD LAMPMAN.



W. A. FRASER.

"Slick," more valuable as descriptive of certain unalterable phases of human nature than as depicting a supposed contrast between the people of two nations? Whatever the penny formerly have been in the contrast referred to, Nova Scotia now is quite as far ahead as the New England of to-day.

Among more recent novelists to attract our attention are Rev. C. W. Gordon ("Ralph Connor"), of Winnipeg, who has been called the Canadian Ian Maclaren, and W. A. Fraser, both of whose writings breathe the freshness of nature—our own broad, breezy mountains and prairie



T. CHANDLER HALIBURTON.

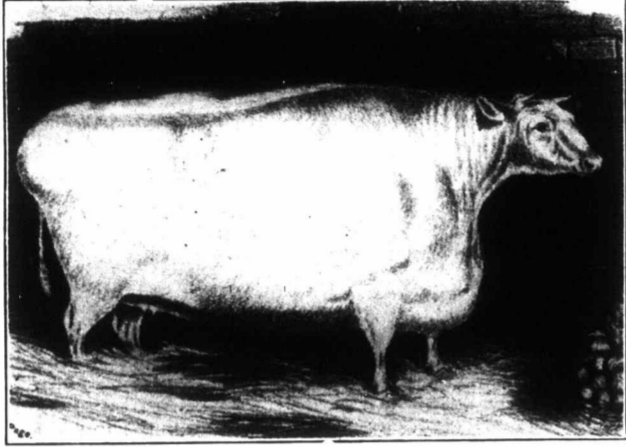
In these recent years there is an increased activity in literary production commensurate with the expanding life of Canada. Prof. Theodore H. Rand, D.C.L.

disappears after years; man plan; are his hams; g psalms; ton simply; d-very does est; ill greater; valor; rm; dr. CANADA; TIC; EAM; berseded- needed; John Bull; els full; way; of hay; ou please; ase-; and his wife; a life; hat they are; Anti-fat 1 9k

Old and New Types in Stock Breeding.

While the period of the origin and establishment of pure breeds of live stock dates back into the earlier years of the 18th century, when the genius of Bakewell inaugurated a system of breeding that

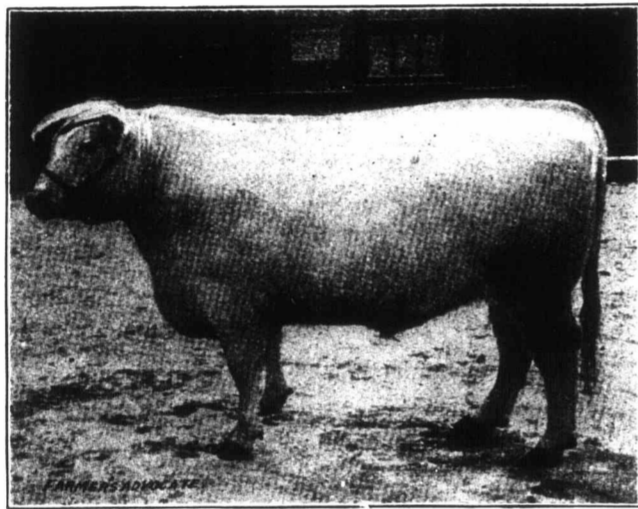
THE OLD TYPE.



"WHITE HEIFER THAT TRAVELLED."

REARED BY ROBT. COLLING, 1806. GOT BY FAVORITE (25).

THE NEW TYPE.



"FREE TRADE."

SHORTHORN STEER, BRED AND SHOWN BY HARRY SMITH, HAY, ONT. CHAMPION OVER ALL BEEF BREEDS, GUELPH AND ONTARIO FAT STOCK SHOWS, 1899.

was destined to play an important part in the evolution of higher types of commercial cattle and sheep, the latter half of the present century has witnessed very notable improvement in the direction of the production of economical types of animals, conforming in size, conformation and quality to the demands of present-day tastes and markets.

This remark applies not only to the beef and dual-purpose breeds of cattle, but also to the special-purpose dairy breeds and to the mutton breeds of sheep and the modern bacon hog. The last quarter of the present century has been marked by a very distinct improvement in the milk- and butter-producing capacity of all the dairy breeds, and of the result of judicious breeding and feeding, and of testing by means of the scales and churn, or Babcock test. The last decade has witnessed a revolution in the breeding of swine in Canada for the production of the class of hogs required by our best market. Time was, within the recollection of men living to-day, when size and weight were the first consideration in determining the value per pound, as well as per capita, of a beef beast or a fat hog, when "What does he weigh?" was the first question asked a thousand times a day by as many visitors at the fairs, as they paused to view the big bullock or the huge hog, and the dictum "too heavy" or "too fat" was seldom if ever heard in the market place: when fat pork was a leading staple in the farmer's and the bushman's bill of fare, and a slice of tallowy mutton was considered a luxury in the laborer's luncheon; and when even the "upper ten" insisted upon a large proportion of fat in their "barons" of beef. Those were the days when 1 and 5-year-old cattle that had "eaten their heads off" were common in the markets; when weights of 2,000 pounds and upwards were not objectionable, and rolls of tallow on ribs and rumps caused not a murmur from the buyer; when hogs were fed for fifteen months or more before entering upon the finishing period, and sold in the only month a market was open, not infrequently at a lower price per pound, dressed weight, than may now often be obtained six times in a year for shoats at six months old, live weight, while the old-time farmer's only boast was of the "heft" of

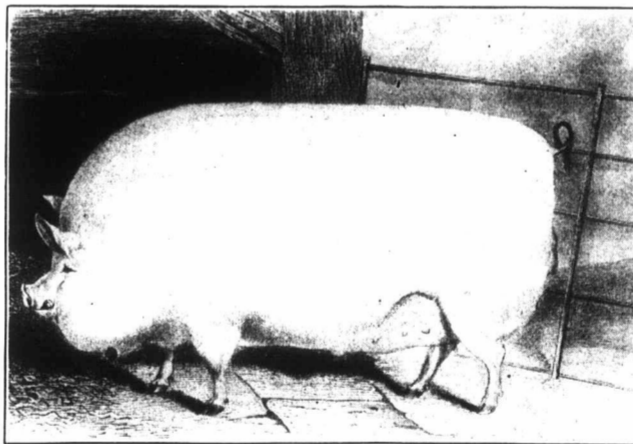
his hogs, since he never did know how much he had lost on them.

Were evidence required to prove that the agricultural world "do move," one need only point to the absence of ambition on the part of present-day feeders to take for their prototype such mountains of middle-class meat as the "Durham Ox" or the "White Heifer that travelled" in the first decade of the dying century, with their reputed respective weights of 3,000 pounds and 3,400 pounds, or even of their myriad successors in the markets of the middle period that met their fate weighing half a ton less.

Thanks to the genius, judgment and valuable life-work of such "cannic Scots" as Cruickshank, of Sittyton, and contemporary Shorthorn breeders, McCombie, of Tillyfour; Hugh Watson, of Keillar, and other Aberdeenshire breeders, and the advance guard of undaunted English and American Hereford artists in breeding for the fixing of approved types, a class of short-legged, broad-ribbed, thick-fleshed beef cattle has been evolved, capable of being fed to satisfactory weights of 1,350 to 1,500 pounds at 2½ years old, meeting the demands of either the export or home markets, in which the preference is for a handy-sized carcass that will cut up with the least percentage of offal, and bring the highest price per pound in the stock yards, alive, or in the butcher's shop, wholesale, or in joints and roasts at retail.

This modern type of cattle is well illustrated in the accompanying engravings of prizewinning steers, showing evidences of good breeding, having broad backs, smooth forms, thickly-fleshed loins, long, level quarters, well-sprung ribs, thickly covered with natural flesh, mellow to the touch, yet firm, and not flabby, and carrying coats of soft, silky hair. Such cattle as these carry the bulk of their weight on their back, where the highest-priced cuts of beef are found, while the scrub or low-grade steer, that is narrow on top and wide below, carries his weight in his belly, because he is built that way, and his weight is mostly made up of cheap-selling tallow and boiling pieces. The difference in the selling price of these two classes, when both are well fattened and sold alive, is usually about 2 cents per pound, making a difference in two 1,300-pound steers of \$26.00 in favor of good breeding, or of \$52.00 on a carload of twenty head; while the inferior class must be fed at least a year longer, as a rule, to attain equal weight, adding greatly to the cost of production. If 2 cents is considered too great a difference, call it 1½ cents, and the difference is \$19.50 per head, or \$310 on a carload. Can the farmers of Canada, in this age of close competition, afford to raise and feed ill-bred stock? This is a problem that needs no longer working out in practice. It has been proven in that way too often to leave any room for doubt or question, and the sooner the rank and file of our farmers recognize the urgent need of improvement,

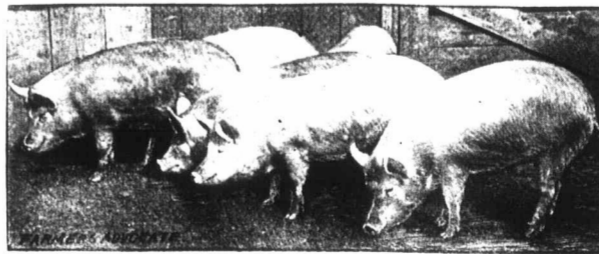
THE OLD TYPE.



"BENDIGO."

YORKSHIRE HOG, OWNED BY GEO. MANGLES, GIVENDALE, RIPON. WINNER FIRST PRIZE, ENGLISH ROYAL, 1857.

THE NEW TYPE.

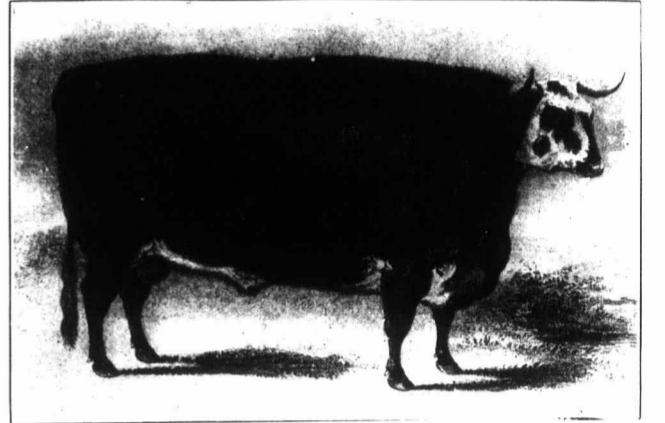


GROUP MODEL BACON HOGS—PRESENT TIME.

in our beef cattle especially, and act upon that conviction by raising the standard of their own by the use of pure-bred sires of a good stamp, the sooner will the good reputation of Canadian beef cattle in the British markets be restored, and a

class of stock made available for feeding that will give a profitable return for the food they consume. There never was a time when the need for a forward movement in this direction was greater, and there is no reasonable excuse for delay, as there is an ample supply of pure-bred male animals of the

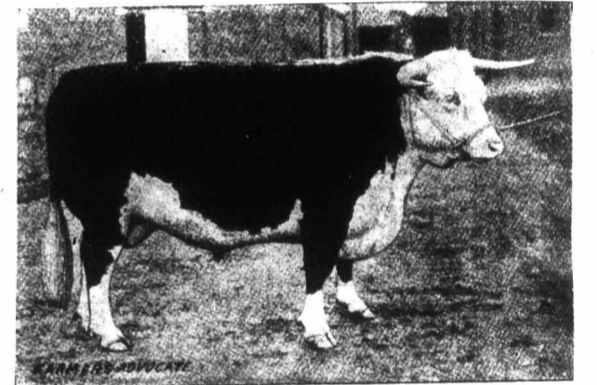
THE OLD TYPE.



HEREFORD OX.

OWNED BY EARL OF WARWICK. WINNER FIRST AND GOLD MEDAL AT "SMITHFIELD," 1846.

THE NEW TYPE.



THE QUEEN'S HEREFORD STEER.

FIRST AND CHAMPION AT "SMITHFIELD," NORWICH AND BIRMINGHAM, 1899.

different breeds in the hands of breeders, waiting for purchasers, most of them being held at prices which the average farmer can well afford to pay, as, in the case of bulls of the beef breeds at least, the animal will be worth to the butcher at the end of his term of service nearly if not quite his original cost, while in this and all other classes there is generally a possibility of selling or exchanging to advantage, and usually the improvement made in the character and value of the herd or flock by a good sire leaves him out of debt to his owner at the end of his term. The time is opportune for a general revival on this line, and let us hope that a forward movement may commence with the new century. J. C. S.

Twentieth Century's Dawn.

"The first people to live in the twentieth century will be the Friendly Islanders, for the date-line, as it may be called, lies in the Pacific Ocean just to the east of their group," writes John Ritchie, Jr., in the *Ladies' Home Journal*, of "Where the Next Century Will Really Begin." "At that time, although it will be already Tuesday to them, all the world will be enjoying some phase of Monday, the last day of the nineteenth century [December 31st, 1900]. At Melbourne the people will be going to bed, for it will be nearly ten o'clock; at Manila it will be two hours earlier in the evening; at Calcutta the English residents will be sitting at their Monday afternoon dinner, for it will be about six o'clock; and in London 'Big Ben,' in the tower of the House of Commons, will be striking the hour of noon. In Boston, New York and Washington, half the people will be eating breakfast on Monday morning, while Chicago will be barely conscious of the dawn. At the same moment San Francisco will be in the deepest sleep of what is popularly called Sunday night, though really the early, dark hours of Monday morning, and half the Pacific will be wrapped in the darkness of the same morning hours, which become earlier to the west, until at Midway or Brooks Island it will be but a few minutes past midnight of Sunday night."

A RESOURCEFUL PHRASE. A kind-hearted clergyman was lately compelled to dismiss a clever gardener, who used to pilfer his fruit and vegetables. For the sake of his wife and family he gave him a character, and this is how he worded it: "I hereby certify that A. B. has been my gardener for over two years, and that during that time he got more out of my garden than any man I ever employed."

Twentieth Century Greetings.

BY DR. WM. SAUNDERS, DIRECTOR EXPERIMENTAL FARMS.

The farmers of Canada may well be proud of the great progress which has been made in this country in recent years in all branches of farming, and of the high esteem in which Canadian food products are now held in the markets of the world. Congratulations are in order, particularly at the



HENRY CARGILL, M. P.
Canadian breeder of Shorthorns.

close of a century, and they are herewith heartily extended to all Canadian food-producers. May the new century bring you more abundant harvests and greater rewards for your persistent and honest labor.

When the 19th century dawned, Canada was an infant among the nations. In 1806, the earliest date at which information is available, the white population included in what is now known as Canada was about 456,000, the larger part of which was in Quebec. Ontario then had a population of about 71,000. Most of our present towns and cities had no existence, but settlement was being gradually extended throughout the borders of the country. In 1812 war was declared between the United States and Great Britain. Canada was invaded, and the defense of the country everywhere occupied the attention of the scattered community. When peace was made in 1814, the population of Upper Canada is said to have been 95,000, and that of Lower Canada, 335,000.

Following the war and the movement of the U. E. Loyalists to Canada, the Provinces made more rapid growth; but the remainder of the first half of the century was mainly spent in hewing out homes in the wooded portions of the country and laying the foundations of a prosperous future.

In the early part of the second half of the century the agricultural exports of Canada were very small. In the rural districts, farm products were disposed of largely by barter, given in exchange for other goods, the farmer handling very little money. In 1867, the total value of the agricultural and animal products exported from Canada was about \$22,500,000, of which about 20% went to Great Britain and 66% to the United States. The volume of exports has steadily increased, and in 1899 they amounted to over \$68,000,000. Of this large sum, 86% went to Great Britain and only about 8% to the United States. The results of the past year make a still better showing.

There is no other community in the world, of like size, which has made in the same time such remarkable agricultural progress, and as partial explanation for this, it is safe to say that, taking the rank and file of Canadian farmers throughout, there is no other country in the world where their equals can be found for general intelligence and skill in their calling, and for honest and persistent efforts to make their calling a success.

The possibilities of food production in Canada are practically without limit, and her resources in this direction enormous. Her varied climate and diversified soil are favorable to success. She has vast areas of rich prairie lands, on which wheat of the finest quality can be grown. In other districts, all the fruits of temperate climates can be culti-

vated to great advantage. Over nearly all the settled regions, mixed farming, if associated with industry and frugality, may be made a paying business. With such extensive areas of fertile soil as yet so sparingly occupied, the near future will see the production of grain, cattle, horses, sheep, dairy products, swine and poultry largely increased. Let the coming century be marked by renewed determination on the part of our farmers to do their best to maintain the fertility of their land, to grow only the best and most productive sorts of crops, to steadily improve the quality of the animals they keep, to maintain and, if practicable, advance the quality of the dairy products, to grow only the finest sorts of fruit, and market only the best of these. They will then find farming and fruit-growing increasingly profitable, the home markets enlarged, with better prices, and foreign markets ready to receive, at paying figures, all the surplus which Canada may produce.

Throw Off the Tuberculin Test Yoke.

As an arbiter of the doom of animals, the days of the tuberculin test are numbered. The injection of this fluid, prepared originally by Prof. Koch, of Berlin, from cultures of the tubercle-bacillus, was designed as a cure for consumption, and we well remember some enthusiastic physicians starting consumption hospitals for its use, but which proved hopeless failures. The test came next to be used as a test for bovine tuberculosis. Upon the overdrawn theory of the communicability of the disease from animals to man started a craze for the testing of animals and condemning those "reacting," shown by a rise of temperature. Notwithstanding the vagaries of the test, the advocates got the ear of the authorities, and secured regulations requiring the test on breeding stock coming from Britain to America or between the United States



DR. WM. SAUNDERS.

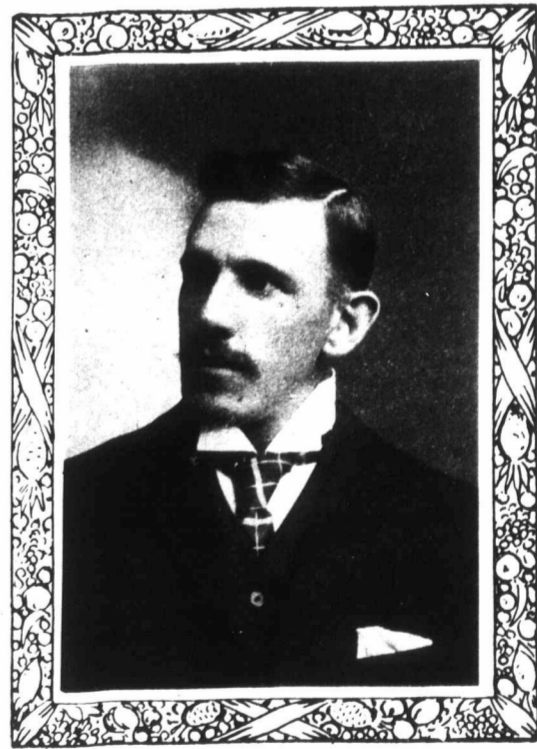
and Canada. In the latter, officials were appointed for every district to do the testing, and trade was a little impeded, even though no practical good was done. However, when the "vets." began to throw their squirt gun cordon around individual States, and when healthy cattle had to run the gauntlet of two tests getting from England via Canada to the United States, the storm rose, and when the United States authorities lately promulgated an order appointing one "vet." at Buffalo, to do all the testing of Canadian breeding cattle wanted in the States, it was the last straw that broke the patient camel's back. It is not surprising, then, that at the great meetings of intelligent and progressive breeders in Chicago recently sweeping resolutions were passed condemning the tuberculin test regulations of the Government, and demanding their withdrawal. It was thought by some that when the FARMER'S ADVOCATE in September last entered a protest against this system, under the heading, "The Tuberculin Test Plague," we had taken too advanced ground, but the course of events have more than justified the position. The mind of the public is now known, and the authorities must bow. We are satisfied that infinite harm has been done the campaign against human consumption by the tuberculin-test craze against cattle. The great dangers of contagion are from associating with other diseased persons in the home, and carelessness regarding the sputa and sleeping-cars in which so many consumptives travel about the country. The value of outdoor life, pure air, sunlight, rest, cleanliness, and nutritious foods, have been largely lost sight of, both as regards men and animals, but the present widespread revolt against the vexatious and unreliable, if not in many instances injurious, hypodermic injection, indicates a return to saner methods, by relegating the tuberculin test to its proper place. It cannot be allowed to stand needlessly in the way of progress of live-stock improvement, upon which depends the permanent success of agriculture.

Nineteenth Century Progress in Veterinary Science.

BY ARTHUR G. HOPKINS, B. AGR., D. V. M.

The 19th century has witnessed the development of veterinary medicine from a mere empiricism to that of a science and an art: the members of that profession have risen from the status of the horse farrier and cow leech to that of scientific men, whether working as animal pathologists, meat inspectors, professors in agricultural colleges, army or civilian veterinarians.

The general public are more or less acquainted with the veterinarian through his practice, which may call him to treat the domestic pets of the lady of high degree, the live stock of the farmer, the horses and hounds of the millionaire, the inmates of the zoological garden or circus, and even the feathered friends of the poultryman. In so doing he is a public benefactor by alleviating the sufferings of the sick and saving money for their owners; yet his importance in the world pales before that of the meat inspector working in the stock yards, market places and public abattoirs, thus insuring the citizen pure and wholesome meat products; and even more so when compared with the animal pathologist, the wizard with the test tube and microscope, serum and vaccine, guinea-pig and hypodermic syringe, who is steadily working towards the goal of human hopes, the stamping out of disease! The latter part of the century has seen the birth of preventive medicine and its votaries, a virtue out of a necessity, because so sacred is human life; and so destructive to that life are some animal diseases, such as anthrax, rabies, glanders, tuberculosis and trichinosis—all practically incurable—that any results tending to eradicate them or limit their ravages may truly be considered as ranking with the beneficent achievements of the century. Louis Pasteur, the great French scientist, has made his name immortal by his work with the virus of rabies and the germ of anthrax. The person bitten by a mad dog is nowadays treated by Pasteur's method, which consists of the inoculation of a serum containing a weakened toxin (poison) derived from the brain and spinal cord of a rabid animal; as a result of such treatment the death rate among bitten persons has been lowered from 83 to 0.71 per cent., truly a remarkable accomplishment! Among the stockmen, the dealers and handlers of wool and hides, the name of Pasteur is well known, because by means of his system of preventive inoculation, that dread disease, anthrax, said to be the sixth plague of Egypt, and nowadays the cause of wool-sorters' disease and malignant pustule in man, is thus limited in its spread among animals, and the safety of human life rendered more sure. A disease of the equine species, fatal to man, who, if infected, exhibits symptoms of a most loathsome kind, is glanders; not a new discovery, by any means, as it was known by Vegetius and Aristotle, its infectiousness being known as far back as the 17th century. It remained, however, for the latter half of the 19th century to prove the cause of the disease to be a germ, and that the carrier of the virus was the nasal discharge. Unfortunately, this disease may be simulated by others having nasal discharges, thus rendering its detection far from easy. The year 1891, however, brought a diagnostic agent known as mallein, prepared from the germ by Kalning and Hellmann, the careful use of which has done more



A. G. HOPKINS, B. AGR., D. V. M.

Who joins the FARMER'S ADVOCATE staff on January 1st.

to rid the horse world of glanders than all other known agents. It is hinted by Nocard, of Alfort, that mallein has a curative effect on the disease; time and experimentation are needed, however, before it can be accepted as such. To McFadyean, of the London (Eng.) Veterinary College, the Eng-

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lish-speaking world is indebted for the best work with mallein. Three European scientists, Koch, of Berlin; Nocard, of Alfort; and Bang, of Copenhagen, the two latter being veterinarians, have done the best work towards the recognition of the cause; and dealing with tuberculosis in animals, Koch, in 1882, discovered the germ, and in 1890 brought out tuberculin, a glycerin extract of the germ, at first thought to be a cure for human consumption, but now valuable only as a diagnostic of the disease in animals. Tuberculosis is one of the oldest known animal diseases, the Jews especially having in force from the earliest times a system of meat inspection in order to prevent the use of meat from diseased cattle. The question of the transmissibility of the disease from man to animals, and *vice versa*, has become one of heated controversy, owing to the drastic and unwise attempts at stamping out the disease, namely, by slaughter based on the tuberculin test, promulgated by many of the believers in that transmissibility. Many cattle, apparently very healthy, will react to the test; slaughter of such is indefensible. The test is not infallible, many influences tending to render it unreliable; it should *only* be in competent hands. Fresh air, sunlight, good food, and the discarding of separation of the plainly diseased from the healthy, are the natural safeguards against tuberculosis. Until the disease in man is scheduled as contagious, it will be like the poor—always with us!

Lumpy jaw, scientifically known as actinomycosis, while seen occasionally in man, has not been proved to be transmitted to him by infected cattle. Thomaseen, in 1885, recommended the internal use of iodide of potash, which has since proved to be almost a specific for the disease; this drug has since been adopted by the medical profession for the cure of actinomycosis in man. As a further result of the pathologist's work, Texas fever is better understood, and successful inoculation practiced for it; sheep scab is under control; blackleg is rendered less serious by preventive inoculation with a vaccine; and the cause of hog cholera determined. The serum treatment for this serious and wasteful disease is *not* a success as yet (Salmon, De Schweinitz, Moore, and Theobald Smith). Contagious abortion, calf cholera, parturient paresis, or milk fever (parturient apoplexy), are all under investigation at the present time. The serum treatment is also being tried for tetanus (lockjaw) and other diseases, with more or less success.

Meat inspection is undoubtedly the division of veterinary science next in importance, but, unfortunately, is not as widespread as it should be, chiefly on the score of expense, an excuse which is hardly tenable when one considers the large force of Government officials whose sole work is to look after the manufacture or control the excrement of certain fungi, commonly known as alcohol. Surely, if such is worthy of inspection, ought not the food products of a nation be more worthy of such inspection? Certain nations and municipalities enforce meat inspection; the U. S. demands it for all exported meats, and employs a large force of veterinarians to carry out the work; Germany and other European countries have such work in force; and even in conservative Great Britain, Glasgow and Manchester have rigid systems of meat and milk inspection.

The instruction of the public, outside of the professional institutions, along veterinary lines, is yet confined to the agricultural colleges, and in a small way to farmers' institutes, where the elements of veterinary science are taught to the future stockmen; by this system short medieval practices as "boring for hollow horn so-called; slitting the tail for wolf in the tail; removal of the haw in cattle, etc.," will be done away with, and needless pain to animals be avoided.

As with other sciences, the 19th century has witnessed the growth of a literature worthy of ranking with that of medicine, law, theology, etc. In the English-speaking world, Fleming has given us works on Veterinary Obstetrics and Horseshoeing, translations of Neumann's Parasites, and Chauveau's Anatomy; Williams, on Veterinary Medicine and Surgery; Smith, Veterinary Physiology and Veterinary Hygiene; Capt. Hayes, Points of the Horse, Veterinary Notes for Horse-owners, Stable Management and Work, and the translation of Friedburger and Fiohner's Infective Diseases of Animals; Dollar, Horseshoeing, and the translation of Moller's Surgery; McFadyen, Anatomy; Walley, Meat Inspection; Woodhead and Sternberg, Bacteriology; Lambert, Surgery, Animal Castration, etc.; and last, but not least, Finlay Dun's Veterinary Medicines. This list does not exhaust the literature, as numerous other good works are to be found, such as Salmon's Diseases of Poultry; Armatage and Steeles' works on The Diseases of Cattle and Sheep; and Literature is afforded by the *Veterinarian*, the *Veterinary Journal*, the *Journal of Comparative Pathology*, all published in Great Britain; the *American Veterinary Review*, and the *Journal of Comparative Medicine*.

Veterinary schools in Europe are numerous, all under Government control, and well endowed, excepting Great Britain; the instruction in them all is high-class, calling for a thorough education and attendance of from three to six years. Great Britain's colleges insist on a four-year course, with an entrance examination equal to that required in the medical colleges; on this side of the Atlantic advanced colleges insist on a three-year course, and such is the importance of veterinary work along the lines described, that the universities of California, Cornell, Harvard, McGill (Montreal), Iowa, Ohio, Pennsylvania, are giving courses compatible with the dignity of the profession, of comparative and preventive medicine, commonly termed the veterinary profession.

The beneficial achievements in veterinary science and practice during the century cannot be denied, when we consider: (1) The improved methods of diagnosing and stamping out disease by means of the labors of the animal pathologist and meat inspector; (2) the improved methods of medicine and surgery introduced into general practice, such as the use of anesthetics and antiseptics, aided by an ample scientific literature; (3) the dissemination of up-to-date knowledge to the profession, by the veterinary colleges, and to the laity, by means of the agricultural colleges and press.

EDITOR'S NOTE.—The author of the above contribution, Mr. Arthur G. Hopkins, B. Agr., an Englishman by birth and Canadian by choice, spent five years of his young manhood on the stock farm of John Gardhouse, of the firm of Jas. Gardhouse & Sons, at Highfield, Ont., where he secured a valuable practical training in the breeding and care of high-class pure-bred horses, cattle and sheep. Later he secured the V. S. degree from the Ontario Veterinary College, winning five prizes, besides a gold medal, in a graduating class of 160 members. Later he became a member of the Manitoba Veterinary Association, and practiced for several years in that Province, where he also did valuable service as a lecturer on the Farmers' Institute staff. For three years Mr. Hopkins was Secretary-Treasurer of the Hartney Agricultural Society, and later became a director of the Agricultural Society of Beautiful Plains. Later he spent two college years at the Ontario Agricultural College, taking the Associate Diploma, going from there to Iowa Agricultural College, studying under Profs. Craig and Curtis, securing the B. Agr. degree in the Department of Animal Husbandry, also the D. V. M. degree of the Department of Veterinary Medicine, Iowa State College. A course was then taken at the McKillop College, Chicago, winning the degree M. D. V. (post-grad.). Mr.

Those who live on the treeless plains of the West have vivid recollections of golden fields of great promise that ended in grievous disappointment; yet these promises have time and again been realized, and the thousands of prosperous homes throughout the country testify to the greatness of the premier product of the West.

The origin of Red Fife wheat, from which No. 1 Hard is produced, is not positively known, but the generally-accepted facts are that in Canada it was first grown under the name of Scotch Fife, at or near Peterborough, Ontario, by a Mr. Fife, who obtained it from a merchant in the Baltic grain trade. The wheat was supposed to be a fall variety at that time, and was sown as such, but proving a failure, was sown in the spring, and for years grown all through the central counties of Ontario, giving excellent satisfaction, until the weevil enforced its abandonment.

From Ontario it was taken in 1856—some say by a member of the Fife family—to the State of Minnesota, and gradually became one of the leading varieties of wheat in that State. Toward the end of the seventies it found its way in small quantities from Minnesota to Manitoba, and when the rush of settlers came in 1882, large quantities of seed had to be obtained across the border. One year later the seed was brought into the Territories. Long before Red Fife was brought into Manitoba, wheat was grown in that Province along the banks of the Red and Assiniboine Rivers, and some claim this to have been the same variety as is now grown. This, however, is not likely to be the case, as the bulk of the seed used by the settlers in 1882 and 1883 came from the State of Minnesota, where it had been grown on bonanza farms for years.

No. 1 Hard is the best result that can be obtained from Red Fife wheat, and can only be secured when the weather and soil conditions are favorable. When either of these is adverse, the grain, though still Red Fife, is graded as Providence, or the grain dealers, may determine.

On the treeless plains of the West, where fertile soil, bright sunshine and cool nights are the leading characteristics, Red Fife attains to its greatest

perfection. It desires no soft bed of eastern make, no manure-fed soil or oppressive nights, but delights in May snow-storms, dust-blankets, and cold-storage. It cannot thrive with too much rain, but snugly covered with two inches of loose soil on a bed of six inches of packed earth, and conserved moisture, it stores up its gluten and starch under a thin skin, in the cool and closing nights of its journey to maturity, coming out the perfect No. 1 Hard.

Red Fife is peculiar in its habits, and is the one product of the country that, in any year or any part of the country, may have hosts of relations, closely or remotely connected, as the case may be.

With plenty of sunshine, no frost and little rain towards the close of its life, No. 1 Hard in its greatest perfection is obtained. Through rain or careless handling, it may be No. 2 or 3 Hard. Again, if the soil does not suit, being either too low and mellow or scrubby, the grade is No. 1 or 2 Northern. If sown too late, so that its days cannot number five score and ten, and in its old age it be touched with a few degrees of frost, it becomes "frozen" or "rejected." In all these cases, however, it is still Red Fife wheat, and only requires suitable soil, weather and attention to produce in the following year the most perfect No. 1 Hard in the world. In one case alone, Red Fife may be entirely changed, and bring disaster to the producer, as well as to the product; that is when the settler, through carelessness, neglects to treat the seed with bluestone before sowing, resulting in the grain turning to smut, for which no earthly use can be found.

Of the wonderful superiority of No. 1 Hard nothing too extravagant can be said. If its adaptability for making flour and bread be considered, it is No. 1 indeed. If we look at it as the means of giving life and prosperity to a young country, it is still No. 1. Again, if we view it in its ability to give anxiety and disappointment to its growers, it easily transcends all else in our great country. Its proportion of gluten is greater, its starch less, its covering is thinner, and its color lighter, than any other known variety. All combined make this grade of wheat second to none in the world, and a matter of great importance to the Northwest is, that the further north and north-west this wheat is grown, the more pronounced all these qualities become.

To its superiority as a giver of life and prosperity to a new country, let the thousands of contented and independent settlers in Manitoba and the Northwest testify. Coming, as nearly all did, from a struggling life in Ontario or elsewhere, they founded a new home on the boundless prairie, with a yoke of oxen, willing hand and brave hearts, and now have their sons and daughters located on the broad acres beside them, and all are happy and prosperous. In the early years of the country, when



BREAKING SOD ON THE NORTHWEST PRAIRIE.

Hopkins was then appointed assistant instructor in stock-judging and veterinary science to the Experiment Station. One of his students, E. P. Welborn, of Cynthiana, Ind., in competition with 41 others at the inter-collegiate competition at the Chicago Show, recently, won sweepstakes and \$225 as the best all-round live stock judge. He now becomes author of "Veterinary Elements," a text-book for use in agricultural colleges, being a manual for agricultural students and stockmen. On Jan. 1st, 1901, Mr. Hopkins resigns his public position in Wisconsin to become a member of the present staff of the FARMER'S ADVOCATE, in connection with the Manitoba and Western edition, which, with his practical and scientific knowledge, he will naturally strengthen, and to which he comes with a sincere realization of the larger opportunities for service which agricultural journalism presents.

No. 1 Hard Wheat.

BY ANGUS MACKAY, SUPT. EXP. FARM, INDIAN HEAD, ASSA.

What magic name is No. 1 Hard? For years it has been the one product that has given hope to a large portion of a young but great country, and the one thing that has caused more hope, more anxiety and more disappointment over the whole Dominion of Canada than all else beside.

While the thousands who have sown the seed, and staked their all on its life mission being fulfilled, daily watched its growth to maturity, thousands of others in the east as anxiously awaited news of the ripening harvest, not only for the sake of friends and relatives struggling in a new country but with the hope that the Great Lone Land might yet contribute to the making of Canada. "A greater Dominion than has been."



RED FIFE

the golden fields of the settler's hopes were bright and boundless, as they often are in a new country, many staked their all on Red Fife wheat and lost. These hopes for a time did not return, but in a few years the clouds passed, and now universal faith is centered around No. 1 Hard, and whether at times the moon gets too full and it freezes, the hail leaves not a grain standing in its deadly swath, or the season produces but few bushels per acre, nothing can detract from the popularity of No. 1 Hard.

Of the early attempts at growing No. 1 Hard, many stories can be told, all of them more or less tinged with disappointment and loss. Here we find a Cockney couple fresh from the great city, with "Arriet driving the oxen and 'Arry holding the plow." Across the way lives a remittance man with guns and dogs, and who depends on his "Governor" across the pond, to drive the bulls and harvest the grain (if there should happen to be any). A little farther on we find a Cambridge or Oxford man swearing in Latin at his stupid animals. Then come the big fellows (with plenty of generous, though invariably grumbling, shareholders), plowing in squads, sowing in divisions, but reaping in vain. Then we come across the poor man working early and late, taking the light crops with the heavy, as they come, but always making both ends meet. Now 'Arry and 'Arriet drive into town with their carriage and pair; a fine piano graces their new brick home, No. 1 Hard is no longer pronounced without the "H," and prosperity is everywhere in evidence around their homestead. The remittance man, his guns, dog, and his "Governor," have long since taken their departure for a more congenial clime. The Cambridge and Oxford men have learned to swear in plain English, and their animals now do better, and, consequently, more successful work. The great men of the Bonanza farms have also trekked to other countries in search of a fresh supply of shareholders. The poor man, with his oxen and willing hands, now drives horses, lives in his castle and spends his time in ease and contentment.

When we look back over the past decade and remember that one-half the growers were unused to farming, or did it on buckboards, and the other half knew nothing of the country or its climate, it is a wonder how well the majority did in the disastrous years following the opening up of the country. Yet No. 1 Hard has lived through it all and has laid the foundation for a great future. It is sixty years since this wonderful wheat was first grown from a handful of seed sown on the virgin soil of Ontario. There it gave prosperity to its growers, and came to enrich the early settlers of Minnesota and the neighboring State of North Dakota. Innumerable elevators, mills and railways followed in its wake, to take care of the several hundred millions of bushels of Red Fife grown annually. Twenty years ago this same grain came into the great lone land, and now we see elevators at every station, small mills growing into giant concerns, and railways pointing in all directions to reach the producing centers of No. 1 Hard, to convey it to the great mills and terminal elevators of the east. If we look forward one hundred years to the close of the coming century, our imagination is lost in estimating what the future has in store for so prolific a grain. Even the broad and lively imagination of a Northwester cannot conceive the prodigious increase, when instead of fields dotted here and there over but the fringe of this great heritage, there are thousands upon thousands of square miles, stretching north-west to the great Peace River country, which is the true home of No. 1 Hard, on which this grain will yet be waving in the breeze.

In the three Territories, with their united eighty millions of acres of wheat land, there is only a little over one-half a million under cultivation, and not all of this used for wheat. Consider the result one hundred years hence, when, if but one-tenth of the country is brought under cultivation, with the intelligence and experience gained up to the closing of the present century—an experience and intelligence that is turning the bleak and barren prairie into prosperous and valuable farms! Soon a railway will pass along the great Saskatchewan River, where for years many settlers have waited to show those on the Red, Assiniboine and Qu'Appelle Rivers how to grow No. 1 Hard, and it is only a short stretch of the ever boundless vision of a Northwester to see, at no far distant date, the iron horse starting from Peace River and winding its way down the Athabasca with No. 1 Hard for consumers in the far east.

Many in the Territories may not live to see this day, but their children will, and thousands are now living who have realized wealth from No. 1 Hard, and are laying the foundation for a magnificent future, and long before the close of the 20th century this Greater Canada will have become, through No. 1 Hard, a great Dominion, not only able to feed an Empire with its products, but able and willing to contribute tens of thousands of brave and true men to fight the battles of Canada and the great Empire to which we belong.

Chicago's Live Stock Market and Packing Industry.

BY D. E. SMITH.

This may aptly be called an era of concentration and co-operation, and Chicago, the most up-to-date

living who have realized wealth from No. 1 Hard, and are laying the foundation for a magnificent future, and long before the close of the 20th century this Greater Canada will have become, through No. 1 Hard, a great Dominion, not only able to feed an Empire with its products, but able and willing to contribute tens of thousands of brave and true men to fight the battles of Canada and the great Empire to which we belong.

The largest day's business during this year was on Monday, Nov. 19th, when the receipts were 29,507 head of cattle, 531 calves, 15,912 hogs, and 18,277 sheep.

The Way of Doing Business.

Cattle, hogs, sheep and horses are sent in from all directions to Chicago and consigned to commission firms doing business in the Union Stock Yards. On their arrival, they are taken charge of by men from these commission firms and carefully placed in large pens or stables, which can be kept under key until ready for sale.

In the cattle department, the salesmen have full control of the feeding, watering and selling of all the stock consigned to the firm they represent, and business is begun shortly after seven o'clock. Usually about the same time buyers for the several packing firms, buyers of export cattle and speculators mount their horses and make their rounds through the different divisions of the yards, and, as a rule, most of the cattle are sold before noon. Each buyer goes over only his allotted portion of the yards. Business, generally speaking, is done very quickly, and it is not an uncommon thing to see a bunch of 200 or 300 steers change hands in less than five minutes. Several buyers purchase from one to two thousand head each in a forenoon. Shortly after the cattle are sold they are driven to one of the twelve scales. These are kept in perfect order, and men employed by the Stock Yards Company do all the weighing and initial the weight of every animal or bunch of animals that pass over their scales. A veterinary surgeon employed by the Government is stationed at each scale house, and his duty is to stop all diseased cattle and prevent their being slaughtered for food.

As soon as the cattle are weighed they are put in pens and locked up by the Stock Yards employees, and not allowed to be removed until instructions are received from the owners. Then they are taken to the packing house to be slaughtered or to the trains for export.

Packing-house Process.

The system adopted in the packing-house plants is unique. From the time the animal receives the stroke that renders him unconscious until the dressed carcass is placed in the refrigerator rooms, there is co-operation in work. Each man stands, soldier-like, at his post of duty, and through the livelong day performs over and over again the same kind of work until he becomes expert and can do it perfectly and with great rapidity. The expense of slaughtering and of manufacturing the various by-products is kept down to a minimum figure by means of the co-operative system with skilled workmen, aided by the best kinds of machinery.

When under way, the principal packing plants can each slaughter in a day of ten hours, 1,500 to 1,800 head of cattle, 6,000 to 7,000 hogs, and 2,500 sheep.

An advantage of great import to this industry is that every part of the animal is utilized, and not a single atom is allowed to go to waste. In this they have a profit of which smaller concerns know nothing about. It may be of interest to mention some of the manufactured products: Canned meats, dried beef, corn beef, pickled and smoked meats, sausages, butterine, soap, beef tea, neat's-foot oil, cotosuet, pepsin, brushes, glue, knife and fork handles, poultry bone-food, etc., etc.

The economic principles that are displayed in the live-stock markets and packing houses should be a strong incentive to use similar and practical methods in conducting the operations on the farm. These operations should aim at the utilization of all farm waste; not a foot of land should go uncultivated, not a particle of manure go unused.

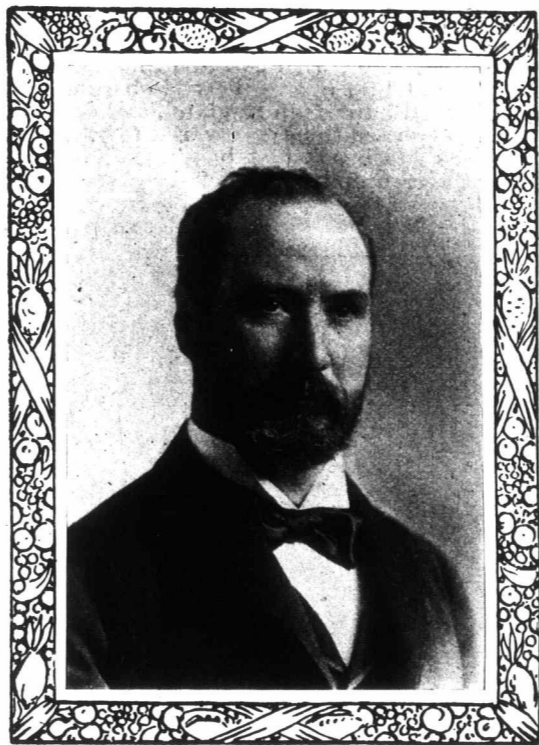
They should also include the centralization of energy in the most profitable channels, together with order and system and the practical use of business principles.

MATCHES.—John Walker, a chemist of Stockton-on-Tees, sold the first box of lucifer matches for 1-shilling and 2 pence, in April, 1827. The matches soon became popular, and the poor of the town were employed to split the wood for these early matches, which were invariably dipped in the phosphorous compound by the inventor himself. Walker died in 1859.

Chicago's Live Stock Market and Packing Industry.

BY D. E. SMITH.

This may aptly be called an era of concentration and co-operation, and Chicago, the most up-to-date



ROBT. BIKERDI, M. P.

Live-stock exporter, recently elected member of the Dominion Parliament for St. Lawrence division, Montreal.

city in the world in this respect, can boast of very many large and far-reaching industries, but none, perhaps, show more progress and enterprise than the centralization of the marketing of live stock at the Union Stock Yards and the co-operative system in the manufacture and distribution of meat and meat products.

In order to comprehend the immensity of the



SCENE IN THE CHICAGO STOCK YARDS.

business done here, it may be remarked that the stock yards and packing plants extend over an area of 640 acres, and include the beautiful horse pavilion and sales stables, the cattle pens, sheep sheds and hog pens, as well as the large packing plants of Swift, Armour, Nelson Morris and others. During the past eleven months of this year there have come to this market 2,508,601 head of cattle, 7,346,918 hogs, and 3,265,239 sheep, and all have found ready sale. One peculiarity and advantage that the Chicago market has over all others is that no matter what the quality of the stock, from the lowest grade to the choicest, it can always be sold at a fair price.

system and the practical use of business principles.

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Sir Tatton Sykes and His Times.

In a former Christmas edition of the *ADVOCATE* we wrote on the "English Country Gentleman of Olden Times." The illustration was a general one. With your permission we will particularize by trying a pen portrait of some



R. GIBSON.

of those whose characters and aims, may we say, have been studied and their steps followed by many to advantage and profit. The grand old breed is dying out, and let one whose life lease has nearly ebbed offer up a tribute to the memory of a class now nearly extinct, but who have helped to make English history, not only in the tented field, but in something more precious and valuable to the Canadian farmer, viz., the improvement of the breeds of cattle, horses, and sheep. There are many others perhaps equally deserving recognition at our hands, but those of whom we write are familiar to ourselves, and will do

"To point a moral
And adorn a tale."

Did any of ye old men ever visit the East Riding of York and stop within its borders without hearing something of SIR TATTON, or if in ignorance ye asked mildly, and as wishing for information relating to that indefinite character, was not saluted something in this wise: "Thee domned feal, wheres thee frae, not to know Sir Tatton!" Lest some of our readers may be accused of not having dwelt within the East Riding, and to prevent them being brought within the vocabulary as above, we say something of him. As the Druid puts it, "The reverence felt for him in Yorkshire was akin to idolatry. To see him riding out of the Eddlethorpe paddock after a September sale, sitting on his Colwick black, which then numbered, with its rider, 108 years, accompanied by the clergyman of Sledmere, and returning the greetings of friends and tenants, and to hear the half-whispered "God bless him—how hearty he is—he'll put in for a hundred"—and "you'll never see such a man again."

Let us ascertain, if possible, just what manner of man this was that not only made Yorkshire men enthusiastic, but the whole of England respond. Do we not know that a Derby winner was named after him. That he nearly missed Blacklocks Leger by riding seven hundred and twenty (720) miles (and, mind you, this was riding not in Pullman cars or by the Butterfield Overland Express, but saddlework) to get the mount on Kutusoff at Aberdeen, and, without stopping to dine, got back to Doncaster, after a six-days' ride, in time to see Blacklock beat for the Leger, which race he saw for seventy-six years with only one break. This does not interest us so much as to learn by the Druid "that he rose with the lark and splash'd his own hedges, and was complimented by his huntsman for the excellence of his work without suspecting whom he was praising." Then, when twenty-one, we learn of his attending Sandy's sale of Leicesters and buying ten at \$100 each, and for each succeeding year being an annual attendant at the sales of the various breeders, and it is said that he was as staunch to his love for the Leicester as he was to his line of Thoroughbred horses. Then he walked his first purchase on foot, driving them himself for three days, from Lincoln (to which place they had been carted) to Sledmere. Then we hear of him taking advantage of the lessons learned from Gentleman Jackson and Jem Belcher to clean out a lane full of men who offered him insult at a wayside inn. Would not this latter fact appeal to the Yorkshire heart? Sanguinary people they are not, but they do love a scrap and the hero thereof, whether it be a man, dog or gamecock. Also that he walked from Hull (where he was placed in a bank) to Sledmere, 32 miles, on Saturday, and the same return Monday morning in time for bank hours; how he was forty years Master of Hounds; how he quoted Jorrocks in one of his speeches to his tenantry, "Muck is your Man," and then his resisting the blandishments of London society for the veining season of his Thoroughbred horses and his Leicester sheep. But of Sir Tatton I must close. Space will not permit. May we here be allowed to draw a moral? Sir Tatton Sykes was immensely wealthy in lands as well as in the good will of his contemporaries. His courtesy was the same

whether to peer or peasant. His attractions extended beyond his horses and sheep, and they endeared him to the hearts of the common people. Are not these the hardest to arouse, and are they not, when once aroused, the most enthusiastic and loyal? Then here's a toast for every Yorkshireman in Canada: Sir Tatton Sykes, and don't forget his memory.

If Yorkshire was proud of our late illustration, surely Northamptonshire was equally so of SIR CHARLES KNIGHTLEY, a man of retiring nature, quiet in repose, but most determined in pursuit of what he considered right, with patience remarkable. As an illustration, it is told of him that on first trying his afterwards noted hunter, Benvolio (a Thoroughbred that had been raced and purchased for 300 guineas by the advice of Frank Buckle), he positively refused to move or go near the hedge he was asked to negotiate. Sir Charles came home to luncheon, and after, with considerable coaxing, he eventually got him over. Benvolio became one of the most noted hunters in England, and on him Sir Charles is reported to have covered *thirty-one feet* over a fence and brook just below Brixworth-hill, and it has ever been known as "Knightley's leap."



SIR TATTON SYKES.

His doings in the saddle on Sir Marinel are also still spoken of, and he was considered by some as a more brilliant hunter than Benvolio. Sir Charles was very partial to a bit of blood, and it has been said he sacrificed substance often to secure neatness and good looks. At any rate, he would insist upon good shoulders and legs in his horses and hounds, while his Shorthorns must have the shoulders properly laid and fitting snugly to the breast and ribs. As a breeder of Shorthorns, his work has not been appreciated here to the extent it deserved. "The Fawsley Fillpails" were at one time in great repute as the general-purpose cow. They could produce both milk and beef, and were the tenant farmer's rent-payer. In 1856 a sale was made, at which Cold Cream, by Earl of Dublin, was bought for the Royal herd at Windsor. A granddaughter, Lady Knightley 2nd, we purchased from Mr. McIntosh for \$2,500 for Walcott & Campbell. At the N. Y. Mills sale she made \$3,100, and her two daughters, \$5,000 and \$4,000. Our first impression of a Shorthorn was made by this same Earl of Dublin, who was purchased by my father's landlord, the late Sir John Crewe, at the sale in 1856. The *Farmer's Magazine* has this to say of him in a brief biographical sketch: "Popular as he is, and beloved by high or low, perhaps amongst the farm-

ers of Northamptonshire more than any other class, Sir Charles enjoys the reputation of being a perfect oracle. He has done more for agriculture in that district than any man now living, and is respected and admired accordingly. As he rides out of his own gates at Fawsley, the peasant looks after him from his work and smiles a blessing on his benefactor; the sturdy yeoman doffs his hat when he meets him in the lane, and is gratified at a passing word of kindness from the liberal landlord and judicious friend; whilst the gentry and aristocracy are proud of their order while they can number in its ranks such sterling men as the widely and deservedly respected lord of Fawsley."

Before closing, allow a word as to another bygone phase of the English country gentleman, viz., THE SPORTING PARSON. If Lincolnshire boasted of Parsons Housen and King, Devon had her Russell, and one more loved seldom wore the cloth. As a biographer wrote of him: "He is a country clergyman and English gentleman of the right sort, whose presence is literally welcomed by everyone, from the prince to peasant, for the guest of Albert Edward, Prince of Wales, at Sandringham, is greeted as cheerily in the wild woodland bartons as in those courtly halls, and from north to south, east to west, there is no one whose face will not light up with a brighter smile at the sight of "Jack Russell," if we may be allowed to give him the title by which he is most endeared by all, even to the tents of wandering gipsies at the roadside, for amongst them he is honored also, and perhaps he is the only clergyman of the Church of England who has been asked to bury their dead."

We hear of him, when at Oxford, being able to hold his own with the gloves; of his starting a pack of otter hounds, how they gave way to a pack of fox hounds, in handling which he was very successful. "He seemed to know the line of his game and when hounds are right or wrong, by instinct." How that when a fox and three hounds had fallen down the shaft of an old mine, he descended with a rope and rescued them. That when an old woman approached him in a voice of agony: "Oh! Mister Russell, that there fox hath tookt away our little specklety hen!—I seed un snap un up and away to go, so I did." "Then I'll kill him and give you another hen." Then we hear of him wearing down opposition by sheer pluck and perseverance, not only from the ignorant, but from worse opposition in influential quarters, from mistaken motives, but eventually overcame it all. The anecdote of the Bishop calling to remonstrate with him, and how that he took to his bed, telling the housekeeper to inform the visitor he was unwell. "Walk right in, yer Lordship, Passen Russell be main bad, he be." "What is the matter?" "It's nebbut the smallpox, but he'll be tormentous glad to see un." It is needless to say the Bishop left at once, and the Passon had a gallop that afternoon.

Speaking of him as a clergyman, it is admitted that he was as good in the pulpit as in the saddle, and his love for sport never caused him to neglect duty connected with his holy office, but that rather his manly, independent character has given him a great influence for good among his flock. His services have always been in great request by his brethren to preach when a collection was to be made for any charity commending itself to him.

He was often invited to judge at horse and hound shows, and those who are conversant with fox terriers are well aware old Foiler was descended from his strain. After noting that when over eighty he was honored by the Princess of Wales by having him for a partner in opening the hall at Sandringham, we close with an anecdote as to how he consoled the poor. It may seem coarse to sensitive ears, and jar upon the hypercritical, but it appealed strongly in those days to the feelings of the subject in his own dialect and within the scope of his intelligence.

The "Parson" was called to the bedside of an old parishioner. He began: "What ails the, old chap?" "Ah, Passen, arm afeard arm dying!" "Well, all o' us a' got to die, and thou's had a vair look in." "That's right, Passen, but arm afeard." "What's the afeard o'? Hasn't murdered anybody, hast the?" "Naw." "Robbed anybody?" "Naw." "Allus paid the tithe?" "Iss." "Hasn't meddled we' any other man's wife?" "Naw." "Then tell the d— to go to h—!" The fear left, tis chronicled, and the end was peace.

RICHARD GIBSON.

A Brief Sketch of the Horticultural Achievements of the 19th Century in America.

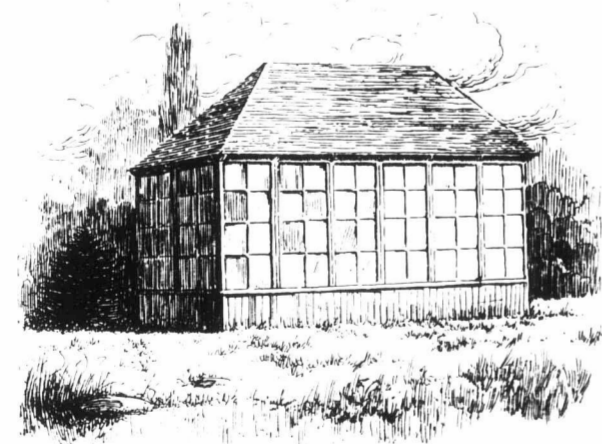
BY JOHN CRAIG, PROFESSOR OF UNIVERSITY EXTENSION, CORNELL UNIVERSITY, ITHACA, N. Y.

The measure of the horticultural progress of a country in a given period may be studied satisfactorily by examining its living literature; its active organizations for the dissemination of horticultural information; and its commercial interests. In the following sketch we shall take up the subject in this order.



SOUTHERN ONTARIO PEAR ORCHARD. UP-TO-DATE TILLAGE.

There were practically no books on American horticulture written previous to this century, though we should note the "Gardener's Kalender," by Mrs. Martha Logan, of Charleston, S. C., published in 1780, and an American edition of Marshall's "Introduction to the Knowledge and Practice of Gardening," Boston, 1799. Soon after the opening of the century, the flow of indigenous American books began. The first of these was the "American Gardener," by John Gardiner and David Hepburn; but the book which marked real progress, and is still a valuable record of events, is the "American Gardener's Calendar," by Bernard McMahon, published in 1803. Among the more important and distinctively pomological books of this early period is Forsyth's "Treatise on the Culture and Management of Fruit Trees," published in London and New York in 1802. Not till the middle of the century did pomology begin to receive its due meed. In 1845, the first edition of Downing's epoch-making book on the "Fruits and Fruit Trees of America" appeared, followed quickly by Thomas' "Fruit Culturist." Ten years later, Warder's "Pomology" was given to the public. These three books have run through many editions, and are standards to-day. Thomas' "Fruit Culturist" was revised a few years ago, and in many respects is the most up-to-date pomological work of reference we have at the present time. These works undoubtedly will be supplanted in the near future by books on specific classes of fruits, as the pomes, (apples, pears, etc.), drupes (plums and cherries), citrus fruits (oranges and lemons). The trend of the age is towards specialism, and the rapid multiplication of varieties demands systematized information. Fifty years ago, A. J. Downing, of Newburgh, N. Y., was regarded as the great horticultural light of the east, while Dr. John Warder, of Cincinnati, Ohio, was the representative of the



FIRST AMERICAN GREENHOUSE.

west. But contrast the volume of literature of the first three quarters of the century with that which appeared in the last quarter, and we obtain an idea of the growing importance of the fruit industry. It is safe to say, by way of comparison, that more books on rural topics have been issued in the last ten years by a single New York publishing house than were put forth by the combined book publishers of America during the first three quarters of the century.

HORTICULTURAL SOCIETIES.

Next to the literature of a country, its social and industrial organizations are the most influential factors.

For an exhaustive review of the subject, the reader should consult "Horticulture" in Encyclopedia of American Horticulture.

Particularly is this true of agricultural organizations. One of the most important and one of the oldest of American horticultural bodies is the Massachusetts Horticultural Society, established in 1829. This was modeled after the plan of the Horticultural Society of London (Eng.), and had as an adjunct a variety test-garden. The garden was located at Salem, Mass., and for many years the reports of the superintendent of this garden were read with keen interest by fruit-growers of the United States and Canada. The test garden was the forerunner of our present elaborate Experiment Station system. Importations of varieties of fruits were made annually by this society from London and the leading botanic gardens of Europe. These importations exercised a profound influence upon the pomology of this country. Through the offices of this society were imported the first Russian apples, namely: Duchess, Tetofsky, Red Astrachan, and Alexander. Among other strong and influential bodies should be mentioned the Pennsylvania Horticultural Society, founded in 1827, and still active; the American Pomological Society, founded in 1848, and at present the most important horticultural organization in the world. In the proceedings of this Society, Canadians take an active part. In speaking of horticultural organizations, the "Fruit Growers' Association of Ontario," as a Provincial or State association, takes first rank. There is no other body in America or Europe having such a large membership and issuing a journal equal in make-up and character. In surveying the horticultural progress of the century, it will be necessary to look into the development and present status of the different classes of fruits.

APPLES.

In 1817, Coxe, the pioneer New England writer, recommended 100 varieties. A small per cent. of these were of American origin. In 1872, Downing listed 1,856 varieties, 1,100 of which were originated in America. It may be said, then, that the horticultural progress of the country can be measured with satisfactory accuracy by examining the development of native varieties, because American pomology will not rest on a sure basis until it has evolved its own races of commercial fruits. In the production of new varieties of apples, Canada has done her part. The name of Chas. Arnold, of Paris, Ontario, will not be forgotten. The Ontario apple, which he produced, is growing in favored regions where Spy and Baldwin are cultivated for the foreign market. Neither will the work of the pioneer, Peter C. Dempsey, of Trenton, pass away and be forgotten. His record is written in the number of useful varieties of apples, pears and grapes he has left to his son and successor to distribute to the fruit-growing public of the Province. It is safe to say that 95 per cent. of the apples now cultivated for commercial and amateur use are of American origin. The Europeans have done their work, for they were the basis and foundation of the varieties grown to-day, which are the refinement of the principle of adaptation and selection.

PEARS.

The history of pear culture in America is peculiar. It is probably true that a larger percentage of the rural population of New England were interested in pear culture fifty years ago than at present. The growers of that time were amateurs. The growers of the present day are commercialists. At that time they were grown in acre plots, with twenty or more varieties in the assortment; to-day they are grown in fifty-acre blocks, and we may not find more than three or four varieties in the collection. The reason of this change is due to the fact that the varieties introduced early were not entirely successful. The change from the amateur to the commercial occurred soon after the introduction of the Japanese type, which took place about 1850. A few years later a hybrid (Jap-American) appeared. This was the Kieffer. Other hybrids between these two types have sprung up from time to time in recent years. These Japanese hybrids have wonderfully influenced pear culture in the south and eastern Atlantic States. Kieffer, LeConte and Garber represent a class which is yearly growing more popular. The commercial plan brought unexpected difficulties with it. Large blocks of single varieties proved unproductive. The blossoms were found to be incapable of self-fertilization, and so the principle of intermingling varieties for the purpose of securing cross-fertilization was established.

PEACHES.

The peach was naturalized in America very early in the 19th century; it was found growing wild in the Arkansas Mountains as early as 1819. About the middle of the century, and for the 25 years following, peach culture made tremendous advances in the Atlantic coast States. As is common wherever an industry becomes specialized, diseases and insects multiplied rapidly. Peach yellows appeared, spread with astonishing rapidity, and the peach industry in many sections was wiped out. Following this decadence, orchard sanitation came into vogue, new regions were opened up, and at the present time the industry is on a better and surer foundation than ever. The area in peaches to-day is probably ten times greater than ever before. Seedling varieties are constantly appearing which possess greater adaptability than their progenitors, and in this way the

peach area is gradually extending. Southern Ontario contributes an important quota to the output of American peaches.

PLUMS.

The record of the evolution of the plum industry in America reads with the interest of a novel. Its statements sound more like fiction than fact. The Damsion plums were introduced into the country centuries ago. In many parts they became naturalized. We find them springing up spontaneously along the highways and byways of New England. In Canada they are found cultivated and un-



MODERN CARNATION HOUSE.

(Owned by the late Harry Dale, Brampton, Ont., who stands in the foreground.)

cultivated in all centers of early settlement along the St. Lawrence River and in southern Ontario. In the Middle States they have not succeeded; here the native plum grew in profusion; the fruit-grower's efforts were accordingly turned toward the improvement of this type. These efforts have been rewarded abundantly. Since the origination of the Wild Goose plum, fifty or more years ago, there have appeared more than two hundred improved forms of native species. In the east the European plum, with its active competitors of the Japanese type, will continue to hold sway. In the west and south, except on the Pacific Coast, the improved native plum will be the plum of commerce. In plum culture the influence of the Japanese type, introduced not more than thirty years ago, is worthy of more than passing mention. In thirty years it has left a permanent impress upon the pomology of the country. This infusion of Japanese blood will produce important results. It is safe to say that in the next twenty years its influence will be still more apparent. In order to be commercially successful, a plum must carry well, and therefore must be firm-fleshed. The Japs possess this quality in remarkable degree.

THE STORY OF THE GRAPE.

At the beginning of the century the European grape was being tended and nurtured by enthusiastic grape-growers like a sickly child. There were those who were confident that it would adapt itself to our soil and climatic conditions. They labored long and earnestly. The story of their failure has been written; yet their labors were not entirely in vain. Out of their disappointments grew the interest which finally became entirely diverted to the improvement of the native species. The history is interesting—fascinating it may be



OLDEST APPLE TREE ON DOWNING ESTATE.

said, but it is too long to be recounted here. Where fifty years ago grapes were grown in quantity sufficient to exhibit at county fairs, to supply the home table and furnish the grower with homemade wine, they are now cultivated in areas of ten to five hundred acres, and sold with a profit at twenty dollars per ton. This has all been brought about by the work of a few men. Ephraim Bull, of Massachusetts, originated the Concord. The Concord has been the foundation of the grape industry of the east. Across the mountains, in the mild climate of the Pacific coast, the European grape succeeds, and in California great areas are devoted to its culture. And so it is with the strawberry, the gooseberry, the raspberry, and the currant. Success came with the development of native strains.

FLOWERS.

A rare story might be told of the evolution of garden and greenhouse flowers. Think of the glories of form and color developed by florists in the aster, the sweet pea, the gladiolus and the chrysanthemum!

EVOLUTION OF THE GREENHOUSE.

Perhaps nowhere in the horticultural field can substantial progress be more clearly demonstrated than by the character and extent of the various devices and structures used for the growing of plants out of season: in other words, for forcing crops. The first American greenhouse was erected in 1737, and its primary object was to keep plants green. It was a primitive affair with shingled roof and a little more glass in the sides than is found in our modern summer residence. At the present time, lettuce, cucumbers, tomatoes, carnations and violets are grown by the acre under glass. A striking illustration of the development of this business is had in the record of sales furnished by a Massachusetts manufacturer of flowerpots. He states that many single sales made by his firm in 1895 were equal to the entire amount of ten years' sales in the early part of the nineteenth century, and the increase in the quantity of pots manufactured in the latter part of the last century, compared to those made in the middle of the century, is as ten is to one.

Perhaps no better evidence can be offered, supporting the wonderful horticultural advances of the century, than is furnished by the commercial and transportation records. Among the later developments in handling fruit should be cited the cold-storage warehouse. Ten years ago cold-storage warehouses were curiosities. In 1900 there were 920 cold stores in the United States, excluding 300 used exclusively for meat. Of this 920, the editor of 'Cold Storage,' New York, says that 700 are fitted for the storing of fruits, produce, eggs, butter, etc. The capacity of these 700 is something like 35,000,000 cubic feet, or a yearly capacity of 930,000,000 pounds. He also says that there are about 220,000 refrigerator cars in use in this country; of this number about 50,000 are used for transportation of perishable products, and the remainder for meats. Almost every cold store works to its full capacity at least nine months in the year. In Canada there are 40 cold stores, about 30 of them being fitted for butter, eggs and produce. Their capacity is about 2,000,000 cubic feet. California fruits now compete with those of Canada and Australasia in the British markets, and Ontario ships peaches and grapes to the same market.

In ways of handling fruits, from the tree to the European and home markets, astonishing transformations have taken place. Orchard ladders, padded baskets, fancy baskets, neat barrels, and spring wagons have replaced the "shaking pole," the bushel basket, the sack, and springless hay wagon. Neatness and dispatch are the watchwords of the modern packer.

PROGRESS IN HORTICULTURAL METHODS.

Nothing more radical and significant of the achievements of the age has taken place in the whole agricultural field during the century than the change in methods of managing fruit plantations. The failure of orchards demanded a revolution of methods. A new system of tillage has been introduced. Methods of combating insect and vegetable parasites have been evolved. The fruit-grower has become acquainted with the principles underlying the cultivation of soils. He knows how to conserve and husband soil moisture. He understands the necessity of thinning fruit in order to encourage annual production. He is learning to study and know the character of his insect foes and fungus enemies in order that he may attack them in their most vulnerable parts. This improvement in horticultural methods speaks eloquently and forcibly. Spraying in fruit-growing is viewed not as a possible objectionable necessity, but in the matter-of-fact light of an insurance. The spray pump and fumigator have taken their place among the implements of the orchardist and nurseryman.

The century has taken fruit from the list of luxuries and has placed it with the necessities of life. While fruit areas are increasing yearly, the consumption of fruit is increasing out of proportion to the normal increase of population. This is cheering, and the twentieth-century orchardist may look into the future with confidence, feeling that the experiments of the past, with the restless energy and the practical intelligence of the present day, insure abundant success with sufficient reward.

The Field for Twentieth Century Improvement in Farm Crops.

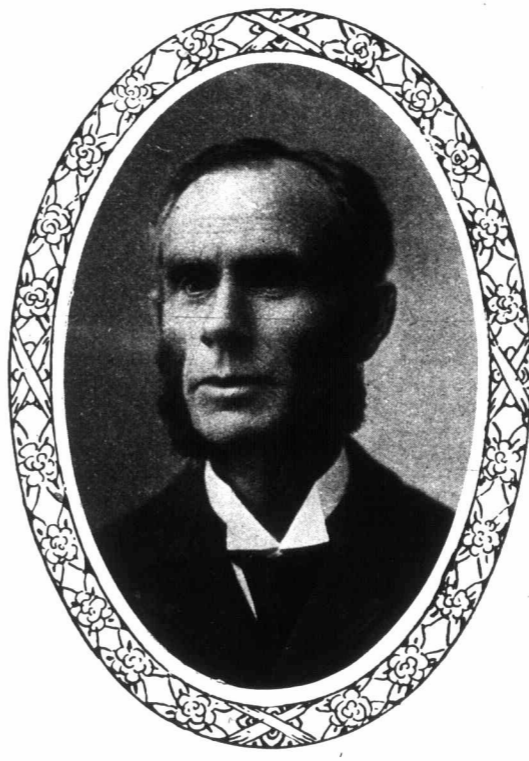
BY PROF. THOS. SHAW, MINNESOTA EXPERIMENT STATION.

At first thought it would seem scarcely possible to make great advances in the growth of farm crops, when the strides that have been made in this direction during recent years are taken into account. These advances are owing in part to the spirit of progress that is abroad in all the world as never before, and in part to the special awakening in agricultural development consequent upon the establishment of agricultural colleges, and more especially in this western continent. Notwithstanding this wonderful progress, however, and particularly within the last decade, it is but the dim foreshadowing of those gigantic strides that will be made in improved agriculture during the coming century, and especially within the first two

decades of the same. And while this progress will affect all lines of agricultural development, in no phase thereof will it be so marked as in the improvement in the growth of farm crops.

The reasons for this conclusion are as follows: First, attention has been riveted during the last half of the century upon the conservation of soil fertility, or, rather, upon putting fertility into the soil. This has led, first, to a tremendous increase in the East in the use of artificial fertilizers, and to increased attention, both in the East and West, to the production of live stock. Second, it has been riveted on the improvement of live stock, with the increased production of the same. It would be correct to say that the last quarter of a century has witnessed the creation of the fertilizer industry in America, and it has also witnessed the creation of the science of animal husbandry. While these two developments have been in progress, a third, no less important, perhaps, than either, has received but little attention. The reference is to the improvement of the mechanical condition of the land, more especially through keeping it well supplied with humus; that is to say, with vegetable matter in various steps of growth or decay. This question is just beginning to receive that attention which its importance demands; and just here the prediction is confidently made that the greatest triumphs to be reaped by the Experiment Stations during the next quarter of a century will be reaped in this field. Along with this development will come a vastly increased production in all kinds of farm crops, and this in turn will mean a vastly increased production in all lines of live stock that have been found useful on the farm.

In the East, the aim has been to fertilize lands in part by giving increased attention to live-stock production, and in part through the application of



PROF. THOS. SHAW.

artificial fertilizers. In the Eastern States, especially, the fertilizer bill runs up into the mighty millions, and in the Maritime Provinces of the Dominion large sums are expended in this way. A large proportion of this expenditure has, in a great measure, been thrown away, because of the fact that the fertilizers thus applied have been put upon land not in a proper mechanical condition to receive them. If one tenth of the energy expended by the Experiment Stations in the East had been put upon the best methods of introducing humus into the soil, the whole country would be far richer than it is to-day.

The action of plant-food put into the ground affects it variously, according to the conditions. If the soil is heavy, it prevents the particles from adhering so closely. In other words, it renders such soils more friable, which means that they are more easily penetrated by the roots of plants, that they drink in more of the precipitation that falls down on them, and that they have a more perfect aeration, which is a matter of much consequence in growing crops in such soils. If the soil is light and too porous and leechy, the decaying vegetable matter fills the interstices between the particles, and so binds them together. It arrests moisture falling from the clouds or ascending from the subsoil, and holds it for the growing crops, and in its decay this vegetable matter so acts chemically upon the soil as to cause it to yield up some of the inert or dormant fertility in the same for the advantage of the crops. These effects are simply beneficent, and they will be present just in proportion as attention is given to putting humus in the soil.

Instead of putting into the soil all the vegetable matter possible, what have the farmers been doing? First, allowing the fatness of their manure heaps to waste by dissipating into the atmosphere, rather than decaying in the soil, with all the beneficent influences that would follow. Away with the manure heaps! Away with covered sheds to pro-

tect it! Put the man in the Northwest who burns his manure or dumps it into a ravine or river into the House of Correction, and get the manure out on the land at the earliest possible moment after it is made, unless it is wanted for a specific purpose. Second, when they summer-fallow their land, a practice which will be common in all the Northwest for many years yet, they are not trying to grow anything upon it to bury in the soil. Why should not two green crops be buried in every summer-fallow, one of rye and a second leguminous in character, as peas? Such treatment of the lands in the Northwest would enable them to sustain three or four fine crops of grain in succession. Third, when the Northwestern farmer grows his wheat or other grain, he burns his straw, which means that he is burning up the humus in his soil, and that he will pay a dear penalty in the reduced yields that will follow. Due attention will be given to these matters by all progressive farmers in the coming century and in its opening years.

These, then, are some of the ways in which humus will be put into the soil; but in no way can this be done so generally or so effectively as by short rotations, in which grass in one of its many forms will be the important feature. At some of the Experiment Stations some scientists are conducting rotations that will cover twenty years. If they could only be given a corner of the moon in which to go on with their investigations, they might possibly do some good to the people there. What we want in all the land is short rotations, with grass as one of the factors; and with grass as a factor in the rotation, it can scarcely be too short. This means that the rotations will cover three, four or five years, according to the conditions. The kind of grass grown will depend upon conditions. The most suitable kinds will be those which grow best, which furnish the best food, and which have the most abundant root growth. In the Maritime Provinces and those of the Northwest, *Bromus inermis* will probably best fill the bill, and in Ontario and Quebec, red clover and timothy. In some sections of the Northwest, *Agropyrum tenerum* may answer better than *Bromus inermis*, and timothy will also be utilized, with the probability that in certain localities clover may yet come. *Bromus inermis* has wonderful power to fill the light soils of the prairie with its roots. These roots bind such soils and keep them from drifting. They will greatly increase their power to hold moisture, and the effects generally are beneficent in their decay. Corn will naturally follow on the over-turned sod, but there may be good reasons sometimes why it should not.

To increase the quantity of humus in the soil, catch crops will be buried, such as rye, rape and peas. Even though they should first be pastured, the roots put more or less humus in the soil, and such crops as clover, rape, and possibly sweet clover, will be sown in all grain fields that are to be plowed later the same season or the following spring. But helpful as these are, the fact remains that down to the end of the world, sod made from grass or clover roots, will be the chief reliance for the supply of humus so much needed.

It is not easy to say whether humus is most needed in the East or in the West. In the East, with its plentiful rainfall, it is greatly needed to prevent fertility from soaking down into the subsoil and thus passing out into the drainage water. In the West, with its dry summer climate, it is needed to retain the scant supplies of moisture. To illustrate the wonderful influence of humus on plant growth in the West, allow me to cite an instance from my own experience: In the spring of 1900 no rain fell in St. Paul, worth mentioning, in the last half of April and in all the months of May and June. In my little garden in St. Anthony Park the vegetables grew most luxuriantly and without water. Others were drenching their gardens by the aid of the hose, with results that were no better. The story of this garden got out in the twin cities, with the result that teachers from both Minneapolis and St. Paul brought their pupils in carloads, in some instances at the rate of 100 and more than that at a time, to see this little garden and to get instructions regarding the method of managing it. In reality, there was no wonder about it. I had been stuffing it with decaying vegetable matter, such as grass and leaves, for the previous five or six years, every autumn when I dug it. To be sure, this is only a garden, and only the nineteenth part of an acre, but the principle of keeping a little garden well supplied with humus is the same as that of keeping the soil of all America thus supplied with the same. Such a system will immensely increase the yields of farm crops; it will stimulate the introduction of better varieties; it will encourage the desire to add to these by acclimatizing other varieties; and this system will compel attention to stock-keeping, whether the farmer wants it or not. This will, of course, mean larger returns and the better conservation of fertility, and it will also mean that when artificial fertilizers are applied, they will be applied to much better purpose, especially those that are nitrogenous in character, since they will be better utilized, before leeching down into the soil, by the more vigorous growth that the land will sustain.

The dates for the annual winter conventions of the Live Stock Associations of Manitoba and the N.-W. T. have been fixed for February 19th, 20th and 21st. They will be held in Winnipeg, and cheap rates from all points will be available.

My First Buffalo Hunt.

WRITTEN FOR THE FARMER'S ADVOCATE BY REV. JOHN M'DOUGALL, ALBERTA.

It was during the autumn of 1862. We were on the northern slopes of the Battle River, about 200 miles from its mouth. We had come from the north, and last evening had ridden into the "Wood Cree Camp," whose chief, "Broken Arm," was renowned throughout all the big Saskatchewan country. To-day, in company with the Chief and

pouch, selected six and put them into my mouth. These balls were heavy (twenty-eight to the pound); but "when you are in Rome you must do as the Romans do." In a very short time our captain called, "Mount!" and we formed in one long line, and if it had been ten miles long, the buffalo extended many beyond.

If these huge animals had only known their power and estimated their numbers, our line would have been overwhelmed and trampled under foot in a very short time. Instead of this, they moved away as we advanced, increasing their speed as they went; and, following our captain, we increased ours. The horses were all excited, the men were pale and nervous and quiet; under foot was rough ground, and there were very many badger holes; the possibilities were—being shot, or thrown, or gored.

Now we were at half-speed; line as yet unbroken, every eye on the captain. Suddenly he held his gun in the air and shouted, "Ah—ah—how!"—(pretty strong emphasis on the last syllable)—and away we went, every man for himself. Whips flew, horses tried too; men were sitting well forward, and wanted to go ahead of their steeds. We were in the dust cloud, eyes and nose filled with it; then we were through, and here were the buffalo speeding before us! Already the fast horses were in the herd; the swish of an arrow, the blast of an old flint-lock, and the wounded animals jumped aside, streams of blood gushing from their mouth and nostrils, showing they were mortally hurt. Others fell dead as soon as shot; others had either a fore or hind leg broken, and stood around at bay, challenging another shot. And thus the carnage went on—thicker and faster as the slow-mounted hunters came up.

As for myself, I found that six bullets in my mouth were at any rate five too many, and I slipped the five back into my pouch. Then my horse would spring over several badger holes, and my hair would lift—I felt he would come down in another. When I neared the buffalo, I cocked my gun, and in the intensity of my excitement, and because of an extra jump of my horse, I touched the trigger, and off it went—fortunately, into the air—and thus I lost my shot. I felt very much mortified at this, but hoped no one would notice what I had done;

friendly fellow said, "Chase her, my brother," and then I went in gladly again. Again he shouted, "That is a good horse you are on—drive him!" I touched my steed with my whip, and he speeded. "Drive him!" shouted my friend, "Go close!" And again I struck my horse, and like the wind he carried me up, and I did go close and shot the cow. Down she dropped, and I jumped to the ground beside her, a very proud boy. Ah, thought I, just give me a chance and I will make a hunter as good as the best. My friend came up and said, "You did well, my brother." I thought so too, and though I have killed many hundreds of buffalo since then, and often under more difficult and trying circumstances, yet that first race and dead shot can never be forgotten.

My new brother would fain have me take part of the meat. I told him the animal was his, but if he would give me the tongue I would be thankful. This he did, and fastening it to my saddle, I rode



REV. JOHN M'DOUGALL.
Author and pioneer Methodist missionary in the West.



THE BUFFALO HUNT.
[From a painting by Rosa Bonheur.]

the hunters of his camp, numbering some 300, we rode forth to take part in a grand hunt.

Our route was through prairie and woods about evenly mixed, around us multiplying evidences of the recent presence of thousands of buffalo.

After riding five or six miles, we came upon a ridge which enabled us to look down and across a plain or open country some ten by twenty miles in size, and which seemed to be literally full of buffalo.

As I looked, I asked myself, "Am I dreaming—is this so?" I never could have realized it had I not seen for myself. The whole country was a black, moving mass. The earth trembled to their tread and roar. Sometimes the clouds of dust rose in the air like smoke from a prairie fire. It seemed im-

possible, and yet here was the fact, or, rather, tens of thousands of them; every bull and cow and calf was a distinct reality. And so was this long line of strangely-equipped Indians on either side of me. And so was I, for my horse became excited with the sight and smell of these great herds, and I found myself a living fact on a very lively steed. As our line moved down the slope, the outer fringe of buffalo fell back on the larger herds, until there was one living wall before us.

Presently the captain of the hunt gave the command: "Alight. See to your girths and arms, and make ready!" I watched my companions, and as they did, so did I. They tightened their girths, and then they began to look to their arms. Most of them had bow and quiver, and I turned to one with a gun and watched him. He rubbed his steel and pointed his flint, then took from his ball pouch some balls, selected some of these and put them into his mouth. I took several balls from my

mouth to look over the field of slaughter. Ascending a hill, I could see men and women at work skinning and cutting up—in little groups they dotted the plain. The pack-horses were waiting for their loads, and the runners were feeding quietly beside them—their work for the day was done. I think I am within bounds when I say there must have been between 800 and 1,000 buffalo slain in that run. Many of the hunters killed four, some six and seven.

For twenty years of my life in the West, the area roamed by these herds was 500 by 400 miles, or 128,000,000 acres, north of the forty-ninth parallel; all in Canada. Here at times were millions of buffalo and hundreds of thousands of antelope, and yet this nice little pasture field is but the south-



FARMER'S ADVOCATE

BUFFALO DAYS ON THE CANADIAN PRAIRIE.

west corner of our great Northwest Territories, over which the tremendous possibility of successful stock-raising is an omnipresent condition. Truly blessed is Canada in the possession of such a land wherein she may grow.

in fact, all had enough to do in looking after themselves and the game before them.

To load under these conditions is no small matter—horse at full speed, greatly excited because of the nature of the ground—now making a plunge, now a short jump, and again a long one—and then a dead buffalo right in the way and your horse jumping over him, another struggling and rising and falling in the throes of death, straight ahead of you—some "wounded bulls" coming athwart your course, heads down, tails up, which you have been told are sure signs of a fight—and to put on the climax of difficulties, you a "tenderfoot," or, as in the Hudson's Bay country dialect, a "greenhorn."

However, after spilling a lot of powder, and getting some of it in my eyes, I was loaded at last; and now I saw that the buffalo were driven from me; but just then an Indian chased a cow at an angle towards me, and I saw that his horse was winded and I closed in, yet I did not like to intrude; but the

Rational Methods with Tuberculosis.

"The clamor for the universal testing of cattle for tuberculosis, and the slaughter or isolation of reacting animals, with compulsory notification of the existence of the disease, has died away, but it has had an unfortunate result in diverting attention from practicable measures. One of these would have been the slaughter of all visibly diseased animals, especially in cow sheds in towns, accompanied by a reasonable and well-guarded scheme of compensation for animals destroyed in the public interest. This would have led to the weeding out of the worst cases, and for the rest much may be done, and is done, by rational methods of management."—English Live Stock Journal.

A Century of Horse Breeding.

BY ARCH'D MACNEILAGE, EDITOR OF "THE SCOTTISH FARMER."

I will in the space allotted to me endeavor to indicate what I understand to be the changes which have taken place in prevalent ideas regarding the various British breeds of horses during the nineteenth century. And first of all, concerning the

ENGLISH THOROUGHBRED.

which I do not regard as the most important breed from an agricultural standpoint, although it is, in respect of individual animals, by a good bit the most valuable of the equine species. At the beginning of the century the fame of Eclipse and long-distance races was not a historical item, but a memory, and for long the wonderful career of this horse and the lessons it taught of the endurance and staying power of the English Thoroughbred, profoundly impressed the imagination of horse owners and breeders. Gradually, however, this memory faded, and in accordance with a subtle law of development in connection with stockowning, racing took the form of short distances with younger animals, and for long this method has dominated the traditions of the English turf and breeding paddock. It is surely a moot point whether this short-distance plan is best for the development of horses with stamina, quality and staying power, and the undoubtedly increasing numbers of "weedy" Thoroughbreds are well fitted to make men ask whether the whole system of racing, and pedigree breeding within very restricted lines, which forms the orthodox plan in this country, should not be overhauled from top to bottom, and the breeding of blood horses put upon a broad and stable basis. The maintenance of the superiority of the English Thoroughbred is closely identified with the maintenance of the best qualities of the

IRISH HUNTER.

It is admitted that if the Thoroughbred can be found with sufficient bone and substance, he is the sire best fitted to produce the kind of Hunter which the fields in Great Britain demand. But it is precisely this kind of Thoroughbred which is becoming scarce, and in the closing years of the century a determined effort is being made to lay the foundation for a new breed of Hunter sires, having as their foundation a genuine hunting record in the female, and a succession of approved Thoroughbred crosses in the males, without the absolute infallibility of a pedigree which on both sides traces to registered blood in Wetherby. The development of this scheme will be one of the horse-breeding spectacles of the twentieth century, and should its success be established within twenty years, a good deal will have been gained. The

HACKNEY

is the *bete noire* of the average English or Irish huntsman. All manner of types in horseflesh are at least endured by him, with the exception of the Hackney, which he regards as outside the pale of horse civilization. But the Hackney is a very useful animal—a very sound animal, and an animal whose general merits cannot be gainsaid. It is amusing to learn of cases in which extreme partisans of the Hunter descended from pure Thoroughbred blood and nothing else have quite unconsciously paid high tribute to the merits of a Hunter whose sire belonged to the denominated Hackney race. An English gentleman asked a well-known Irish horseman to send him over three Irish Hunters on approval. They were described in general terms, and they were to be well bred, the gentleman being an out-and-out hater of the Hackney. The Irishman sent over three horses as near to the type as could be found, two of them bred in the orthodox way, the third got by a famous Hackney stallion located in Ireland. After trial, the gentleman returned the two bred on orthodox lines, but retained the Hackney cross, eulogizing him as the best hunter he ever rode, and leaving the price to the dealer. Having paid for him, he asked the breeder of the horse, and was told never to mind, the less he knew about his breeding the better! Now, this does not prove that the Hackney is a sire to produce hunting horses; it does prove that, being descended from the same fountain head as the Thoroughbred, he can, when mated with a mare of galloping blood, produce a foal which will gallop with the best of them, and have more bone and substance than the average produce of an ordinary Thoroughbred. The Hackney was a comparatively neglected breed until about 15 years ago. He was known and valued in Norfolk and Yorkshire, and was occasionally heard of elsewhere, but no systematic attempt was made

to develop his merits as a valuable factor in the equine interest of Great Britain. All this is changed, but the first efforts at improvement were of doubtful advantage to the breed. Energy was wasted in breeding an animal which was neither a horse nor a proxy; now the folly of this has been recognized, and there is a determined effort all round to get up the size of the Hackney, and breed him for what he really is, a carriage and harness horse. The folly of talking about a horse with extravagant knee-action being a riding horse is now recognized by sensible men, and should breeders who have made action their aim endeavor to obtain carriage horses and to breed these in the Hackney lines and up to plenty of size, there is no saying how

who says least and thinks most about it. The demand for polo ponies is on the increase, and these are very difficult to breed, as what is wanted is really a miniature hunter, with bone substance, stamina, and fast-galloping action. Turning to the

DRAFT BREEDS.

it of course goes without saying that the nineteenth century, and especially its last quarter, has made them. The history of three breeds, the Clydesdale, the Shire, and the Suffolk, covers very much the same period: that is to say, we get onto a basis of fact regarding them about the same period, namely, between the middle and the close of the eighteenth century. Apparently the cessation of the troubles connected with the struggle for civil and religious liberty, and the establishment of the Hanoverian dynasty, left men free to think about such things as horse-breeding, and so fugitive cards and other scraps of literature can be found which throw a good deal of light on early efforts after improvement. The

CLYDESDALE

was first taken in hand by improvers, and long before either of the other two it was recognized in general literature as a distinct breed. Its characteristics are portrayed in old prints, going back as early as 1820 or thereabouts, and these indicate pretty clearly that the same ideal was before the breeders of that day as is aimed at in our own day, namely, wearing quality of feet and limbs, with a general contour indicating strength and endurance. There are many gradations and narrow distinctions in showyard judging, but in broad outline the aim of the Clydesdale breeder to-day is what it has always been, to get the feet and limbs right to begin with, and the rest is secondary. The

SHIRE

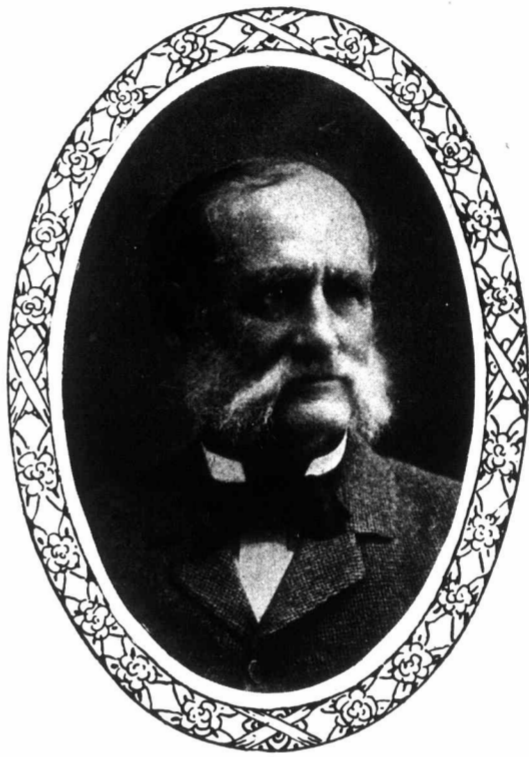
breeder of to-day is very much on parallel lines. His ancestors in the third or fourth generation aimed at a horse having plenty of weight, with a well-formed top first of all, and if the feet and limbs were reasonably good, they had little more to say. So it remains until this present. The Shire man has certainly improved his breed, and made the horses sounder and better wearers in feet and limbs than was formerly the case, but the difference between the two breeds is as marked as ever. The

SUFFOLK

is a distinct and very pure breed. For work on the heavy clay farms of East Anglia he is invaluable, and his place cannot be filled by any other breed. At the same time, it is not likely that this breed will ever make much headway outside of its own area.

New Veterinary Work for Stockmen and Students.

It affords us pleasure to bring before the attention of our readers a new and greatly-needed work for stockmen and agricultural or veterinary students, written by Arthur G. Hopkins, B. Agr., D. V. M., Instructor in Veterinary Science and Stock Judging at the University of Wisconsin. It has long been apparent, as Dr. Hopkins himself points out in his preface, that, like veterinary works written for stockmen, the veterinary courses are too much beclouded with technicalities, calculated rather to mystify than to enlighten. The surrounding of veterinary medicine with technicalities instead of basing it upon a common-sense knowledge of the construction and functions of the animal body has hindered its progress among stockmen, farmers and students, and created the opportunity for endless quackery. A large proportion of the ailments of live stock might be obviated by the exercise of precautions whereby the errors may be avoided of overwork or idleness of various organs and the inroad of disease germs prevented. This seems to be the author's conception, for he has devoted 12 chapters to the animal body and functions, and 11 to disease prevention and treatment and unsoundness in horses. The chapters on modes of giving medicine, common farm operations, and diseases due to mistakes in feeding, are exceedingly valuable. The book is well indexed, and consists of 286 pages, is illustrated, beautifully printed on good paper, and substantially bound. The modest title of the volume, "Veterinary Element," gives but a small idea of the wide and practical range of its contents, nor are we surprised to learn of its use by over 100 students of the Wisconsin University. It has been published by the author at \$1, and copies may be ordered through this office, or may be secured by sending us two new subscribers to the ADVOCATE.



W. H. LADNER.

Ladner, B. C.

far the Hackney may go, or how profitable the breeding of this class of horses may immediately become. There can be no doubt that the old Norfolk nag was a very hardy animal, and his modern representative could be made the same, if only the absurdly high action for which everything else was so long sacrificed was toned down, and the aim of the breeders, as indicated, was made the production of high-class harness horses. Closely allied to the Hackneys are the various breeds of

PONIES,

which are now receiving an amount of attention too long withheld from them. The services rendered



"GOOD COMPANY."

during the South African war by smaller horses and ponies should increase interest in pony breeding. The chief risk lies in attempting to improve existing breeds by the introduction of extraneous crosses which cannot nick so surely with the mares as would animals of their own type and blood. The Welsh pony is an extremely hardy and well-made pony, and it may fairly be questioned whether it can be improved by a cross of blood outside of itself. There is just a risk, in enterprises of this kind, of improving out of existence the best qualities of the breed on which you are operating. Pony-breeding in this country is at present in a critical because a transition state, and the wisest man is he

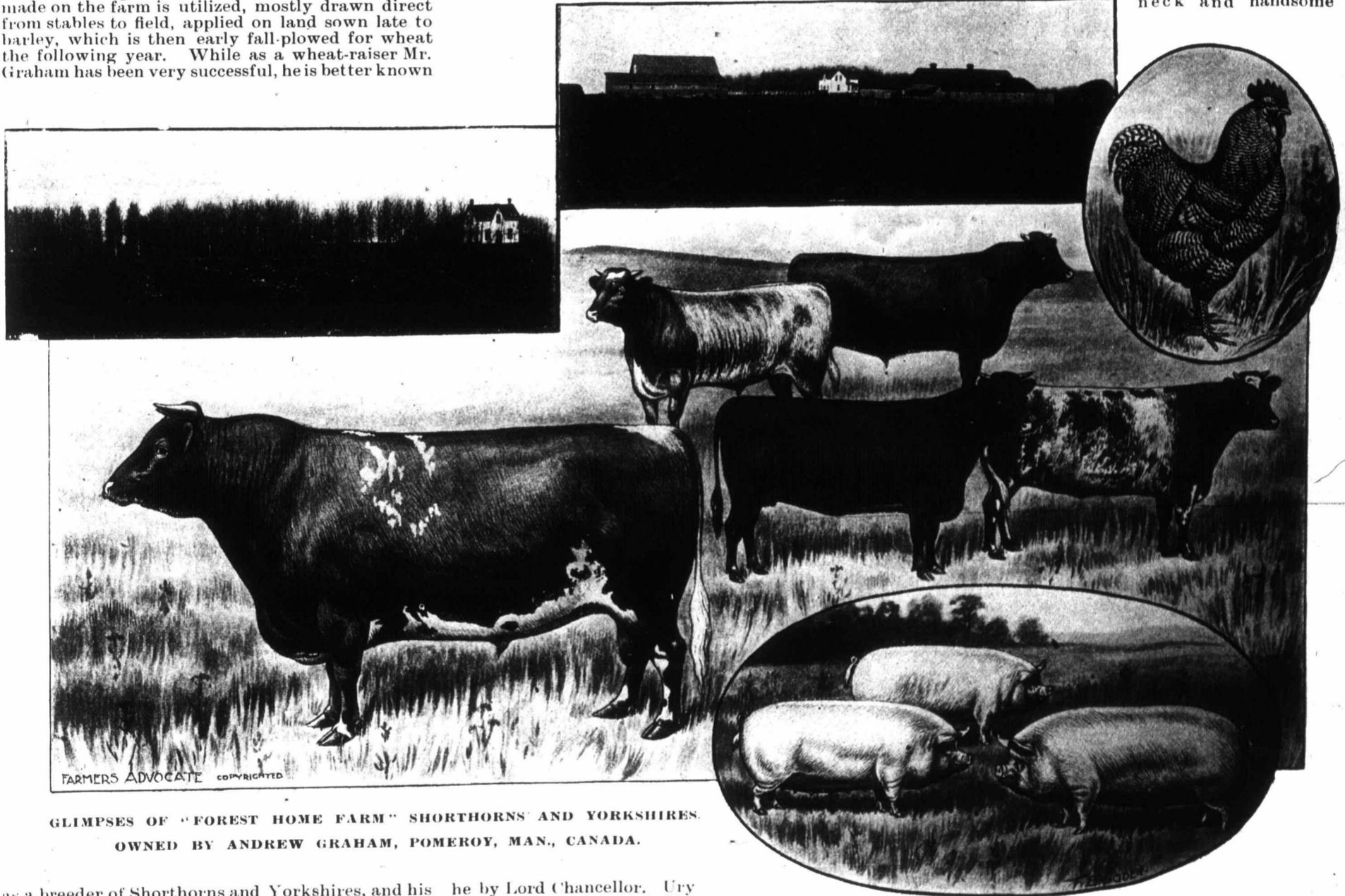
Forest Home Stock Farm.

Right in the heart of one of the best wheat sections of this continent, midway between Carman and Roland, lies the 800-acre farm of Andrew Graham, Pomeroy. Within sight of the Pembina Mountains, and stretching from the Boyne River in the north, away to the Pembina River on the south, is a high plain of rich, warm soil, unsurpassed in productiveness, and perhaps unequalled for the quality of its wheat. The district is well drained by a succession of creeks that rise at the foot of the mountains, wind eastward across this fertile plain, and lose themselves in the marsh lands that lie between this and the Red River.

It is some twenty-two or twenty-three years ago since Mr. Graham, landing in Manitoba from his native county, Northumberland, Ont., with but little worldly goods except what was on his back, sought out this promised land and homesteaded on the site of his present farm. The acreage has, however, been extended from time to time, till now it includes 800 as fine acres as the sun smiles on. Six hundred and eighty acres are under cultivation, including 100 seeded down to grass, about equally divided between native rye grass and timothy. About 250 acres are devoted to wheat, and the balance to oats and barley. Some flax, corn and roots are also grown. All the manure that can be made on the farm is utilized, mostly drawn direct from stables to field, applied on land sown late to barley, which is then early fall-plowed for wheat the following year. While as a wheat-raiser Mr. Graham has been very successful, he is better known

shank bull, Duke of Lavender, a rich, red cow of great substance and character, smooth and thick, and the pedigree is undoubtedly one of the oldest and best in the herdbooks. Missie Morton, a smooth, thick-fleshed red, by the imported Indian Chief. This cow stood 3rd in the aged class in '97, at the Winnipeg Industrial. Rose of Autumn 18th, by Lord Stanley, the famous white bull that won such distinguished honors at the Chicago World's Fair, and contributed so largely to the success of his breeders, Messrs. J. & W. Russell. Rose of Autumn 17th, by Scarlet Velvet, dam by Stanley, the sire of Lord Stanley. Necklace 21st, bred by Jas. I. Davidson, and sired by Sittyton Chief. She is the dam of one of the best yearling show heifers, the 2nd prize winner at the last Industrial. Dufferin Lil, by the Indian Chief bull, Chief Barrow, is one of the most successful breeders in the herd. She traces back to the good old Canadian Lily family. There are also two daughters of the Nonpareil bull, imported Royal Member, the head of the Cargill herd; and one of the best show heifers is by Golden Royal, by Golden Robe, from the herd of Capt. Robson. The most recent additions to the herd have been the imported Myrtle 3rd =24834=, a smooth, low-set, thick-fleshed cow that had been a prizewinner in Scotland; she is by Royal Blossom,

Manitoba Chief heifers he seems to nick most satisfactorily. He stood second in the 3-year-old class at Winnipeg in '99; 1st prize with get in 1900; 2nd prize bull in open class in 1900 at Winnipeg; and 1st in Brandon in both cases, turning down a previous sweepstakes winner. Robbie O'Day's breeding is of the best: by imp. Prime Minister =15280=, bred by Wm. Duthie, sired by the Cruickshank bull, Chesterfield, grandsire Field Marshal (for years used in the Queen's herd), great-grand sire Heir of Englishman, one of the best bulls ever used at Upper Mill. His dam was Marigold, by Challenge, bred by J. & W. Watt, from their famous Matchless tribe, bred by Amos Cruickshank. His sire was Bampton Hero, by Royal Bampton. Last spring, was selected from the Cargill herd the young bull, Veracity =31449=, and he is now being used on some of the Robbie O'Day heifers. He is by the imported Augusta bull, Knuckle Duster, out of Beauty 16th (imported), by Challenge, he by Beau Ideal, out of Countess 7th, by a son of Gravesend. The Beauty family is richly bred, with Duthie's Lord Ythan and Cruickshank's Albert and Gravesend next in succession after Challenge. Veracity will be remembered as the first-prize calf at the Winnipeg Industrial last July. He is a nice roan, deep-bodied, broad-backed, smooth and thickly-fleshed on back, loins and thighs, with good neck and handsome



GLIMPSES OF "FOREST HOME FARM" SHORTHORNS AND YORKSHIRES. OWNED BY ANDREW GRAHAM, POMEROY, MAN., CANADA.

as a breeder of Shorthorns and Yorkshires, and his successes with these popular breeds have been most marked. The Yorkshire herd, the foundation of which was laid deep in the best blood of the breed, now numbers about 40 head. New blood is frequently introduced by careful selections from the best herds of Ontario, the constant aim being to produce a smooth, typical bacon hog, combined with easy-feeding and early-maturing qualities. Frequently the most coveted prizes at the Winnipeg Industrial and other leading fairs have been awarded to animals bred at Forest Home, which, together with the demand created for stock hogs from this herd, attests to the high standard that has been attained. To individualize were invidious: it is but scant justice, however, to mention the stock hog, Summer Hill Premier, purchased from D. C. Flatt, and bred by Sanders Sencer, of Hants, England: a lengthy, smooth-shouldered, typical hog, standing well on good feet and legs. Second in service is the young boar, General Buller, bred by R. Honey, Warkworth, Ont., a remarkably smooth, lengthy youngster, full of quality.

A select flock of Barred Plymouth Rock fowls is always kept up to a high standard. Only one breed being kept on the farm, there is no danger of mixing, and unlimited exercise can at all times be given, which contributes so much to the vigor and usefulness of fowls.

The Shorthorn herd at Forest Home now numbers 50 head, including 30 breeding females and 8 or 10 bulls of different ages. Of the females making up the herd, we can but enumerate a few: Canadian Duchess of Gloster 11st, by the celebrated Cruick-

he by Lord Chancellor. Ury Girl 5th, the 2nd prize heifer calf at the Industrial, sired by imported Knuckle Duster, an Augusta bull of the richest breeding. Ury Girl is out of imp. Ury of Greenwood, bred by Campbell, of Kinellar, sired by the famous Brawith Bud bull, Gravesend, used with such marked success at Kinellar and Collynie.

In the showing the Forest Home entries have been conspicuous winners in the younger classes with home-bred animals, and that the sires used have contributed largely to this success goes without saying, when their breeding and character is recalled. Manitoba Chief 20011 was largely and very successfully used. He was by imported Indian Chief, the sire of almost innumerable prizewinners and herd-heads, and one of the most successful sires ever brought to America from Cruickshank's Sittyton herd. The dam of Manitoba Chief was Heliotrope 4th, by the Booth bull, imported Sir Lewis, out of the imported Heliotrope, a show cow of great celebrity, repeatedly a sweepstakes winner at leading fairs. Manitoba Chief was not a large bull, but very smooth, evenly-fleshed and low set: his get, 4 calves, won 1st at Winnipeg in '99, also furnished the 1st prize young herd in '99, and the 2nd prize young herd in 1900, given by the Dominion Shorthorn Breeders' Association. To succeed Manitoba Chief, Mr. Graham selected in Robbie O'Day 22872, a bull of different type, big and massive, with majestic carriage, grand head, and deep, broad fore quarters, well sprung rib, broad back, and smoothly turned quarters, and upon

head and horn, with every promise, in fact, of being a royally good bull and sire. In the accompanying illustration of Forest Home Stock Farm, the comfortable frame house is nicely sheltered by the large grove of poplar, ash and native maple, which were planted years ago by Mr. Graham. The stables and piggery are also shown; they are not pretentious, but convenient and comfortable. The stock bull, Robbie O'Day, occupies a prominent position, and the group of young things include the roan yearling bull, Veracity; the roan heifer, Ury Girl 5th; the red yearling bull, Pomeroy Favorite, bred at Forest Home, and first-prize winner at the Winnipeg Industrial; and the red heifer, Princess, also home-bred, and third-prize yearling at the Winnipeg Industrial. A group of Yorkshires and a Plymouth Rock cockerel also adorn the half-page engraving.

A POINT OF RESEMBLANCE. It is said of Hon. David McKeen—wealthy, shrewd in business, and possessing a fund of humor of the Scotch assortment—that on one occasion, while seated in a barber's chair, at Halifax, N. S., a garrulous and rather inconsequential acquaintance entered, and after some preliminary chatter exclaimed: "Why, Senator, your head is exactly the same shape as mine!" "Only on the outside," drawled the Senator.

The Trout Creek Shorthorn Herd of To-day.

The statement that the Shorthorn herd of Mr. W. D. Flatt, of Hamilton, Ontario, to-day is stronger in numbers and up to even a higher standard of individual merit, quality and breeding than before his great auction sale at Chicago in August last, may need some explanation to make it credible. On that occasion, some 50 head, quite one-half of the herd, including many of the best, and most of those which were in condition to sell to advantage on short notice, were disposed of at the record average price realized at a Shorthorn sale in America in the last 20 years, making over \$800 a head, the buyers naming the price. There were at that time in the neighborhood of 50 head, old and young, left on the Trout Creek Farm, while in quarantine at Quebec was an importation of 26 choicely-bred young cows and heifers, carefully selected by a competent judge from herds of high repute in Scotland, and in calf or nursing calves by notable sires. In September last, Mr. Flatt personally visited Great Britain, spending nearly two months inspecting the best herds and attending the principal autumn sales, with the result that early in November was landed at Quebec by long odds the most valuable importation he has yet made, consisting of 38 head, seven of which are bulls and thirty-one females, which, together with those already on the farm, makes the number in the herd at present figure up to over 100 head.

A brief review of some of the animals now in quarantine will serve to justify the claim that the character of the herd is higher to-day than at any former period. At the Duthie-Marr sale of bull calves, in October, Mr. Flatt secured, at a bid of \$1,500, in competition with Mr. Beck, agent for the Prince of Wales, the roan *Silver Mist*, the third highest priced of the Collynie contingent, and by many breeders present considered the first choice of the day's offerings. To Mr. Flatt's bid also fell *Wanderer's Lust*, son of that grand old Sittyton-bred sire, who was used with signal success in the Uppermill herd for many years, and out of *Missie 14th*, of the favorite family of that name, originated and perpetuated in the same herd, and holding a pre-eminent position in respect of individual excellence, as well as in producing probably more high-class prizewinning and breeding bulls than any other of the present day. From Mr. Duthie's offering was also secured the red *Heir of Fame*, a son of *Heiress*, one of the best of the cows at Collynie, a first-prize winner at Aberdeen, Keith and Elgin, her daughter, Hawthorn, having won 1st and the Shorthorn Society's £10 prize as one of a pair in the milk test at Aberdeen. He was sired by Mr. Duthie's *Pride of Fame*, and is a thick, massive young bull of great promise.

In addition to these, there is included in this importation two other high-class bulls, one of which is Col. Murray's *Consul*, first-prize winner as a yearling this year at Edinburgh, first and the championship at the Provincial Union and at Crief, and second at the Highland Society's Show, where he was general favorite for first place. He is a roan, calved in February, 1899, bred by Mr. Fletcher, of Rosehaugh, from the Kinellar-Caret tribe, and his sire, *Watchword*, bred by Mr. Duthie, and whose dam is a *Wimple*, was got by Scottish Archer, and won 1st honors at the Highland in 1895 and in 1896, and his son, *Watchfire*, 1st at the Highland in 1897. The dam of *Consul*, *Lady Concertina*, is a daughter of the Cruickshank bull, *Merlin*, by Cumberland, and is considered one of the best breeding cows in Britain, and as an individual has few superiors. It was only through the intervention and diplomacy of Mr. Duthie and other influential friends that Col. Murray's factor could be induced to name a price on this bull, and he comes to Canada at the highest price paid for a bull for this country in the last 20 years. The other bull referred to, *Speculator*, a white bull, bred by Mr. Hosken, born in July, 1898, that has been shown with good success in England this year, a remarkably smooth-fleshed animal, showing fine character, comes of a prizewinning family, his sire, *Treforest 63452*, shown on 16 different occasions, having won 12 firsts, 4 championships, a silver cup, and 3 seconds. He is the sire of the young bull, *New Year's Gift*, that was awarded 1st at the Royal this year, and 1st at the Bath & West, and was sold for \$2,700. The dam of *Speculator* won 1st at the Royal, Cornwall, and her son, *Excelsior*, won 1st at many shows in England. With these five bulls, and the sturdy and symmetrical roan yearling, *Lord Banff*, now in service at Trout Creek, a son of Mr. Bruce's Royal Northern winner, *Cap-a-Pie*, and of the Kinellar cow, *Roan Bessie*, by Sittyton Sort, the herd will surely be well provided with breeding bulls of the best class.

Among the females in the consignment in quarantine are 11 choice young heifers from the famous Collynie herd of Mr. Duthie, and the three fine *Missie* cows, *13th*, *15th*, and *17th*, the latter the dam of *Wanderer's Lust*, a massive cow and a good breeder, and the other two red cows, four and seven years, respectively, a credit to the family and the breed. There is also included *Empress 14th*, a red 3-year-old cow, that was 1st in her class at the Royal Show at York this year, and was the reserve number for the female championship. She is, in Mr. Flatt's judgment, the best Shorthorn he saw in Great Britain. There is also the roan yearling, *Lady Waterloo B 2nd*, winner of second prize at the

Royal this year, a model of the up-to-date Shorthorn, and *Ascol Mayflower*, the fifth-prize yearling at the Royal, a daughter of *Mayflower 4th*, sold at Mr. Flatt's August sale in Chicago for \$2,050. Also, the roan 6-year-old, *Mayflower 3rd*, winner of numerous prizes, a valuable breeding cow, being the dam of *Mayflower 5th*, sold at the Chicago sale for \$2,600. Time and space fail us, to tell of the many good things in the home herd and of their approved breeding, but among them the following imported females, which are individually as good as their pedigrees, may be taken as samples of their several families and of an exceptionally strong herd: *Golden Day 5th*, a dark roan 3-year-old Brawith Bud, a daughter of Captain Ripley, a Marr-bred bull of the Roan Lady tribe, by the Sittyton Cicely bull, Captain of the Guard, with a promising 9-months bull to her credit, sired by Scottish Fancy; *Golden Drop 9th*, a red 7-year-old cow of the great Golden Drop family of Kinellar breeding, and her sire and grandsire the well-known Cruickshank bulls, Sittyton Sort and Gravesend; *Goldie 4th*, bred at Uppermill, from the well-known family of that name, and having for sire and grandsire the Duthie-bred *Golden Ray* and *William of Orange*, and at 3 years old having a choice 8-months heifer calf that is a credit to her; *Butterine*, a roan 6-year-old Kilblean Beauty, by the Marr-bred Merry Mason by *William of Orange*, and her dam by *Touchstone*, sire of the Highland Society champion, *Corner Stone*; *Victoria 6th*, of the Cruickshank tribe of that name, by the Sittyton sire, *Sergeant-at-Arms*; *Village Maid 3rd*, a roan 2-year-old, by Captain Ripley, and her dam by *Master of the Ceremonies*, and *Village Maid 16th*, of the same family, by the Marr-bred *Prince Frolic*, dam by Royal Heir, also bred at Uppermill; *Pauline 5th*, a Princess Royal, by Proud Duke, of Mr. Marr's breeding; *Modia*, a roan 5-year-old, of Bruce's Heatherwick-Mayflower sort, whose 10-months bull



W. D. FLATT.

calf sold at the Chicago sale for \$1,050; *Proud Amaranth*, a roan 5-year-old cow, bred at Collynie, of Mr. Cruickshank's Azalea tribe, and sired by Mr. Duthie's Highland Society champion, *Pride of the Morning*, of the Cruickshank Clipper clan; *Lancaster Fame* and *Lady Alice*, of that choice family so prized at Sittyton, the former sired by Mr. Marr's *Melampus*, by the Cruickshank High Commissioner, and the latter by *Coldstream*, bred by Mr. Cruickshank; *Jealous Girl*, bred by Mr. Duthie and sired by *Bapton Conqueror*, bought for Collynie and sold to South America for a big price. Her granddam was the dam of Mr. Cochrane's *Joy of Morning*, bought at Duthie's sale last year at 300 guineas by Mr. Marr, and sold at a substantial advance to come to Canada. Among the heifers at Trout Creek are the roan yearlings, *Proud Avenir 2nd* and *Sittyton Lavender*, by *Silver Plate*; *Proud Rosette*, by *Pride of Morning*; *Rosebush*, a Roan Lady, by *Lovat Champion*; *Rosebush*, by *Topman*; *Scotland's Sunshine*, by *Bapton Conqueror*; *Scottish Fairy* and *Scottish Molly*, by *Scottish Champion*; *Sweet Briar*, by *Golden Robin*, and *Sweet Violet*, by *Solferino*, a son of *Marengo*.

Among the promising young bulls in the herd are *Ruddington Star*, a smooth, red yearling, by *Best of Archers*; dam by the famous *Star of Morning*, and of the *Miss Ramsden* family, which produced the \$6,000 bull, *Brave Archer*, and many more noted ones. *Rosy Lad*, a roan 9-months son of *Solferino* and of *Rosebush*, of Mr. Bruce's *Rosewood* tribe, is another very evenly-balanced bull of fine form, character and quality. There are a number of excellent young imported and home-bred bulls, about a year old or nearing that age, which are held for sale, together with a portion of the females in the herd, the object being to retain a regular breeding herd, in which at least three of the recently-imported bulls will be reserved for

service, and the surplus of both sexes disposed of to meet the demands of customers. Mr. Flatt, by his enterprising ventures in importing high-class stock, by paying liberal prices and holding successful sales, has done at least as much as any other man in the business in the last few years to raise the standard of quality of stock in Canada, as well as the standard of prices, and in this respect has proved a public benefactor.

Some Notes on Cattle Values from 1866 to 1880.

BY J. G. DAVIDSON.

Among those who have witnessed the extraordinary expansion in the cattle trade during the period above mentioned, there are few indeed who cherish the hope of ever seeing a return of that glorious time. The year 1866 may be taken as a starting point, for the reason that the country had just passed through the outbreak of the Russian cattle plague, or rinderpest, which, thanks to the prompt measures taken by landlords and tenants, had been stopped in its career of destruction, and the country awakened to fresh life in everything connected with the live stock of the farm. The natural result of this was an immediate advance in the price of live-stock products, and beef in the London meat market reached the high-water mark of 7s. 6d. per stone of eight pounds in the second week of June, 1872. Next year the record-making sale of Shorthorns at New York Mills, culminating in the extraordinary price of \$40,000 being paid for a Duchess, made the Bates breeders jubilant, and well might they claim the year as their own. In 1875 the Wm. Torr dispersion, with an average of £510 19s. for 81 animals, gave almost as much delight to the "Booth" men. Moreover, during these years Mr. Wm. Linton, Sheriff Hutton, with his renowned "Sowerby" and prize "Ingram" strains, carried all before him in the National Show Yards. Mr. Robert Bruce Newton of Struthers, as he then was, showed the famous Lord Irwin 29123 at the Highland as far north as Inverness, and the writer well remembers the excitement caused by the great white bull among the younger stock-loving men. Sir Arthur Ingram 32490 was no doubt a better bull in some respects than his grand stable companion, but Lord Irwin had the most votes, although we understand his eminent and popular breeder preferred the roan. Be this as it may, however, it was all "Sheriff Hutton" in those days, and Mr. Linton could afford to give us our choice. "Beau Benedict" 42769, also from Sheriff Hutton, was very much prized by Mr. Thomson, of Inglewood, who had the Sowerby as one of his choice families, and whose herd has perhaps attained the highest standard of any since the palmy days of Townley and Warlaby. Our own Mr. Linton and his father had bred the "Sowerbys" for a longer period, perhaps, than any other breeder. Of course, the Booths have owned the "Ribys" and the "Brights" longer, but not in one unbroken line. They passed into the hands of the late Wm. Torr, and were bought back, twelve of them, for £12,000.

Mr. Amos Cruickshank had about finished his great life-work, which Duthie, Marr and Deane Willis were to take up and continue to its present (almost) invincible position in the Shorthorn world. Ireland, too, had been doing great work in the development of the cattle industry. The late Mr. Talbot Crosby had begun to breed Shorthorns as early as 1838, and in 1861 he purchased the Booth cow, *Lady Camilla*, calved in 1853, by Norfolk 9442. This fine breeder became the fountness of the splendid *Isabella* tribe, which is now probably the purest of the breed in the kingdom. There were at Ardferret, besides the *Isabellas*, the old *Alesby*, *Riby* and *Flower* strains, and a few tracing to the late Mr. Welsted's *Duchess* family. Mr. Talbot Crosby's method of breeding and feeding was the result of great thought and care on his part, and he spared neither time nor money to complete the task he set before himself, namely, the improvement of the stock of his country. He saw the mistake of selling to the ordinary farmer a pampered or delicately-brought-up animal, no matter how well bred he happened to be, and he decided on raising his stock in such a natural and simple way that the buyers had no difficulty in keeping them "thrifty" on the ordinary fare and attention given on the farm; and, moreover, he sold them at prices within the reach of all. From my own knowledge of the great good done by him in this way, I have always looked on the late Mr. Crosby in the light of a national benefactor. May his mantle fall upon many others, so that throughout the Empire, of which this fair Dominion now forms so conspicuous a part, live-stock husbandry will, with the opening of the 20th century, enter upon its brightest era.

A MEAT-EATING POPULATION.—Dr. William Elliot Griffiths, in a recent article on Japan, speaks of the rapid growth of its already overcrowded population, and adds that the Japanese, who have heretofore been largely vegetarians, are now beginning to eat a good deal of meat. A meat-eating population makes greater demands upon the land of a country than does a nation of vegetarians. A piece of beefsteak represents the growth of an animal during many months in which it has been eating grass and other crops from a wide range of territory.

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GROUP OF SHORTHORNS, DIRECT FROM PHOTOGRAPHS, IN THE HERD OF W. D. FLATT, HAMILTON, ONT., CANADA.

FARMER'S ADVOCATE

Ayrshires at Rapids Farm.

There is nothing to risk in the statement that the largest herd of up-to-date imported Ayrshire cattle on this continent is found on the fine farm of Mr. William Watson Ogilvie, opposite the famous Lachine Rapids, six miles from the City of Montreal. The records will vouch for the correctness of the claim as regards numbers, and the prize lists at the leading exhibitions in Ontario in this year of grace amply testify to the character of the cattle, selections from which, for the first time, were placed in competition at the great shows at Toronto, London, and Ottawa, where the rivalry in this class is keener than in any other place in America, winning, besides a large proportion of the first prizes in the class, the first prize for the best herd of one bull and four females, at all three of the above shows, and the championships for best female at London and Ottawa.

Three years ago the competent farm manager, Mr. Robert Hunter, who from long experience as a breeder of Ayrshires on his own farm, now con-

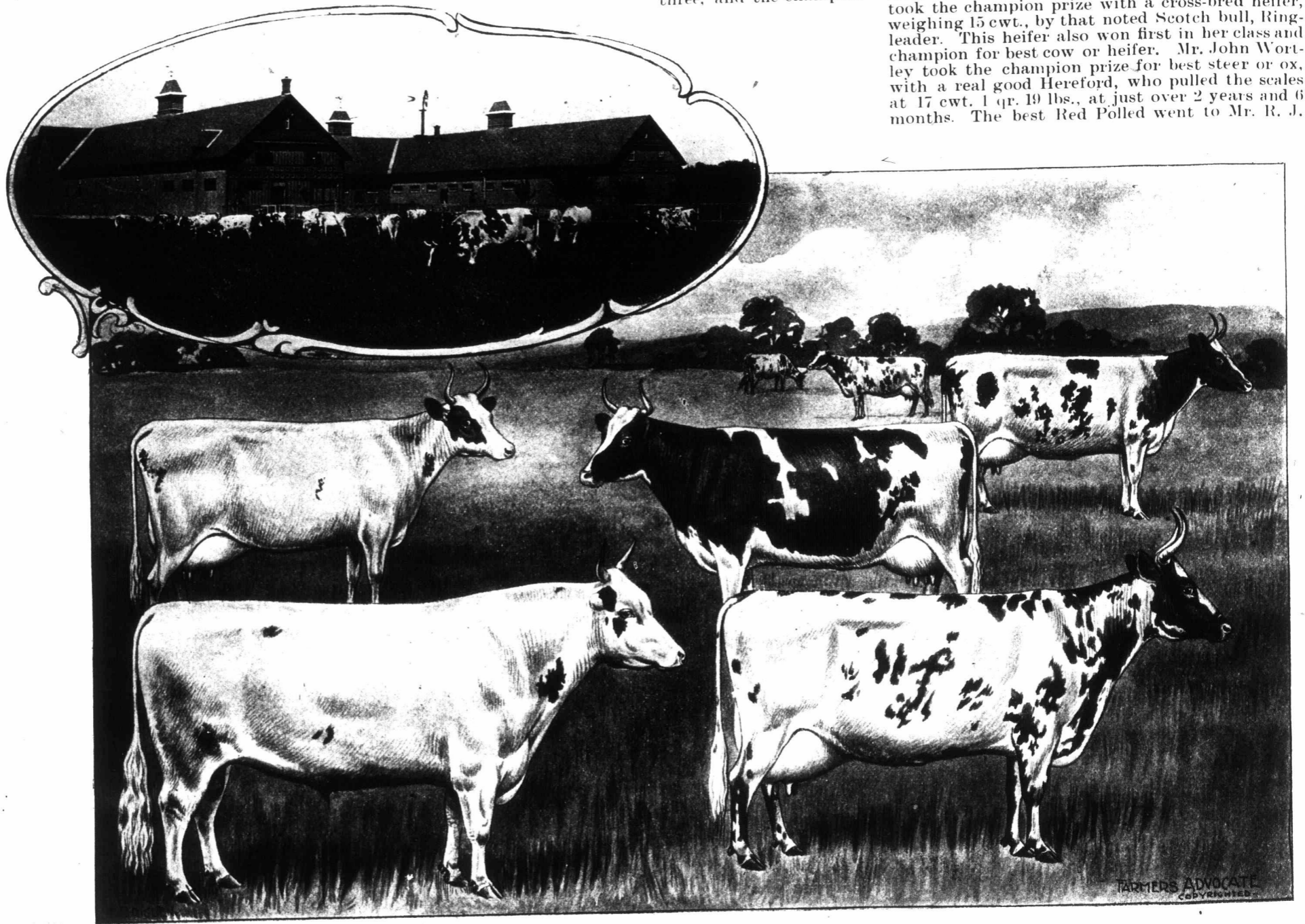
ducted by his son, is acknowledged to be one of the best judges in Canada, visited Scotland and made selections of thirty three-year-old cows in calf, and the choice two-year old bull, Comrade of Garlaff, bred by Mr. Wardrope. In that importation came, amongst other good things, the charming young cow, *Edith of Lesnessock*, bred by Mr. Robert Montgomery, and sired by Royal McGregor. She is a model of the modern type of an Ayrshire cow, in head and horns, in style and carriage, in conformation and quality, while she carries the orthodox form of udder, well balanced fore and aft, wide and level on the sole, and with fair sized teats properly placed. She was clearly the favorite cow on the fair circuit this year, and was awarded first prize and sweepstakes as best female at London and Ottawa, and second prize at Toronto, being defeated there only by a fresh calved cow with abnormally distended udder. That Comrade has proved a successful sire is shown by the success of his progeny in winning six prizes in the class and the first prize for herd under two years.

In the spring of the present year, Mr. Hunter and two of his sons again visited Scotland, attend the spring sales and shows, and selecting sixteen head of high class Ayrshires, including the grand three-year-old bull *Douglasdale*, bred by Mr. Kelkinley, of Hillhouse, and sired by Douglas Chief by Cock-a-Bendie, dam snowdrop of Hillhouse, Douglasdale won as a yearling first at Glasgow, Dumbarton and seven other shows. As a two-year-old, was first at Glasgow and champion at Dumbarton and Sterling. As a three-year-old, first and champion, the silver cup and medal at Glasgow, first at London and Ottawa; failing only at Toronto, where he was footsore and out of condition, though he headed the first-prize herd at all three shows. Seen at home, a few weeks later, in his own box, he had regained his accustomed vigor and spirit, looking the picture of robustness and threatening to pull down the barn. He is a bull of high-class character and superior quality. Associated with him in service in the herd is the imported yearling, *Prince of Whitehill*, a young bull of first-class conformation and quality, bred by Mr. Woodbur, and sired by Prince Robert, one of the best breeding bulls in Scotland, and out of Nora 3rd of Holehouse. Amongst the females in the new importation came the sensational three-year-old cow, *Senorita of Old Gretna* (bred by Mr. Carr), whose record as a prize-winner is phenomenal, having captured in the spring shows of the present year, first at Castle Douglas, as uncalved; first at Ayr, in milk; and the Derby in a class of fifty-three, and the champion-

form, with model head and horns and a shapely udder. When she comes out to compete in a Canadian showing we want to be there to see. We should expect to see her in the short leet, if not at the head of the list. The above named cows, with Douglasdale, are illustrated in the accompanying engraving. The cows in the two importations and their produce in the herd, many of which were imported *in utero*, and the rest sired by imported bulls, form a magnificent collection of dairy cattle. The rule up to this year has been to sell only the surplus bulls, but we believe that rule has been relaxed to the extent that a few females may be disposed of, and as it is not the intention to make an exhibit at the shows every year, parties looking for first-class Ayrshires will do well to inspect the Rapids Farm herd.

Norwich Fat Stock Show.

This show, held on November 22nd and 23rd, 1900, is the first of the important Christmas shows in England, and this year's took place under very favorable conditions, there being a good entry of level merit and even quality. Mr. W. E. Leamer took the champion prize with a cross-bred heifer, weighing 15 cwt., by that noted Scotch bull, Ring-leader. This heifer also won first in her class and champion for best cow or heifer. Mr. John Wortley took the champion prize for best steer or ox, with a real good Hereford, who pulled the scales at 17 cwt. 1 qr. 19 lbs., at just over 2 years and 6 months. The best Red Polled went to Mr. R. J.



RAPIDS FARM AYRSHIRES, OWNED BY W. WATSON OGILVIE, LACHINE RAPIDS, QUEBEC, CANADA.

ship as best female any age, beating the Glasgow champion. She was considered, by common consent, the best and most popular three-year-old winner of the Derby since 1886, and could only be bought at the stiff price of \$500. Her strongest feature is the perfection of her udder and the placing of her teats, but she has fine dairy form and strength of constitution withal. She was got by the famous Peter of Whitehill, sire of probably more champions than any other bull in Scotland. The three-year-old cow, *Dandy Lass of Neithersay*, a clear winner of first prizes in a strong class all around the circuit of the fairs, was bred by the Hunters, of Foulton, and sired by Police of Knockdon. She is a comely young cow, and carries a vessel which proclaims her a big producer. *Steady Ah of Muir*, bred by Jas. Murray, and got by County Councillor, was first and champion at Cumnock in 1898, and is a cow of grand style and great capacity, with big level quarters and a model vessel, and if shown in milk would make it interesting for the best that could come up against her. *Nellie (The) Harpeuld*, bred by Hugh Todd, and sired by Blue Ribbon, has left a show record behind her, which she may repeat again if shown when fresh, having won on her native heath, as a three-year-old, first and championship at Kilmarnock and Dundonald, and as a four-year-old, first as a cow in milk and the championship at Dundonald and Irwin. She is a handsome red and white cow, of grand constitution and fine

Colman's Barbara 3rd, who at 2 years and 9 months weighed 11 cwt. 4 lbs., Mr. J. E. Platt being second.

H. R. H. the Prince of Wales took precedence in the small cattle class, and secured the cup for the best animal exhibited therein. The sheep section was a very capital one, Col. H. L. B. McCalmont, M. P., taking 1st for a pen of wethers, the three sealing 6 cwt. 1 qr. 5 lbs., the Prince of Wales being second with a pen 1 cwt lighter. Col. McCalmont led the way in the Southdown wether lamb class, winning, in addition to first in the class, the special for best pen of lambs of any breed, the champion for best pen of sheep in the show, with a grand pen of lambs, which sealed 1 cwt. 22 lbs. The Earl of Ellesmere won first in Suffolk wethers. His pen sealed 8 cwt. 3 lbs. Col. McCalmont was first in the Suffolk lamb class, with a capably-fed pen, which weighed 5 cwt. 1 qr. 1 lbs.; whilst the cross-bred pens were Oxford and Hampshire cross, the winning pen of wethers (Mr. T. Rush) weighing 8 cwt., and the winning pen of lambs (Mr. J. T. Matthews), 5 cwt. 3 qrs. 21 lbs.

THE IRISH JUDGE. A well-known Irish judge in the Insolvent Court once detected a witness kissing his thumb instead of the Book in taking the oath, and in rebuking him, sternly said: "You may think to deceive God, sir, but you won't deceive me."

The Largest Herd of Imported Shorthorns in America.

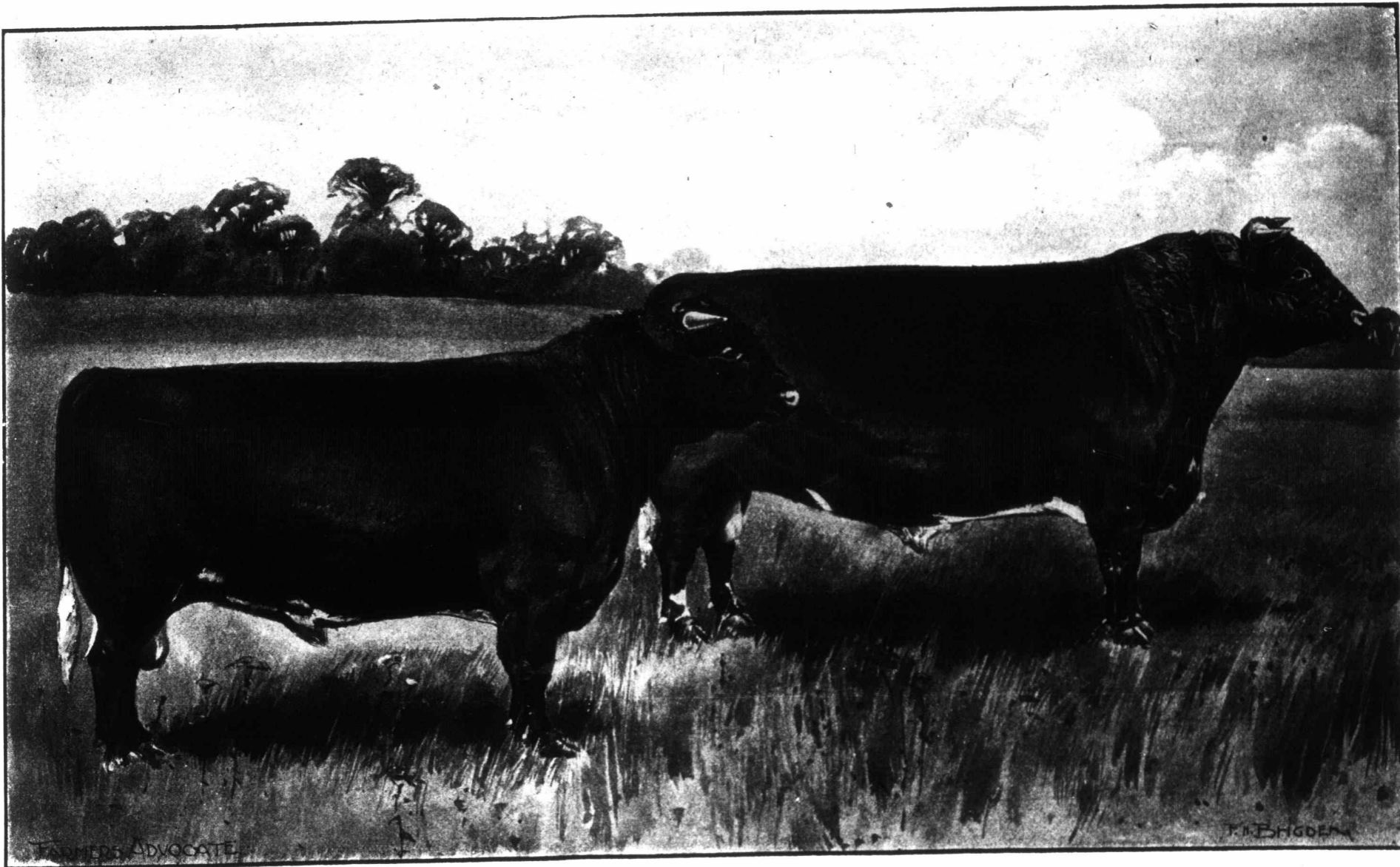
Being possessed of a large acreage of excellent farming and grazing lands, in addition to their somewhat extensive timber limits and milling operations at Cargill, and recognizing the urgent need for improvement in the breeding and quality of the beef cattle of the country, Messrs. H. Cargill & Son, having the necessary capital, determined to establish a herd of high-class Shorthorns on their farms, and to this end some fifteen years ago founded a herd upon first-class representatives of some of the best of the Aberdeenshire families, superior imported sires being solely used, and new importations made from time to time, until to-day the extensive barns at Cargill shelter a herd of within five of 150 head of high-class cattle, of which 140 are animals imported directly from Scotland, and which constitute, without question, the largest herd of imported Shorthorns on the continent of America. In this enumeration is included a number of young things which, though born in Canada, were imported *in utero*, and rank as imported animals, which, of course, makes them no better, save for the prestige that attaches to the fact of importation and the beneficial influence which the introduction of fresh blood from the fountain-head may have when distributed in a new field of operation. Sharing largely in the prevailing prosperity of

is individually a bull of extraordinary merit and the most approved type. Standing squarely on straight underpinning, he is evenly balanced, having smoothly-laid shoulders, a strong, straight back, long, level quarters, a true underline, and thick flesh, of the best quality, evenly distributed. He has strong masculine character and a vigorous constitution, and is proving an excellent sire, the few young things by him in the herd, the first of his offspring, being exceedingly promising.

In the same year's importations came the red bull, *Prince Bosquet*, born in April, 1890, bred by Mr. Marr, of Uppermill, from the Princess Royal family, and sired by the grand old Cruickshank bull, *Wanderer*, his dam by *Athabaska*, and his grandam by *Heir of Englishman*, a trinity of sires which could hardly fail to give character of a high order to their descendants. *Prince Bosquet* is a bull of prepossessing appearance, combined with substantial merit in high degree, being low-set, blocky and deep-ribbed, with handsome head and horns, straight upper and lower lines, and well-fleshed form. These two are the reserved stock bulls principally in use in the herd, but a half-dozen other imported bulls in the boxes, coming close to 2 years old, and as many more nearing a year, that were imported in dam, are of high-class character, and are held at moderate prices, the policy of the firm being to dispose of all they do not need for their own use, at a fair advance on the

land and the feed; it seemed to them that, apart from the first cost, there must be more money, as well as more pleasure, in raising calves from thoroughbred stock that would sell at \$75 to \$100 when under a year old, than grade cattle which, when fed to a finish at 3 years of age, would bring from \$50 to \$60 each, while in a first-class herd of registered cattle there are produced occasional extra good animals, which command an extra price, and that, on the whole, a well-managed herd of thoroughbreds may be made to prove a safe investment, yielding satisfactory dividends. So far such has been the result, and the country has been benefited, as we trust it will continue to be, by this distribution of superior seed stock, the effect of which will be to raise the standard of our cattle throughout the Dominion.

Nearly ninety per cent. of the trotters in America to-day trace back to Rysdyk's Hambletonian, the famous great-grandson of Imported Messenger. Messenger was "running bred," but he inherited the wonderful trotting power which in turn he conferred upon his progeny. Messenger's sons, with scarcely a single exception, became distinguished as sires of trotters; the most notable were Mambino, Bush Messenger, Bishop's Hambletonian, and Ogden's Messenger. Mambino got Abdallah, who got Hambletonian; Bishop's Hambletonian got One-Eye, who was the



PRINCE BOSQUET AND GOLDEN DROP VICTOR, Sires in the Shorthorn Herd of H. Cargill & Son, Cargill, Ont., Canada.

business and the increased demand for good Shorthorns in the last few years, Messrs. Cargill have made many sales in a quiet way, their stock being widely distributed in the United States and Canada, with the result that the original stock and their produce has been nearly all sold, and the present herd, consequently, being of recent importation, is found to be composed principally of young cows and heifers of up-to-date class and character and of uniform type, having been selected partly by the proprietors in person, and largely by Mr. Sylvester Campbell, of Kinellar, whose life experience and knowledge of Scottish herds eminently qualifies him as a judge and an agent for that class of work. Included in the importations of last year, numbering 76 in all, were twenty in-calf heifers, selected from the noted herds of Mr. Duthie, of Collynie, and Mr. Marr, of Uppermill (ten from each), which, with their produce, has added greatly to the value and character of the herd. In last year's importations was also embraced the grand young red bull, *Golden Drop Victor*, bred by Mr. Duthie, and considered by many breeders the choice of the bulls in the Duthie-Marr sale of that year, being secured only at a bid of 200 guineas (over \$1,500). He is coming 2 years old at Christmas this year, is of the favorite Golden Drop family on his dam's side, and was sired by Nonpareil Victor, of the Cruickshank Nonpareil tribe, whose sire was the Sittytton Victoria bull, Count Arthur, by Commodore. While his breeding is of the very best, *Golden Drop Victor*

cost and expenses of importation or raising, and to place them where they will do good in improving the stock of the country. The present year's importations, numbering 73 head in all up to date, are nearly all young cows and heifers in calf, including seven from Mr. Duthie's herd, and are a superior lot, of uniform quality, thick-fleshed, carrying grand coats of hair, and representing a nice variety of high-class families.

The stabling accommodation at the Cargill farms has been increased this year by the erection of another magnificent barn, the dimensions of the main building being 72x112 feet, with an annex 40x61, containing 18 box stalls, the basement being 12 feet, well ventilated, and abundantly lighted, having stall room for 55 head, which with the boxes will accommodate 125 head, old and young; while the former barn, remodelled and enlarged two years ago, will comfortably house nearly 100 head. These barns, equipped with a complete water system, furnishing water in every stall, and lighted by electricity, the lighter farm machinery also being run by electric motor, constitute the most complete farm buildings in Canada, and a genuine surprise to visitors who have not heard beforehand of the splendid appointments of this establishment, the reputation of which, owing to the natural modesty of the proprietors, has not been so widely proclaimed as its importance and merit deserve. Its genesis and growth, as explained by the senior partner, is briefly, that having the

dam of the Charles Kent mare, Hambletonian's dam; whereby Hambletonian shows a double strain of Imported Messenger blood. In 1852, when only three years old, he trotted a public trial in 2 minutes 18 seconds. He owes his fame, however, to the successes of his descendants rather than to his own achievements on the track. Dexter (2.17) was his son; Goldsmith Maid (2.14) was his granddaughter; St. Julien (2.11) was by Volunteer 55, son of Hambletonian; Jay Eye See (2.10) was by Dictator, another son of Hambletonian; Maud S. (2.08) was by Harold, Sunol (2.08) was by Electioneer, Nancy Hanks (2.04) by Happy Medium, all three of them sons of Hambletonian; and Alix (2.03) was descended from him on either side. His success as a sire did not command attention until he was nearly twenty; his harem had included all sorts of nondescript mares, but it appeared that his ability to transmit the trotting power was so remarkable that the pedigree of the mare mattered little or nothing. It is worth observing that Hambletonian was bred on his grandam's merits. Mr. Jonas Seeley, of Orange County, New York, had seen old One-Eye trot, and was so much impressed with her performance that when he found her daughter, the Charles Kent mare, he bought her, though she had been so neglected and ill-treated that he got her for a mere trifle. He put the mare to Abdallah, and in 1849 she dropped Hambletonian. The great trotting sire died on March 27th, 1870 - *Live Stock Journal*.

shapely udder, Canadian show-bred, should expect to see a head of the Douglasdale, are gravely. The their produce in bred *in utero*, form a magnificent rule up to this bulls, but we to the extent of, and as it is at the shows class Ayrshires firm herd.

HOW.

2nd and 23rd, Christmas shows were under very good entry of W. E. Leamer sired heifer, catch bull, Ring-her class and Mr. John Wort-ster or ox, killed the scales 2 years and 6 to Mr. R. J.



2 years and 9 Mr. J. E. Platt

ok precedence in the cup for the sheep section. B. McCalmont, the three of Wales being Col. McCalmont's lamb class, the special d, the champion with a grand pen lbs. The Earl of others. His pen was first in the y-fed pen, which at the cross-bred shire cross, the (Rush) weighing 8 lambs (Mr. J. T.

own Irish judge in a witness kissing taking the oath, aid: "You may won't deceive me."

Tredinnock.

THE HOME OF A GREAT HERD OF AYRSHIRES.

Directly opposite to and within less than five minutes' walk of St. Anne de Bellevue station on the Grand Trunk and Canada Pacific Railways, 21 miles west of Montreal, is situated the farm steading and summer residence of Mr. Robert Reford, who has extensive business interests in the city to which his time and attention is largely devoted, the management of the 350-acre farm and the fine herd of Ayrshire cattle being in the hands of Mr. James Boden, a model farmer and an accomplished judge of Ayrshires, the result of long experience and exceptional advantages for seeing and handling the best of the breed. The standard of excellence set up at Tredinnock calls for a combination of the cardinal principles, constitution, capacity, comeliness, and up-to-date dairy conformation in the cows that constitute the breeding and working herd. To this end, no money nor care has been spared in the selection, purchase and importation of the best that the home of the breed could supply, both in females for foundation stock and in sires of highest type and most approved breeding, and the record of the herd when selections from it have been placed in competition at the leading shows in Canada amply attest its pre-eminent excellence. This issue is largely attributable to the superior sires which have been selected for service in a long series of years in which the manager has been singularly fortunate, or, rather, successful, his selections having been based on a well-defined conception of what was required in order to produce and perpetuate his ideal type, combining utility in high degree with beauty, style and quality. The sire which has contributed most largely to this result, owing to his long term of service in the herd (being still active and useful in his 10th year), is imported Glencairn 3rd—1658—(0055), a bull of remarkable constitutional vigor, of ideal form, rich yellow skin, and soft, silky hair, qualities which he has transmitted to his offspring to a remarkable degree, as may be inferred from the fact that at the Toronto Industrial Exhibition in 1898, the last time the herd was represented at the shows, besides winning the first herd prize and male championship of the breed with imp. Napoleon of Auchenbrair—803—, the first prize for four animals the progeny of one bull and bred by the exhibitor was won with the get of Glencairn 3rd, as well as the first prize for the best four calves under one year, which were sired by Glencairn 3rd, as were also several of the single-prize winners in the class, a record which was practically repeated at other leading shows in Ontario in the same year.

Early in that year Mr. Boden visited Scotland and made selections from a number of the best Ayrshire herds, of 20 head of cattle, including high-class females and the richly-bred *Napoleon of Auchenbrair*, from the herd of Mr. Robert Wallace, a bull of large size, fine quality and true dairy type, which, besides proving a successful show bull, having an unbeaten record in his class in this country, has nicked well with the daughters of Glencairn 3rd, as well as with the older cows in the herd, as the character of the young things sired by him abundantly proves, being of uniformly similar stamp and showing great promise of future usefulness.

In the winter of the present year, another importation of 16 head, selected by Mr. Boden in person, was made, at the head of which came the grand young bull, *Lord Dudley*, illustrated in the accompanying engraving, bred by Mr. Walker, of Drumsuie, and now in his 3-year-old form. He is a son of Brown Chief of Drumsuie and of Bloomer of East Drumsuie, and is a model dairy bull, having sufficient size and masculine character, a good head and well-set horns, strong crest, smoothly-laid shoulders, fine withers, broad arms, thick through the heart, strong, wide and well-packed loins, long, level quarters, big, broad thighs, well-sprung, wide and deep ribs, exceptionally large and well-placed rudimentaries and orthodox escutcheon. Lord Dudley combines in his make-up all the essential qualifications of a show bull and all the indications of an impressive sire, which are backed by the best of breeding, and he can hardly fail to be potent in maintaining the high character of the herd at Tredinnock.

In a herd of some 75 head, all told, and among upwards of 40 first class cows and heifers, carrying model shaped milk vessels, it is impracticable to individualize to any considerable extent in the

space at command, but as representative members mention may be made of the 5-year-old *Snowdrop 1st of Fairfield Mains*, with her smoothly-laid shoulders, full heart-girth, deep ribs, big thighs, great forehead, and matchless milk mirror, proclaiming her a dairy worker of the first order. *Mayflower of Barcheskie*, one of Andrew Mitchell's own breeding, one of his best, and one that only big money could buy, in her 6-year-old shape, with stylish head and horns, a big barrel, rich skin secretions, and a splendid vessel, well balanced fore and aft. She ranks among the best of the breed. *Snowdrift of Barcheskie*, from the same source, for whom 60 guineas was paid as a yearling, is of similar stamp, wedge-shaped, and showing strong dairy characteristics. *Betsy 1st of Fairfield Mains*, one of Howie's favorites, of the style of old Nellie Osborne, the World's Fair champion, who ended her days at Tredinnock, but of finer type, is a cow of consummate dairy conformation and scores high as a worker.

Of the fine collection of three-year-old cows, brief mention only can be made of the deep-ribbed, level-quartered *Bell 1st of Fairfield Mains* and her stable companion, *White Rose*, from the same source, with phenomenal udder development and vein system, and a beautiful bull calf of great promise to her credit, sired by Royal Kely of Bonshaw, unbeaten for three years in succession as an aged bull in Scotland. *Lily and Queen Bess 5th of Barcheskie*, members of Mr. Mitchell's best strains, swinging model shaped milk vessels fed by a network of active veins, are typical representatives of the bonnie Ayrshire cow.

Among the plums of the last importation, and of the herd, is the two-year-old *Blue Bell of Hillhouse*, bred by James Howie, and considered the best heifer in Scotland when captured for Tredinnock. She is the acme of Ayrshire style, quality and finish, with a milk vessel to match, and fills the bill for a standard of perfection, while her lovely heifer calf, sired by Strongbow, unbeaten in Scotland as a two-year-old this year, promises to prove a second edition of the same style. Life and space is too short to specify further: suffice it to say that uniformity of type is a notable feature of the herd, and the descriptions given of the few fit the females fairly well as a whole, while the young bulls in stock are all suitable for heading high-class herds, being practically reprints of their peerless progenitors, the stock bulls at Tredinnock and in many of the best herds in the home land. The dairy interests of the Dominion owe much to the distribution of stock from this and kindred establishments, and we trust a contingent of show animals from this herd, and others in the same line, may be prepared to contest for honors at the Pan-American and other principal shows in the coming year, and if this hope be realized, we have no fear that Canada will have cause to blush for the comparison and the result.

getting prices that would make Canadian growers rich.

In Canada, on the other hand, peaches, pears and grapes, and indeed almost all kinds of fruit, so overload local markets that Ontario growers, for example, are almost discouraged, and the price of fruit farms has dropped in consequence.

The Hon. Sydney Fisher, Dominion Minister of Agriculture, has kindly responded to the request of the Ontario Fruit Growers' Association and other provincial societies, that experiments be made at public expense until the confidence of the individual growers could be established. The readers of the FARMER'S ADVOCATE are well aware of the three years of experimental work conducted by Prof. Robertson, by which many of the obstacles have been overcome, and it has been proved that Canadian pears and peaches would bring long prices in Great Britain, if safely landed. At first it was impossible to secure proper temperature for fruits; but last spring, upon a certain number of growers agreeing to fill certain cold-storage space, which required about four carloads, it was agreed that the temperature should be held between 34 and 38 degrees, which condition was a most important one.

Recognizing the fact that the Province of Ontario was more deeply interested in the export of tender fruits than any other, the Hon. John Dryden this year responded to our request and fitted up a special compartment on the "Manchester Trader," which he filled every sailing with choice Ontario fruit. Mr. Dryden's plan was to have this system applied from start to finish, beginning with the local storage, and including the railway refrigerator and the ocean steamer. The two latter parts of the chain were completed this season, so far as to fit up one steamer for Manchester and one G. T. R. car with Hanrahan's patent automatic refrigeration. These storage compartments have carried the fruit from Grimsby to Manchester in perfect condition, excepting a few cases of fruit which was overripe before leaving Grimsby, owing to lack of provision for storage at that point, the supply of ice being exhausted. All that is now needed is some provision for the erection of local cold-storage buildings at various fruit centers, wherever a company of fruit-growers will agree to the required condition.

We shall not trouble the readers of the ADVOCATE with any reference to the excellent success which has attended the trial export of pears and fancy apples during this and previous seasons, the latter of which have sold in Great Britain at from \$1 to \$2 per bushel, while the former have brought about the same money for half-bushel cases. But we must here say, in passing, that it is only because of the careful grading and uniform packing that these prices are obtained, for at the same time barrels of apples of ordinary grading and packing brought only very little more money than these bushels.

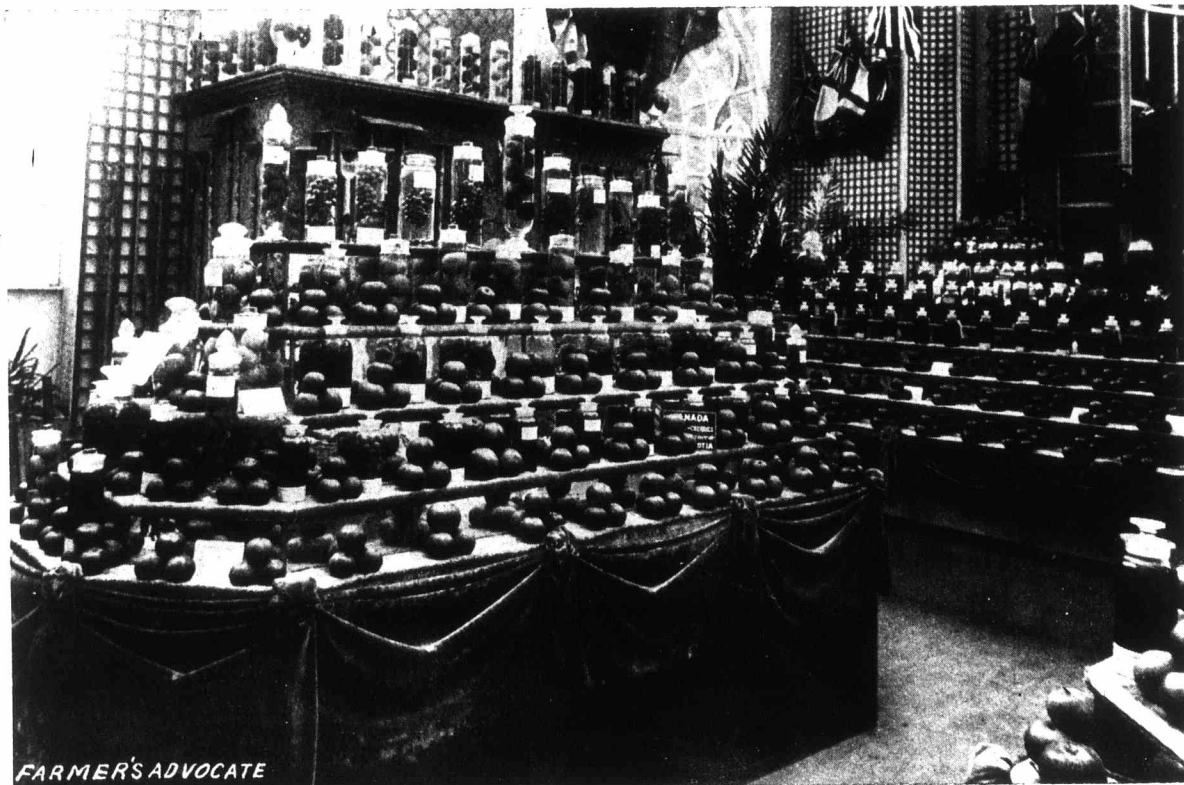
The grapes are still in the experimental stage, and we warn our readers not to attempt to export them until the market for them has become established. We believe it will be established if the Department can be induced to persevere in the work, but in the first place a large quantity must be given away, until a lively demand has been created.

Our first shipment, last fall, to Manchester, was received with great suspicion, and buyers would not bid. Our consignees then induced costermongers to take them out upon their carts and sell them on the streets. Soon a demand began to show itself, and this year the price has advanced from about 1½ cents a pound to about 4 cents a pound for red and black Rogers. Should we succeed in getting the selling price in England up to 8 or 10 cents a pound, we are sure Ontario grape-growers will be much pleased with the result: but so far the net returns give a loss in comparison with the value of these grapes in our own markets.

Our packages this year were too costly. Baskets will not be taken on shipboard, so we had

special four-pound baskets made to fit a crate, but these made the package add about 1 cent a pound to the cost of the grapes. We hope to secure a package for use in 1901 that will not cost more than ½ or ¼ of a cent for each pound of grapes.

The Liverpool *Courier* to hand records the fact that a shipment of 2,000 cases of delicious Canadian fruits reached that port a few weeks ago in a perfectly sound condition, so that there is now every hope of a gigantic trade being developed.



CANADIAN FRUIT AT THE PARIS EXPOSITION.

Our Export Trade in Fruit.

BY LINCS WOOLVERTON, SECRETARY OF THE ONTARIO FRUIT GROWERS' ASSOCIATION.

There is no subject of such vital importance to Canadian fruit-growers, from the Annapolis Valley westward, as the development of this trade. Our fruits surpass in flavor the famous California products, and take on a richer color; but by attention to the details of artistic packing, and quick and cheap transportation, California fruit-growers have been taking possession of the British market and

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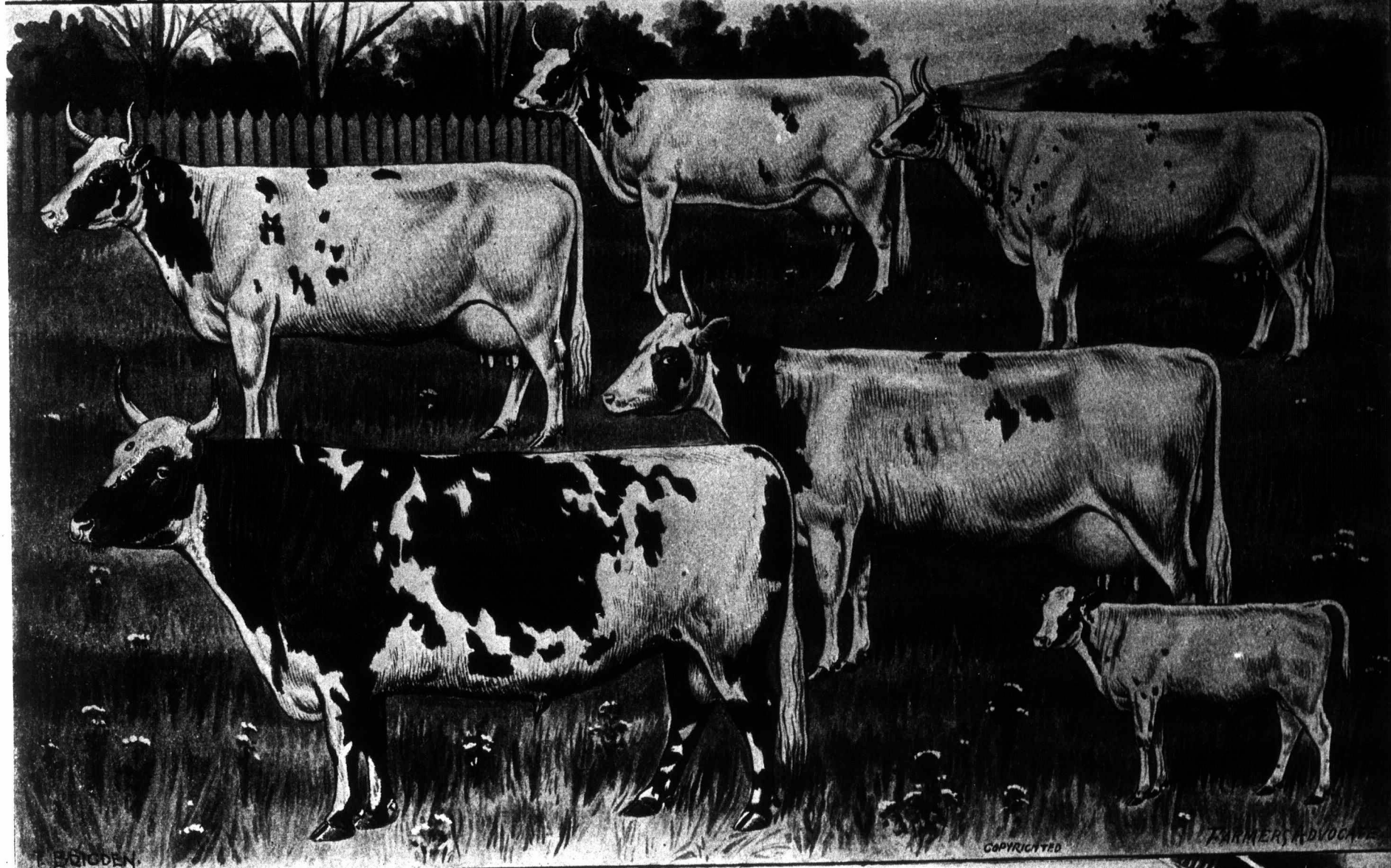
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TREDINNOCK AYRSHIRES, PROPERTY OF MR. ROBT. REFORD, ST. ANNE DE BELLEVUE, QUE., CANADA.

Huntleywood, the Home of Senator Drummond's Southdowns and Dexter-Kerries.

Prominent among the many pleasantly-situated farm homes of successful business men of the City of Montreal is that of Hon. G. A. Drummond, at Beaconsfield, a station on the Grand Trunk and Canadian Pacific Railways, 15 miles west of the city. The farm, containing about 300 acres, runs from the shore of the River St. Lawrence a mile and a half back, rising gently towards the rear, and commanding a fine view of the river and of an extensive and picturesque landscape. Over 100 acres are in permanent pasture, used largely in summer as golf links, a sport for which the Senator has a keen liking. This portion, level and smooth, and covered with a rich carpet of grass, is kept neatly trimmed by the fine flock of 250 registered Southdown sheep maintained on the farm, the largest and the best large flock of the breed in America. A large proportion of these have been imported directly from England, the home of the breed, and the balance bred directly from imported sire and dam, selected from several of the best flocks in the Old Country. High-class rams have been imported

competition with leading British breeders, and was offered a tempting advance on his cost price after the sale, but, believing that the best is none too good for Huntleywood, declined to part with such a prize. He is a model of the breed in form and type, and in quality of flesh and fleece, and will doubtless still further improve the character of the flock.

Under the able management of Mr. Wm. H. Gibson, who has had charge of the farm and flock a little over a year, a grand crop of lambs has been reared, and the flock has made its greatest record in prize-winning at prominent exhibitions, winning at the New York State Fair at Syracuse a large share of the best prizes, including the first flock prize, and at the Ohio State Fair at Columbus every first prize in the class; also, at the Canada Central Exhibition at Ottawa every first prize offered except one, which was taken by a sheep bred in the Huntleywood flock. Sales during the last six months, of single sheep, show lots and foundation stock, have been made, covering a wide area, from the sunny Southern States to British Columbia, and in every case where shown the Huntleywood Southdowns have won the bulk of the best prizes. The Southdowns continue to hold pride of place as the model mutton sheep, setting the standard of quality of flesh and fleece, of constitution and conformation, which breeders of all other varieties aim to attain to, and which has only been reached by long, careful and intelligent selection and breeding.

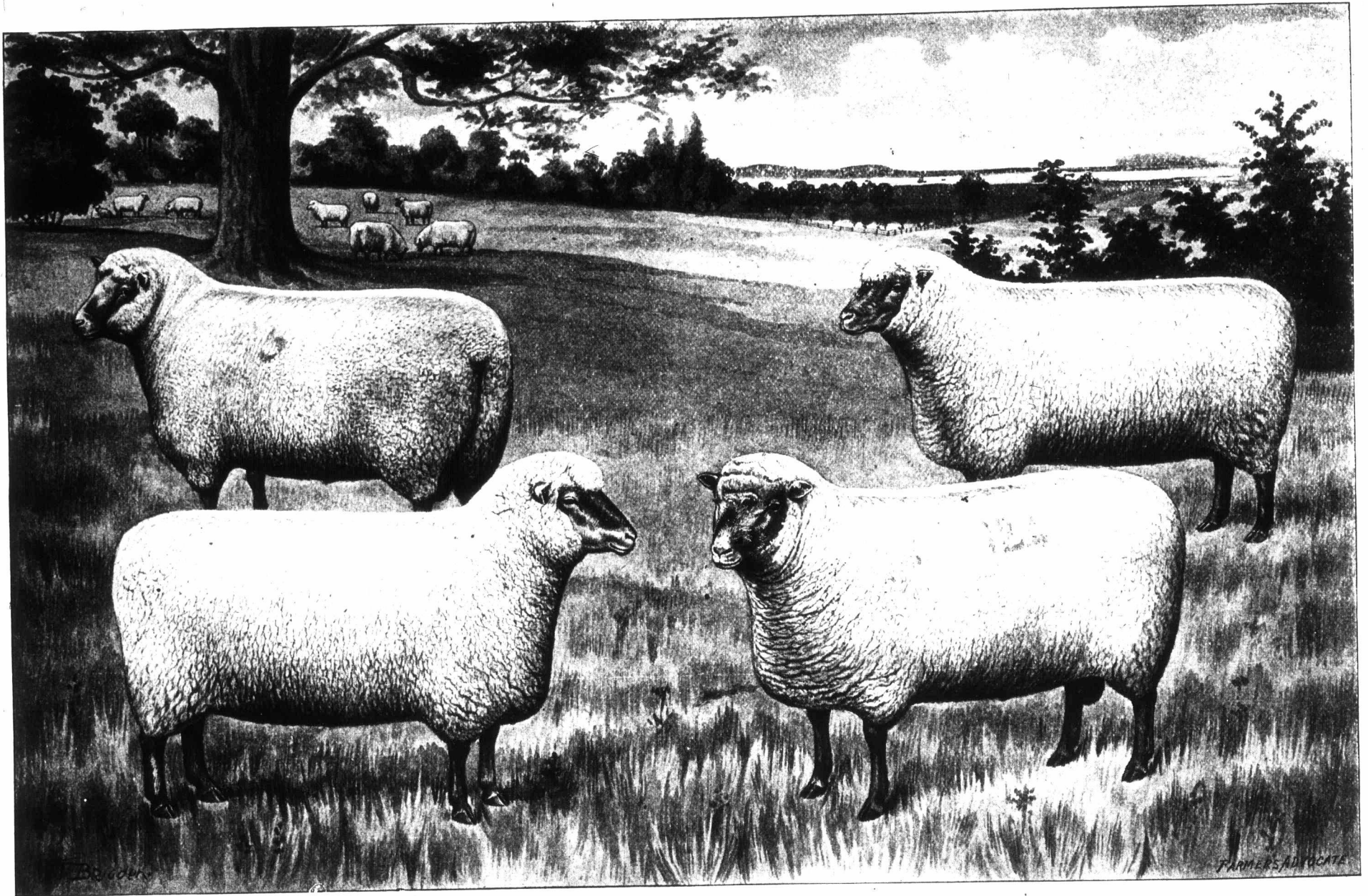
Good Outlook for Stock Farmers.

I would say that the inventions of farm machinery, enabling so much more farm produce to be put on the market by a given number of farmers, is the past century's most notable agricultural achievement. The improvement of transportation by the building of roads and railroads and steamships, and the shortening of the time necessary to mature farm animals by improved breeding, are also distinguishing features.

Looking at the steady decline in the numbers of cattle and sheep in the U. S. A. (I think about 25 per cent. in the last ten years), and the rapid increase in the population of that country, it seems as though Canada will before many years be called on to supply large quantities of meat, and perhaps dairy produce, to that country. This will bring a change in Western Canada from so much wheat-growing to more stock-raising. The opening up of large tracts of wheat land in South America and Siberia made this change more likely, although the long railroad hauls Siberia will always have to contend with makes the prospect for wheat less alarming than it would be if that country had such natural waterways as America has.

CHAS. E. IVENS.

Virden, Man.



"HUNTLEYWOOD FARM" SOUTHDOWNS, POINTE CLAIRE, QUEBEC. PROPERTY OF HON. G. A. DRUMMOND, MONTREAL, CANADA.

nearly every year, and the 125 breeding ewes are selected to mate in separate bands with sires considered the most suitable to improve the quality and character of the flock. Among the principal stock rams in use are imported *Jubilee*, bred by the Duke of Richmond, a typical representative of his famous flock, full of quality and of model conformation. He has proved a very prepotent sire, several of the prizewinners of this year's show lot being his offspring, and he has been coupled with a contingent of 15 select ewes the present season. *St. Andrew*, another grand sheep, also bred by the Duke of Richmond, has been in service in the flock for several years, and has sired many of the show sheep which have been winning at leading shows in the United States and Canada, and has this season been mated with about 10 ewes. Two elegant shearing ewes, *Patron Jack* and *Sandringham*, were imported this year, selected in person from the famous flocks of Mr. Agnew and His Royal Highness the Prince of Wales, and they have been mated with choice heads of ewes in the Huntleywood flock, after winning first-class honors at several State fairs and at the Canada Central Exhibition at Ottawa. Sandringham was one of the plums in the Prince's annual sale at the Sandringham farms last summer, where the Senator had to do some spirited bidding to secure him in

The elegant herd of Dexter-Kerry cattle, the only collection of the breed of which we have knowledge on this continent, has been increased by a fresh importation this year of young cows in calf. At the head of the herd stands the imported bull, *Bantam*, bred by the Prince of Wales, winner of the first prize and the championship of the breed at the Royal Show at Manchester, and secured by Senator Drummond at a very high price. He is a miniature Shorthorn in appearance, standing on such short legs that his brisket is within eight inches of the ground, and he is almost literally "beef to the heels." The cows, though small, in keeping with the characteristics of the breed, are essentially general-purpose cattle, making excellent beef and being heavy milkers, considering their diminutive size and the small quantity of food required to keep them. It is claimed that in individual instances these cows have yielded 1,000 gallons of milk per annum, while their average yield is from 10 to 12 quarts per day. A few sales of these cattle have been made this year, and more enquiries concerning them have been received than in any former year. Huntleywood is an interesting establishment, and we look for greater development in live stock lines at this place under the enterprising spirit of Mr. Drummond and the competent management of William Gibson.

THE LONGEST LIGHTNING ROD. Bavaria boasts that it has the longest lightning conductor in the world. It rises some yards above the top of the meteorological station on the Zugspitze, the highest point in the German Empire, and runs down the side of the mountain to the bottom of the Hollenthal, where there is running water all the year round. The length of the rod is five and a half kilometres, nearly three miles and a half.

THE IRISH POTATO. The potato does not appear to occupy the position which it held some years ago as the staple food of the rural population of Ireland. The comparative cheapness of foreign flour has done much to alter the state of things. "A bit of cake-bread and a drop of tay" will be the reply to an inquiry as to the present diet of the poorest peasantry in the country. Even the wholesome Indian meal is ousted from its position by the bread-and-tea diet. While the potato has decreased in importance as a general article of diet, it is, however, still in extensive use over a large area of the country.

Satisfied with Premium Watch.

SIR, I received my watch on the 23rd, and I am well satisfied with it. Thank you heartily for same.

EDITH KELLY.

Mountain, and all other distinct breeds, being considerably more than double the number of all other breeds, and demonstrating very conclusively that the Shropshire is a breed which is widely appreciated. The Shropshire sheep meets the requirements of the day, and by its intrinsic merits, which are of the highest order, it is constantly securing new adherents.

In the autumn of 1882, the leading Shropshire breeders formed themselves into the Shropshire Sheep Breeders' Association and Flockbook Society, and published the first record for sheep the world has ever seen. Amongst the early breeders who did much to bring the breed prominently before the public may be mentioned Mr. H. Mathews, Mr. R. H. Masfen, Mr. W. O. Foster, Mr. John Coxon, Mr. T. Horley, Mr. Thomas Horton, Mr. John Evans, Mr. Pryce W. Bowen, Messrs. J. & E. Crane, Mr. T. Mansell, Mr. J. Beach, and Mr. Fenn.

Hampshire Downs.—Authorities on the subject agree that Hampshire Downs undoubtedly owe their origin to the crossing of the old Wiltshire horned sheep and the old Berkshire Knot with the Southdowns, which were introduced into Wiltshire and Hampshire early in the present century. These crosses were made with very variable results, entirely dependent on the aims of the various farmers, some making for size, quality being to some extent sacrificed, and others taking the opposite course. The natural outcome of this divergence of object to be attained produced sheep totally dissimilar in character, in some cases the faces being dark brown, bordering on black, with ears of same color; whilst in others, speckled faces and ears were not considered objectionable. About 1845, the necessity for an improvement in the general quality and tending to make flesh became apparent, and foremost amongst the improvers in this direction was the late Mr. Humphreys, of Oak Ash, near Newbury, who may be said to have achieved great things for the breed. To him was given the instinct to perceive the results that would accrue to the Hampshire Downs by a strong dash of the largest and best-fleshed of Mr. Jonas Webb's Southdowns. Carefully tested, and the issue of the various crosses being watched and applied with marvellous ability and at great expenditure of money and time, resulted in the valuable breed known as the Hampshire Down.

Oxford Downs.—The late Mr. Charles Howard, of Biddenham, in a paper read in 1890, states that the Oxford Down was originally produced by crossing a Hampshire, and, in some instances, a Southdown ewe, but most commonly the former (for it gave increased size), with a Cotswold ram, and then putting the crosses together. Mr. Samuel Druce, of Eynsham, Oxon, is credited as being the



J. RUFUS STARR.
"Scotia Farm," Starr's Point,
N. S.

construction of a new breed of sheep that should, in a great measure, possess the weight of the Fong-wool with the quality of the Down. The breed first appeared in the Royal Showyard in a distinct class, with 62 entries, as Oxford Downs, at Battersea, in 1862.

Suffolks.—According to Mr. Ernest Prentice, the secretary of the Suffolk Sheep Society, this breed had its origin in the old Norfolk sheep, a breed of great antiquity, and described as horned, with black face and legs, an unmingled and intense black being considered as a proof of purity of blood, his authority being Arthur Young, who, in his general review of the agriculture of Suffolk, traced the breed back to 1797. Mr. Macro, one of the largest breeders in the Bury (Suffolk) district, purchased a Southdown ram from the noted Glynde flock, and the record of the flock of Suffolks now owned by Mr. Robert Burrell, of Westley, near Bury St. Edmunds, shows that it is descended from a horned Norfolk flock which was in existence in 1797, and that Southdown rams were used in the early part of this century and up to 1855; since which date only Suffolk rams have been used. This is confirmed by various other writers on the same subject. The breed was recognized in local shows in 1859, the exhibitors being Mr. G. Dobito, of Cropsey Grove; Mr. J. M. Green, of Stradishall, and Mr. Wm. Harvey, of Timworth.

Kent or Romney Marsh.—This useful variety of white-faced, hornless sheep, which for a long period has roamed the flat and bleak district of Romney Marsh, has in it, according to some authorities, a large infusion of the new Leicester blood, and it seems more than probable that this statement is beyond dispute. Amongst the early breeders, Mr. Wm. Ryden, of Symyng, and his descendants, take a foremost position.

Cotswolds.—This breed of sheep is quite one of the oldest of the recognized breeds, and is chiefly to be found in the hilly district of Gloucestershire known as the Cotswold Hills. It is claimed that, by a careful process of improvement and selection, the quality of the breed has been advanced without diminishing its size, and that for this purpose rams of the Leicester breed were introduced about the end of the last or beginning of the present century. Amongst the breeders to whom the county is indebted for the improvement of the breed may be mentioned the names of Messrs. Large, Garne, Hewer, Lane, Barton, Gillett, Walker, Fletcher, and others.

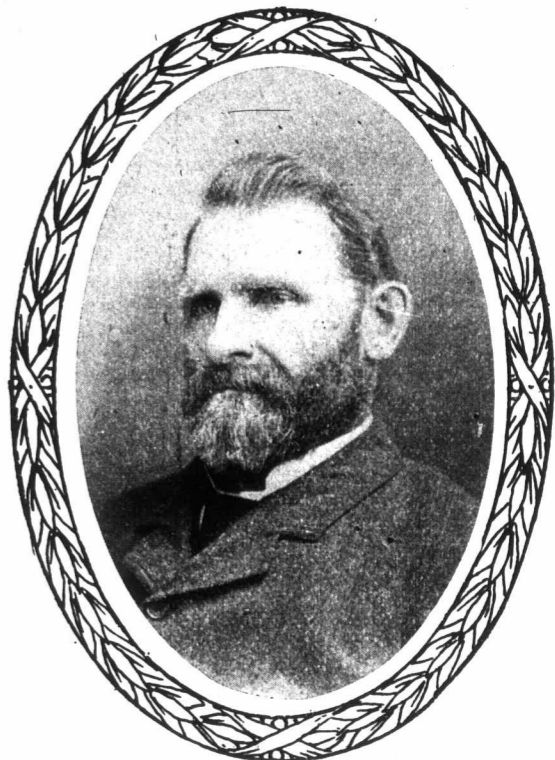
Dorset Horns.—The County of Dorset is the native home of the breed of sheep called Dorset Horns. From the high and black hills of Purbeck, on the eastern part of the Dorset coast, where these sheep roam without much restraint, to the fair and fertile vales of West Dorset, where their range has been more restricted, they have been bred from time immemorial. The original type were small sheep with dark noses, horns often curling upwards and backwards, light in their fore quarters, but very wide across their loins, and noted for their fecundity and for being good nurses for their offspring. In "Observations in Husbandry," by Edward Lisle, published in 1757 by his son, Thomas Lisle, the author, in making journeys into Dorsetshire, in the period between 1693 and the time of his death in 1772, remarked on the fecundity of the Dorset Horn sheep, saying that his tenant, Farmer Stephens, had ewes which brought him lambs at Christmas, which he sold fat to the butcher at Lady Day, Anno 1707, and, at the beginning of June, thinking his ewes to be mutton, they looked so big, he went to sell them to the butcher, who handled them and found their udders springing with milk and near lambing, and they accordingly did lamb the first week in June. William Ellis, in his Shepherd's Guide, published in 1749, describes the West Country sheep as having white faces and short legs, broad loins, and fine-curl wool, "the Dorsetshire variety being specially more careful of their young than any other." The first notable improver of Dorset Horns, by selection and breeding to a desired type, was Richard Seymour, of Bradpole, near Bridport, who succeeded so well that he had, without question, the best flock of Dorset Horns at that time. Others followed his example and still further improved the size and symmetry of their sheep. Amongst these may be mentioned the names of Matthew Paull, John Pope, John Pitfield, William Way, John Davy, John Roper, Thomas Chick, Norris Roper, Robert Hussey, and many others in West Dorset. The names of Danger, of Hunstle, and Culverwell, of Classy, in the Bridgwater district, and Bridge, of Henley, and Salter, of Coombe, in the Crewkerne district of Somerset, are still remembered. These men all helped materially in their generation to improve the breed by selling rams to other breeders, and it is probable that almost every flock of the present time is descended more or less from some or perhaps all of the flocks of these mentioned above.

Much more might be written about some of the other breeds, but space will not permit: such as, for instance, the Cheviot and the handsome Black-faced Mountain, which range the hills and lowlands of Northern England and Scotland.

The Little Herdwick, which is said to be the only breed that can find its way on the oft mist-covered mountains of Cumberland; the Roscommon, adapted to the humid climate of the Emerald Isle; and the nimble habitant of higher grounds, including the Welsh and the Dartmoor and Exmoor rams.

I desire to express my thanks to several breed

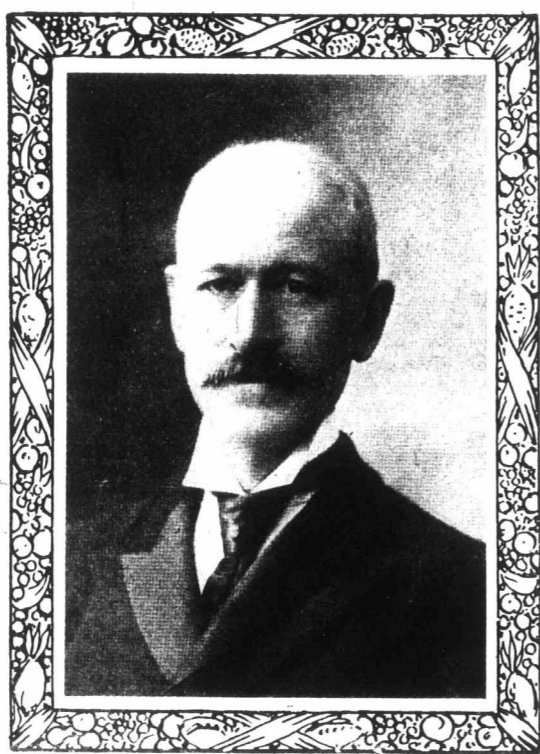
societies, secretaries and others for valuable information, which has been embodied in the foregoing, and I am also largely indebted to various writers of the present century for reliable particulars respecting the early history of many of the breeds.



A. C. WELLS.
Chilliwack, British Columbia.

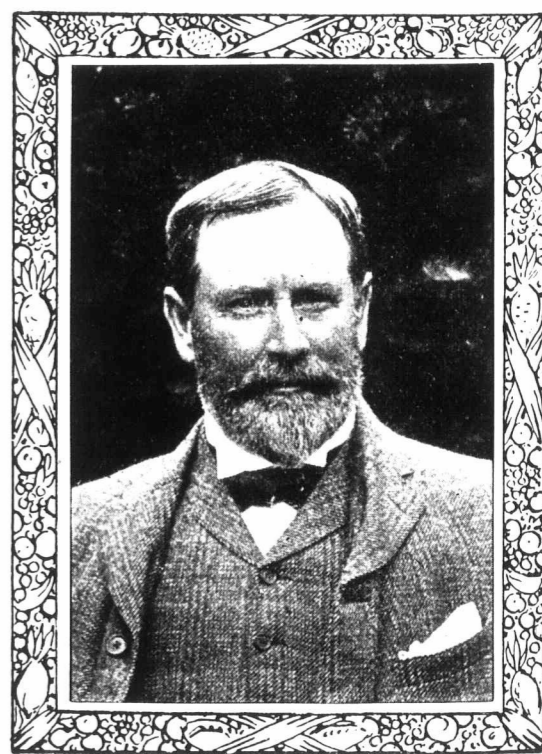
The Manor Farm Lincoln and Short-horns.

On his 230 acres of rich clay loam land, known as the Manor Farm, situated a mile and a half from Denfield, a station on the London, Huron and Bruce branch of the Grand Trunk Railway, and sixteen miles from the City of London, Mr. John T. Gibson maintains a high-class flock of about 150 registered Lincoln sheep, a large proportion of which have been imported from the fountain-head of the breed and the balance bred directly from imported stock. A stockman "to the manor born," Mr. Gibson's whole life has been associated with the breeding, care and management of pure-bred stock. Among the heirlooms of the family are found handsomely engraved silver plate won by his father for the best cultivated farm in his county in England, and by himself as a prize plowman and for championship honors in sheep of his own breeding and feeding. Among the most competent, level-headed and reliable live-stock judges in Canada is John Gibson, whose qualifications are the outgrowth of long experience and observation in the handling of high-class animals. For him, paper pedigrees and the prestige of importation have no charms, unless backed by superior individual merit. The genius of the judge is his by inheritance, by association and by experi-



HON. J. W. LONGLEY.
Attorney General of Nova Scotia.

first to make this cross, in or about the year 1831; and so late as 1853 Mr. Druce styled his Oxfords half-breeds, his contemporaries being Mr. Gillett, of Southleigh; Mr. Blake, of Stanton Harcourt, and Mr. Twynham, of Hampshire, the idea being the



HENRY DIDDING.
Lincoln sheep breeder, Ribby Grove, England.

ence. He knows a good one by intuition, and has little use for or patience with any other. Before settling upon his own farm he had many years of successful experience as manager for men of wealth who made fine stock a hobby, and for twenty years or

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more he has been known as a breeder of superior Shorthorns and Lincolns on his own account.

The Manor Farm flock of Lincolns was established twelve years ago by the purchase of a dozen in-lamb yearling ewes personally selected from the far-famed flock of Mr. Dudding, of Riby Hall, Lincolnshire, and left in England till the following spring, when they, with their lambs, making twenty-five head in all, were imported, and, together with the addition of thirty ewes imported two years later, formed the nucleus of what has grown into the largest and best flock of the breed on the American continent, measured by its success in producing prizewinners at national and international shows in the last decade, as well as in supplying sires and foundation stock for other flocks in the United States and Canada. In confirmation of this bold statement, it is only necessary to cite that at the World's Fair at Chicago in 1893 representatives of the flock carried off every first prize in the class, including the championship for best ram and for best ewe of the breed any age; while at the Trans-Mississippi Exposition at Omaha in 1898 they won every first prize but one, and both the male and female championships of the breed. For ten years in succession they have won, in addition to an average of fully two-thirds of the first prizes in the class, the first prize for the best

great trio of yearling rams which won the 1st, 2nd and 3rd prizes at the Jubilee Exhibition of the Royal Agricultural Society at Windsor in 1889. As Riby Conqueror lived to be ten years old, and was largely used as a sire during his life, one is not surprised to find a remarkable degree of uniformity of type and of high-class quality in the flock, which for size, on short legs, for robust constitution, fine quality of wool and full covering, we have never seen equalled in this country. The grand contingent of show sheep which represented the flock at the International Live Stock Show at Chicago in this month were mainly the get of Riby Conqueror, all bred by the exhibitor, and did great credit to the breeder and to Canada.

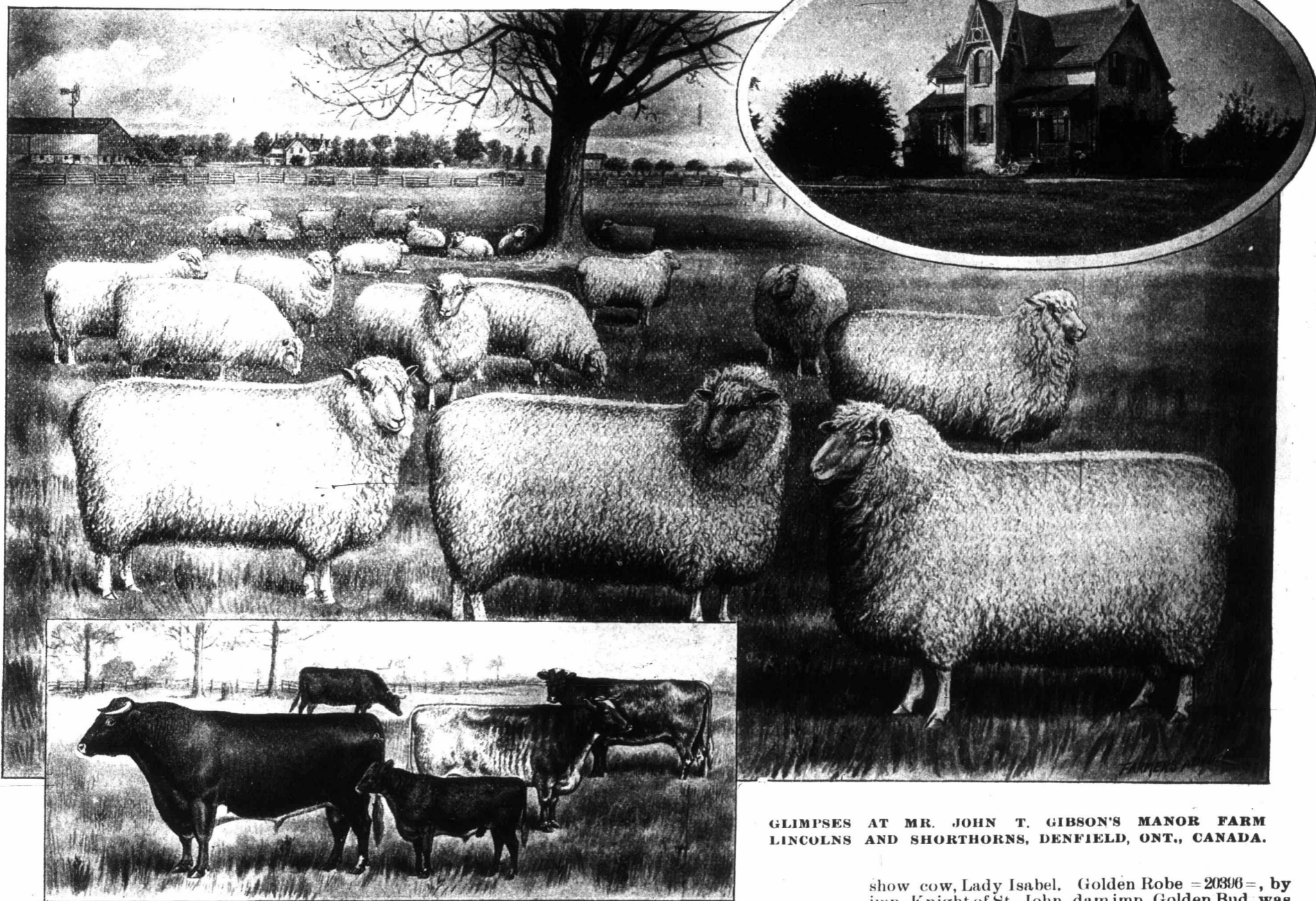
Having so much of the blood of Conqueror in the flock, to avoid inbreeding, new blood was introduced the present year by a fresh importation of fifteen yearling ewes and two ram lambs selected from the old-established and well-known flock of S. E. Dean & Sons, of Dowsby Hall, Folkingham, who have figured prominently in the prize list at the Royal Show in recent years. Another instance of the power of an impressive sire is seen here in the fact that of the fifteen ewes in this importation, the pick of a very large flock, the get

year-old Aberdeenshire-bred cow, Duchess, a rich roan, of the favorite Miss Ramsden family, which has produced such noted bulls as Challenge Cup; the \$6,000 bull, Brave Archer, and Scotland's Crown, imported for the Iowa Agricultural College. Duchess was sired by Matadore, a son of Mr. Duthie's Prince of Fashion, by Scottish Archer, and her dam was by the Duthie-bred Duke of Fife, a son of the Sittyton Nonpareil bull, Norseman. A lusty red bull calf from this cow, imported *in utero*, promises to make a suitable head for the herd. He is a son of Prince Charlie (73263), by the Marr Missie bull, Musgrove, by the Cruickshank Clipper, Criterion. This calf, now seven months old, has grand quality of flesh and hair, and lots of it. Among the sires which in the last ten years have been used may be mentioned Jocelyn =17438=, bred from imported dam, and sired by the Cruickshank Victoria bull, Vice Consul, winner of the championship at Toronto. Following him was Aristocrat =24803=, by imp. Royal Sailor, bred by Mr. Marr, of Upper Mill; a bull whose stock has made a remarkable record in prize-winning at leading Canadian exhibitions; dam an Isabella, from the family of the great Bow Park



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GLIMPSES AT MR. JOHN T. GIBSON'S MANOR FARM LINCOLNS AND SHORTHORNS, DENFIELD, ONT., CANADA.

flock of Lincolns, either open to all or Canadian-bred, at the three principle shows in the Dominion. For a number of years, as long as the prize was offered at the Provincial Winter Show, this flock won the first award for the best five long-wooled sheep of any breed. The grand championship trophy, "the Cooper cup," for the best sheep at the Provincial Winter Fair, of any age or breed, bred by the exhibitor, to be won three times or two years in succession by the same exhibitor, was captured by selections from this flock, a yearling ewe winning one year and a yearling wether (weighing 320 pounds) the next year. At the International Live Stock Show at Chicago, in December, 1900, in the strongest competition ever seen at a show in America, the Manor Farm flock won, in the various classes, and specials for pure-bred Lincolns, 13 out of the 21 first prizes offered, including the first prize for the best flock, the championship for best ewe any age and the championship for best wether any age, all with sheep bred and fed on the farm, and in competition with a number of imported sheep that had been winners at the Royal Show of England. A notable example of the inestimable value of a prepotent sire is seen in the fact that very nearly all of the galaxy of winners in the achievements above noted were the offspring of the grand imported Dudding ram, Riby Conqueror 503, a son of 2nd Windsor Royal, one of the

of a score of high-class rams, nine are daughters of one sire, and a grandly good lot they are, all of one type and full of quality; while the imported ram lambs are sturdy fellows, standing squarely on strong legs, thoroughly covered and having model fleeces. A second importation of three ewe lambs has lately landed. These are from the flock of Mr. Henry Smith, Jr., The Cottage, Cropwell Butler, whose flock has won in nine years over \$11,000 in prizes, including cups and championships at the Royal and other national shows. With such a record and such a flock, it goes without saying that Mr. Gibson has the material to meet the rapidly-growing demand for this grand breed of sheep, which so well combines weight and quality of flesh and wool, and representatives of which have sold for higher prices than any other in Britain in recent years.

THE SHORTHORN HERD was founded some twenty years ago on a selection of robust cows, mainly of Bates breeding, most of them being deep milkers as well as good feeders. They were representatives of the Constance, Lavinia and other good families which have bred well to the Scotch bulls which have been used. Ten years ago three Scotch-bred females of the Mina, Roan Bess and Matilda tribes were purchased, and their produce has added materially to the character of the herd, which now numbers about forty head. Last year was added to the herd the imported three-

show cow, Lady Isabel. Golden Robe =26306=, by imp. Knight of St. John, dam imp. Golden Bud, was used to some extent, and after him, The Baron, bred by Mr. Reid, of Aberdeenshire, imported by John Issac, sired by Lord Granville, and of the popular Sittyton Violet tribe, from which was bred the great show cow, Violet's Forth. The present stock bull is the richly-bred imported Prime Minister =15280=, bred by Mr. Duthie, and sired by Chesterfield, of the Princess Royal tribe, his dam by the great Champion of England, and grandam by the equally noted Heir of Englishman, a combination of notable sires seldom found in one pedigree, and which cannot fail to add merit to his offspring. Prime Minister was a successful show bull in his younger years, winning, at Canada's greatest fair at Toronto, third prize as a yearling, second as a two-year-old, and first prize as a three-year-old, since which he has not been shown, but has been used with excellent results in several prominent Canadian herds. Of late years he has run with the cows at pasture, and is in only ordinary condition, as shown in the engraving, but has the long, level quarters and fine quality of skin and hair that characterized him in his palmy days. The large roan cow in the engraving is Bess of the Manor, by Jocelyn, dam Roan Bess, by the Cruickshank bull, imp. Baron Lenton, grandam imp. Roan Betty, of the Kinellar Buchan Lassie tribe. In the background stands the imported cow, Duchess, of the favorite Miss Ramsden tribe. The red bull calf, imperfectly represented, is her promising son imported in dam.



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A Century of Canadian Dairying.

BY PROF. H. H. DEAN.

One hundred years of Canadian dairying! What progress we have made! The dairymen who lived during the first three quarters of the century are astonished at the advances of the last quarter of the nineteenth century! During the first half of the hundred years now gone, there were no co-operative dairies in Canada, there were no dairy associations, no dairy schools, no cold storage, no



FRED GILLESPIE.

(On his way to receive cream at Leduc, Alberta, N.-W. T., Government Dairy.)

centrifugal separators, no travelling instructors, grants from the Government to aid the dairy industry were unknown, each dairyman was struggling along in his own way, and as a result there was little progress. It was not until 1864, when the first co-operative dairy was established in Oxford County, Ontario, that progress became the watchword of Canadian dairymen.

Possibly the most remarkable feature has been the development in transportation facilities. Butter and cheese can now be carried from Canada to Great Britain at about the same cost, or less, than these articles can be carried from distant points in England to her own markets. Railways and steamships now vie with each other to secure dairy goods for transportation. The cold-storage arrangements, when perfected, will enable the seller of dairy produce in Canada to land his goods in the markets of the Mother Country in such good condition that customers are likely to consider our butter and cheese almost if not quite equal to the home goods.

GROWTH OF THE CHEESE TRADE.

Until after the middle of the century we imported cheese. Now, we export about twenty millions of dollars' worth of cheese annually, and supply nearly sixty per cent. of the total cheese imported by the United Kingdom. For more than half of the century cheese were made in tubs, boilers, kettles, etc., on the farm, and the cheese were pressed by placing a weight on the end of a fence rail which acted as a lever. Next in order came the days of the factory, with a furnace under the vat to heat the milk, and it was thought that a wonderful stride had been made; but the steam-heating vat of to-day is as much superior to the furnace vat as the furnace vat was in advance of the kettle. Early in the history of cheesemaking it was considered necessary to haul the milk and make the cheese twice a day. What drudgery it was for the milk haulers and horses to go over the routes twice a day! What slaves it made of cheesemakers, who were compelled to work night and day! No wonder that such conditions made the development of the cheese industry a very doubtful one, and had not high prices prevailed at this time we should not have the proud record of to-day. But a change came. It was found that better cheese could be made by hauling but once a day, as the night's milk became ripened and made both night's and morning's milk in better condition. These early days were also the days of "skippers," and when cheese had to be "greased" frequently, thus creating a market for stale store butter and grease from the whey tank.

The introduction of the rennet test, the hot-iron test, the use of cultures for ripening milk, improved presses, and improvements in the curing of cheese (such as the sub-air duct), have all been conducive to finer quality.

DEVELOPMENT OF BUTTERMaking.

The pioneer buttermakers of Canada set the milk in wooden vessels for the cream to rise. These vessels were probably hollowed from a basswood tree. They had no money to purchase expensive dairy utensils, and modern utensils were not to be had at any price. After the modern bucket came the earthen, unglazed pan and crock. Then came the glazed "shilling" and "six-penny" crocks, when it was thought that a great step forward had been made, as these were impervious to milk. The shallow tin pan followed—both large and small. Someone soon after this discovered the deep-setting of milk in ice, or ice water, and it was thought that at last perfection had been reached, but alas! there is no perfection in dairy machinery or methods. During all these years we had been

creaming milk by the free, natural force of gravity. It was not until about 1876, the last quarter of the century, that experiments demonstrated that it was possible to utilize another force of nature (centrifugal force) in creaming milk. The application of this principle revolutionized buttermaking throughout the world. We are just beginning to understand the wonderful power of centrifugal force in the dairy. The cream separator of to-day is a clumsy, expensive machine. The future will discover a simpler, lighter and less expensive method of utilizing centrifugal force for dairy purposes. The past century has seen, too, the development of the "extractor" and "radiator"—machines which not only separate the cream from milk, but also churn the cream into butter, at one operation. These machines are not yet perfected, but doubtless they will be early in the twentieth century. With perfect refrigeration at the creamery, on the railway, at the ports, and on the steamship, there is no reason why Canada should not supply a large portion of the trade in England for fresh, creamy, unsalted butter. The perfected butter separator will assist in this direction.

The Babcock test, originated by Mr. S. M. Babcock for determining the percentage of fat in milk, has now been in use by Canadian dairymen for ten years. It has proved very helpful to the dairy industry of Canada, but its adoption as a means of dividing proceeds among patrons of creameries and cheese factories has not become general.

Time would fail to tell of detailed improvements in the care of the cream, the use of starters or

making will be carried on by the newer sections of Canada. Electricity will furnish the power to cut and prepare the food of the dairy cow, clean the stable, milk the cows, wash the utensils, and furnish the energy to manufacture the butter on the farm or in the creamery. Woman, dog, steam, electricity, as powers to churn, has been the order of succession. Wood for dairy buildings and utensils will be entirely superseded by substances which have more durability, less weight, and all the desirable qualities of wood for dairy purposes.

Dairying will be an exact science before the close of the twentieth century. No more will the weary farmer's wife toil in the cellar skimming cream from pans and pails until her back aches and life becomes a burden. No more will she pound in an old dash churn, cream that will not yield its butter. No more will the cock's clarion cry arouse her from slumber to milk the cows and skim the milk, but instead she will waken, gently press the electric button, and then continue to "knit the ravelled sleeve of care."

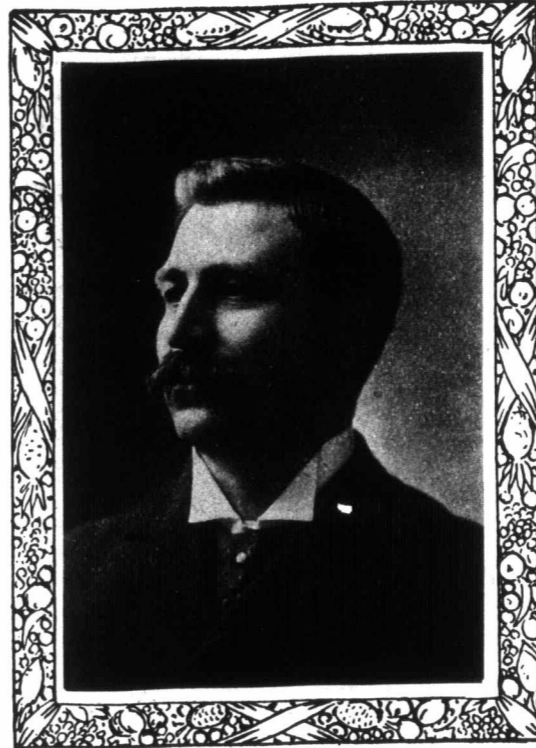
The butter used on the farmer's table will be made in the creamery, and the good wife will have more leisure for the development of her inner nature, instead of being made a drudge on the farm.

The price of butter will be not less than fifty cents per kilogram (about twenty-five cents per pound), as dairymen will find that they cannot produce butter with profit at twelve to fifteen cents per pound. Improved methods and improved quality will demand higher prices.

The patrons will supply milk in such good condition, and the cheesemaker will understand his work so well, that he will be able to make cheese in six hours every day. No more trouble with "gassy curds" or "fast workers." The effects of cleanliness, temperature, and cultures will be so well understood that most of the ills of the cheesemaker will be unknown, and instead of many of the best men leaving the business, as at present, cheesemaking will be so pleasant that a man may choose it for his life-work.

The skim milk and whey, instead of being almost wasted, as at present, will be turned into valuable foods. It is a great waste of food products to practically throw away from eight to nine pounds of milk solids in every hundred pounds of milk used for buttermaking, and to waste more than half of the milk solids when making cheese. The equal of milk as a food is not found in the whole list of foods for mankind, yet we have wasted it most wantonly in the past century.

Most important of all advances will be the development of the spirit of true co-operation in the dairy business. During the past century we have had but a shadow of the real. Instead of co-operation, we have had selfishness and killing competition. Men think only of themselves, while factories are competing with each other for patronage to such an extent that the weaker are forced to the wall. Buyers compete for the products of factories until they risk their all. The smash comes, good business men are ruined, they are branded as dishonest by those who encouraged them to speculate too freely,



PROF. H. H. DEAN.

cultures in cream ripening, the application of pasteurization in modern buttermaking, the use of the cream ripener, the combined churn and worker, the use of fine dairy salt of Canadian manufacture, the pound print wrapped in parchment butter paper for home markets, the use of the 56-pound box, lined with paraffine wax and heavy parchment paper for export, resulting in a marked improvement in the quality and appearance of Canadian butter. Twenty-five years ago we made little butter fit for export, and only a small quantity that would sell for top prices in our home markets of to-day.

The dairy cow too has received a fair share of attention, but this branch of the dairy business has not—speaking of the general run of herds through the country—kept pace with the advance made in manufacturing and marketing. Cows do give more milk than they did a century ago, but there is still room for great improvement. Breeders of dairy stock are aiming to fill this gap in the onward march of dairying, but there still is a great gulf between the cow and the possibilities of the cow.

The century has also seen a marked development of town and city milk trade. The condensed-milk business is in swaddling clothes. The infant is destined to be a lusty youth, requiring a great deal of milk to satisfy his appetite.

DAIRYING IN THE TWENTIETH CENTURY.

What of the future? Is it possible for dairying to make as great advances in the twentieth as in the nineteenth century? Yes, and even more marked will be the improvement. In what direction may we expect improvements? Dairy cows will produce at least 10,000 pounds milk annually, and make from 350 to 500 pounds butter each per year.

Milking machines will be as common as binders. The house of the dairy cow will be as clean as the house of the dairyman. Her food will be clean, wholesome, milk stimulating, and it will receive as much care in preparation as the food for the family. She will be cared for as a member of the family, and not as a boarder who pays no board bills. The chief products of the cow in old Ontario will be stock, milk, cream and butter, while cheese-



WHEN GRANDMOTHER WAS YOUNG.

and they are blamed for losses which they could not control.

The motto for the 20th century dairy should be industry, knowledge, honesty, co-operation, fair dealing, "live and let live."

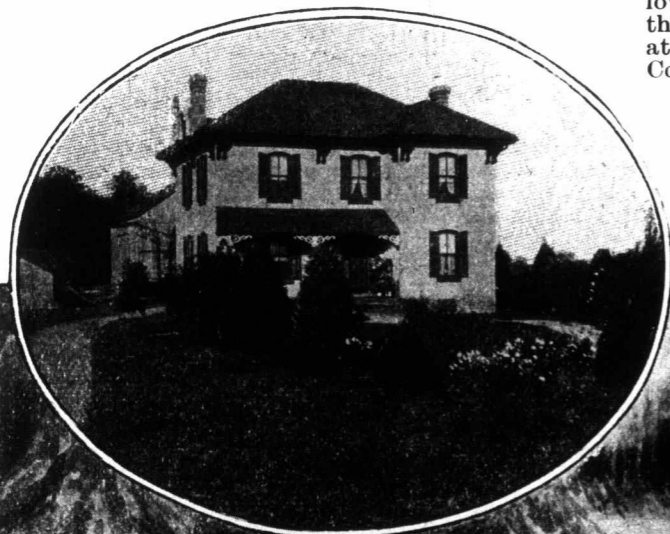
The Maple Bank Shorthorns.

On their fertile farm of 375 acres, known as Maple Bank, pleasantly and conveniently situated, about one mile from the thriving town of Strathroy, Ontario, and twenty from the City of London, is maintained the excellent herd of upwards of one hundred head of Shorthorn cattle of T. Douglas & Sons, which was established some 35 years ago on a sound foundation of useful cattle, descended from imported ancestry, combining good feeding qualities with bountiful milking propensities. No hard and fast formula of line breeding as to tribal or family connection has been followed, but the constant object and aim kept in view in the upbuilding of the herd has been, by the careful selection of sires of superior individual character

tion of sires. That good-milking and good-feeding qualities may be advantageously combined is well shown by the rapidity with which a well-bred deep-milking cow of the beef breeds will flesh up when dry, and this feature is a notable one in the herd under consideration, the occasional cows which have been dry for a while being big and full of flesh on short pasture.

The general type and character of a herd is largely determined by the character of the last half-dozen sires that have been principally used in it, and in this regard the Maple Bank herd has been singularly fortunate, as the record of their pedigrees shows. Going back so far in the history of this herd, we find the sires in use to have been: First, Rob Roy = 5835 =, by imp. Liddesdale, a Cruickshank Lavender of fine quality and out of imp. Lady 2nd, bred by Shepherd of Shethin; following him came Rob Roy 2nd = 7758 =, a son of the great Scotch bull, Rob Roy = 1290 =, imported at a very high price for the Ontario Agricultural College herd, a bull of great substance and full of the best of flesh. The next sire was imported Mariner = 2720 =, by the Sittyton Victoria bull, Vermont, and of the Kinellar Mina tribe. Next came Young Abbotsburn's Heir = 15947 =, a son of the World's Fair champion over all beef breeds, Young Abbotsburn = 6283 =, of the

Among the half score of young bulls, ranging from 12 to 20 months old, sons of this excellent sire, is the red and white yearling, Sandy Burk = 34601 =, a thick, blocky bull, with straight top and lower lines, and wonderful crops for a bull in only moderate condition. Valkyrie Stamp is red, with little white, a year old in November, a son of Queen of Maple Bank, whose dam, still in the herd, was the best one in five cows that made an average of \$52 at the pail in 12 months. The rich roan, Maple Bank Reliance = 34602 =, just over the year, by the same sire, and out of Katie Wilkes by imp. Mariner, is of similar stamp, and stands on strong, straight legs; while Valkyrie Prince = 34602 =, another roan, just past a year old, was considered good enough to be drawn in the short leet, and stood next to the winners at the Toronto Exhibition in one of the greatest rings of calves ever seen there. He is a brother to the elegant heifer, Roan Girl, illustrated in the FARMER'S ADVOCATE of December 1st, 1899, with her stall mate, Maple Bank Beauty. Roan Girl was placed second at the Western Fair at London, as under a year, in 1899, and second as a yearling at the Winnipeg Industrial Exhibition this year in the herd of ex-Premier Greenway. Her mate, Maple Bank Beauty, is considered nearly if not her equal, and is a heifer of great substance and quality: a show heifer in every respect. Individual



IMPORTED DIAMOND JUBILEE, HEAD OF T. DOUGLAS & SONS' SHORTHORN HERD, STRATHROY, ONT., CANADA.

and ancestry, to conform to the changed demand of the times for smoothly-turned forms of fair size, calculated to mature at an early age, and yet to conserve the superior milking tendency which characterized the matrons of the original or foundation stock. That the firm have succeeded in a high degree in accomplishing this object is amply evidenced by the uniform character of their cattle in approved conformation and quality, and by the large, shapely and well-balanced udders carried by the cows with scarcely an exception, a feature so noticeable as to attract attention and call forth the remark that seldom is a herd of Shorthorns seen that shows so many model milk vessels. The value of this quality in a herd of cows is not easily estimated, but its influence is plainly seen in the lusty, robust, thick-fleshed calves the cows are nursing, and by which, from the generous supply of milk the calves receive during the first half year of their lives, the best possible foundation is laid for robust constitutions and the upbuilding of the most desirable form and quality of butchers' beasts, while the custom of allowing most of the calves to run in the pastures with their dams gives strength of bone and firmness of muscle, which goes a long way in carrying an animal to a successful issue either as a sire or as a milking matron. Other things being nearly equal, it is the best of policy to select a bull bred from a deep-milking dam, for this is one of the most difficult points to preserve in the beef breeds and one that is too often lost sight of in the selec-

tion of all the meritorious animals in the herd is out of the question, in the limited space allotted to this article, but we cannot pass without notice the big, smooth, red cow, Bessie Dorn = 21628 =, by imp. Mariner; her beautiful red 4-year-old daughter, Bella Dorn, by Abbotsburn's Heir; her wealthy-fleshed roan yearling daughter, Bessie's Gem, by Valkyrie, and her winsome red heifer calf by Diamond Jubilee, forming a family circle of great merit. Of similar stamp is the family group, of which the grand red cow, Queen of Maple Bank, full sister of Bessie Dorn, is the head, and in which is her matronly daughter, Queen's Bud, by Abbotsburn's Heir, with her splendid vessel, her red yearling bull, Valkyrie's Stamp, and her handsome heifer calf by Diamond Jubilee, a perfect picture of robustness and quality. Wanetta, half-sister to Queen's Bud, has proved a grand breeder, producing the prize heifer, Roan Girl, and the fine young bull, Valkyrie Prince, now in the herd. Jessamine, by imp. Scottish Victor, has a charming 12-months roan heifer, and is nursing another nice roan heifer. Another capital young cow, Maple Bank Blossom 2nd, is nursing her fifth calf, a right good one, and she is not yet 6 years old. Other equally worthy families might be named if space permitted. Suffice it to say that there is in the herd, as a whole, a uniformity of excellence, from the standpoint of usefulness, of which the owners may feel proud.

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already mated; not exactly. The guide now imitates the bull as one coming toward the home of the wedded pair to draw the gentleman out to defend the same. "Wha! Wha! Wha!" says the horn in reply to similar grunts from the oncoming bull. It is practically a challenge to fight. You listen and can hear him fighting into some bushes. This he does—as the guide afterwards expresses it—"to get his mad up."

Now the guide (in splendid imitation) smashes a lot of dead sticks, and threshes his calling horn up and down in the bushes. On comes the mad bull, making any amount of noise. On goes the guide toward him, making quite as much noise.

Presently you halt behind a clump of low bushes; there is an opening of perhaps two hundred yards between you and the oncoming bull; into this opening the guide wishes to lure the game, so as to give you a fair shot. Again the guide uses the horn; on comes the bull, halts at the opposite side of the opening and begins fighting a sapling, into which he bores his great horn with much force; then with a twist and a fling of his head upwards, he covers his back with a shower of leaves, twigs and bark; he pauses and backs away. You can see his great nostrils dilating as he points his head

Herefords at Ingleside.

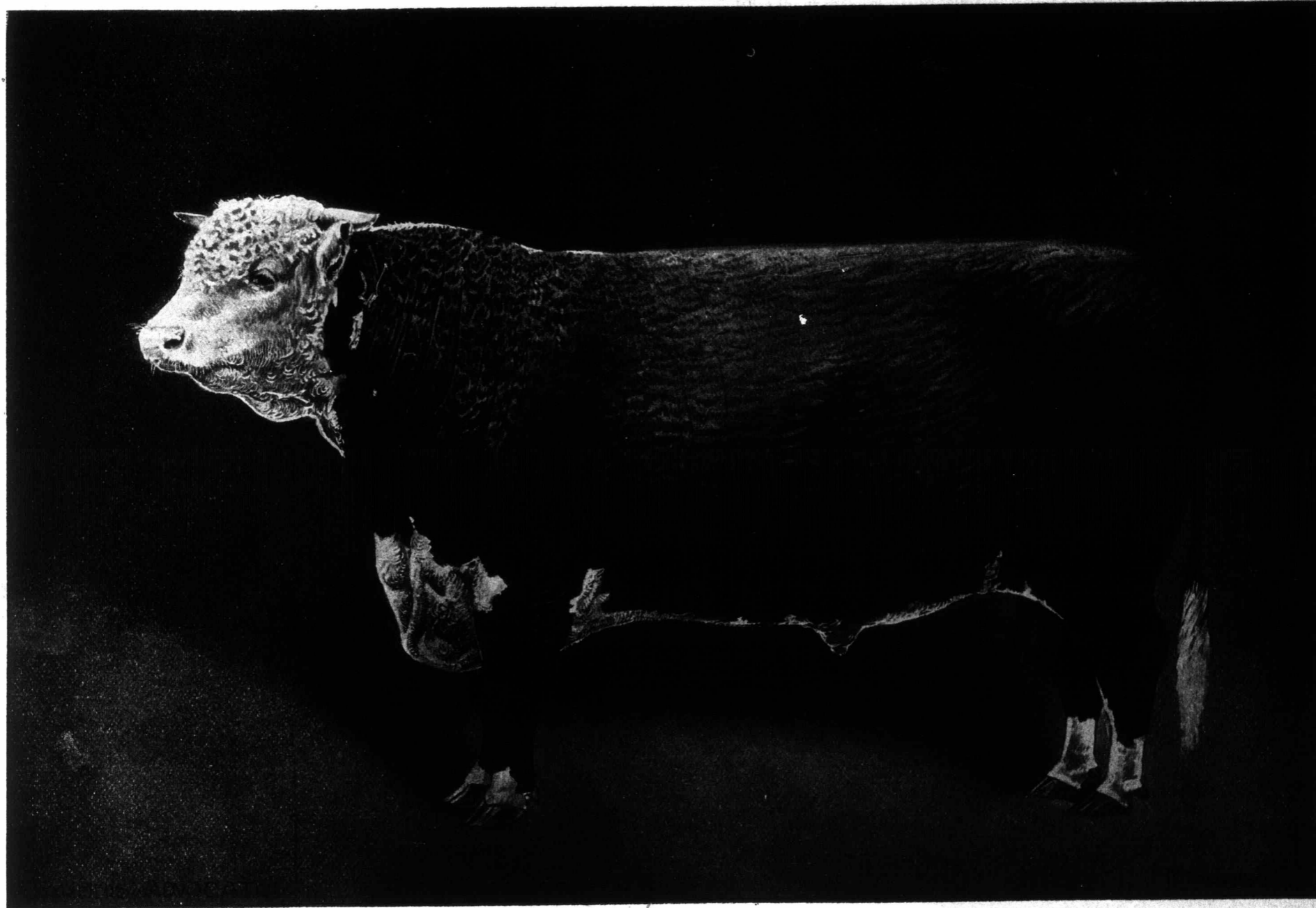
The star of the Herefords still shines bright in the firmament of the fraternity of breeders of that class of cattle. The sale records of the closing year of the century speak in unmistakable terms of the high estimate in which they are held where they are best known and have been most critically tested, by long odds the highest prices for individual breeding animals having been paid in public competition for representatives of the breed, the record price of \$7,500 having been paid for a bull during the present year and \$3,150 for a cow, and close to 100 head at one sale at an average of \$671.

Those who have been privileged to attend the great live-stock shows held at Kansas City and Chicago this year, and to witness the magnificent display of breeding cattle of this breed, as well as the innumerable carload lots of Hereford and grade Hereford steers in the Stock Yards at those points, need no further evidence than that of their own eyes to convince them of the substantial claims of these cattle to the favor of the breeders of beef of the best brand. For uniformity of excellence in conformation and quality, from the standpoint of the feeder and butcher, the modern Hereford fills the bill beyond dispute. Hardy, of vigorous consti-

have made their mark in models of the breed, may be mentioned the Corrector bull, *Sir Horace*, used for three years in successful service, siring a class of calves that came right and kept right, conforming to the approved type, with scarcely a single exception, while he never failed to win in the showing the highest honors he competed for, carrying off championships galore and continuing to do so up to date, having won that honor the present year at the head of the show herd of his present owner, Mr. W. W. Black, of Amherst, Nova Scotia.

Succeeding him is the present stock bull, *Mark Hanna*, now in his four-year-old form, a massive, short-legged, thick-fleshed bull of fine proportions and typical breed character, and a first-prize winner every time shown at the principal exhibitions in the Dominion, winning last year and this the first prize in his class and the championship as best bull of the breed, of any age, and heading the first-prize herd at Toronto and the other principal fairs in Ontario. This bull has nicked very satisfactorily with the daughters of *Sir Horace*, as well as with the most of the matrons in the herd, and the young things owning him for sire are singularly uniform in character.

Among the other young bulls in the show herd on



PRINCE INGLESIDE 2ND, YEARLING HEREFORD BULL, FIRST PRIZE, TORONTO INDUSTRIAL, 1900. OWNED BY MR. H. D. SMITH, COMPTON, QUE.

toward you. "Now come on!" he seems to say—"you insolent fellow behind the bush, I'll teach you better manners than to come around this neighborhood." Again the guide smashes sticks as before. On comes the bull in full view. What a grand sight the noble beast presents as he comes out to meet his enemy in defence of his gentlemanly honor. With what dignity and grace, and with what a lofty carriage. His nostrils working in rage, his eyes glaring and wild! You cock your gun; the guide hears it and holds up his hand. The bull is now within thirty paces of where you are standing; at this moment the guide smashes some more sticks; this causes the great beast to halt; he turns, presenting his broadside, lowers his great antlers to receive the attack. As he does so, his mouth opens, he holds his breath; his eyes are bulging in their sockets, his frame becomes rigid; he has placed himself on guard!

The thought of wounding such a mad bull steadies your nerve; you take deliberate aim just back of the elbow joint. "Bang!"—the U. S. soft-pointed bullet from your Winchester has pierced his heart. He rears like a horse and falls dead in his tracks. Now it is over, you find yourself all of a tremble; you shake hands with your guide and compliment him on his masterly skill at calling—"You fooled him to the last moment." In turn he compliments your nerve and your fine shot.

and possessed of a good appetite, he excels as a rustler on the range, and being of a mild and placid disposition, he takes kindly to stall feeding or to bunching in loose boxes, attending strictly to business as long as the raw material for making beef is within his reach, while the buyers never fail to appreciate his worth when he appears on the market in the form of the finished article.

Foremost among Canadian herds of Herefords, for a decade at least, has stood the Ingleside herd of Mr. H. D. Smith, of Compton, Quebec, a herd which has made a unique record on the prize lists of the principal Canadian shows, having for six years in succession captured the championship prizes as well as the first herd prize against all comers in the class. Commencing with high-class foundation stock, the herd has been steadily improved by the use of superior bulls, while new blood has from time to time been introduced by importations from Britain and the United States, till, by judicious mating and the weeding out of undesirable types, a herd of singular uniformity has been built up, which is proving exceedingly satisfactory to the enterprising owner, who takes a pardonable pride in his proteges, and brings into play brains and a love for beauty and utility in combination to produce his ideal of a beef animal of the best type. Among the sires which have been secured for service in the herd in recent years, and

the circuit of the fairs this year was the two-year-old Amor 5th of Ingleside, sired by *Sir Horace*, and out of *Amy 3rd*, one of the best breeding cows in the herd. He is a lengthy, level and thickly-fleshed animal, with handsome head and horns, and won first in his class at Toronto, London and Ottawa this year. Of similar stamp is *Sir Ingleside*, by the same sire, and out of *Sylvan 5th*. He made a close second to his bigger brother on the round of the fairs. The yearling bull, *Prince Ingleside 2nd*, illustrated in this issue, winner of first prize in his class at Toronto and the other shows this year, is also a son of *Sir Horace*, and has for his dam *Princess Bonnie*. He is one of the most typical young bulls of the breed seen out at the shows in this country in recent years.

Special mention of the many good things among the females in the herd would be superfluous, since a singular degree of uniformity of class and character marks the herd as a whole, and while such good judgment and care continue to be exercised in the breeding and management of the cattle, Ingleside may safely be counted on to contribute to the upbuilding and maintenance of the reputation and character of the breed in Canada, as is being bravely done by the stalwart leaders in Hereford circles in the republic to the south of us, where they have stoutly and successfully held their own against all comers.

Spring Grove Stock Farm.

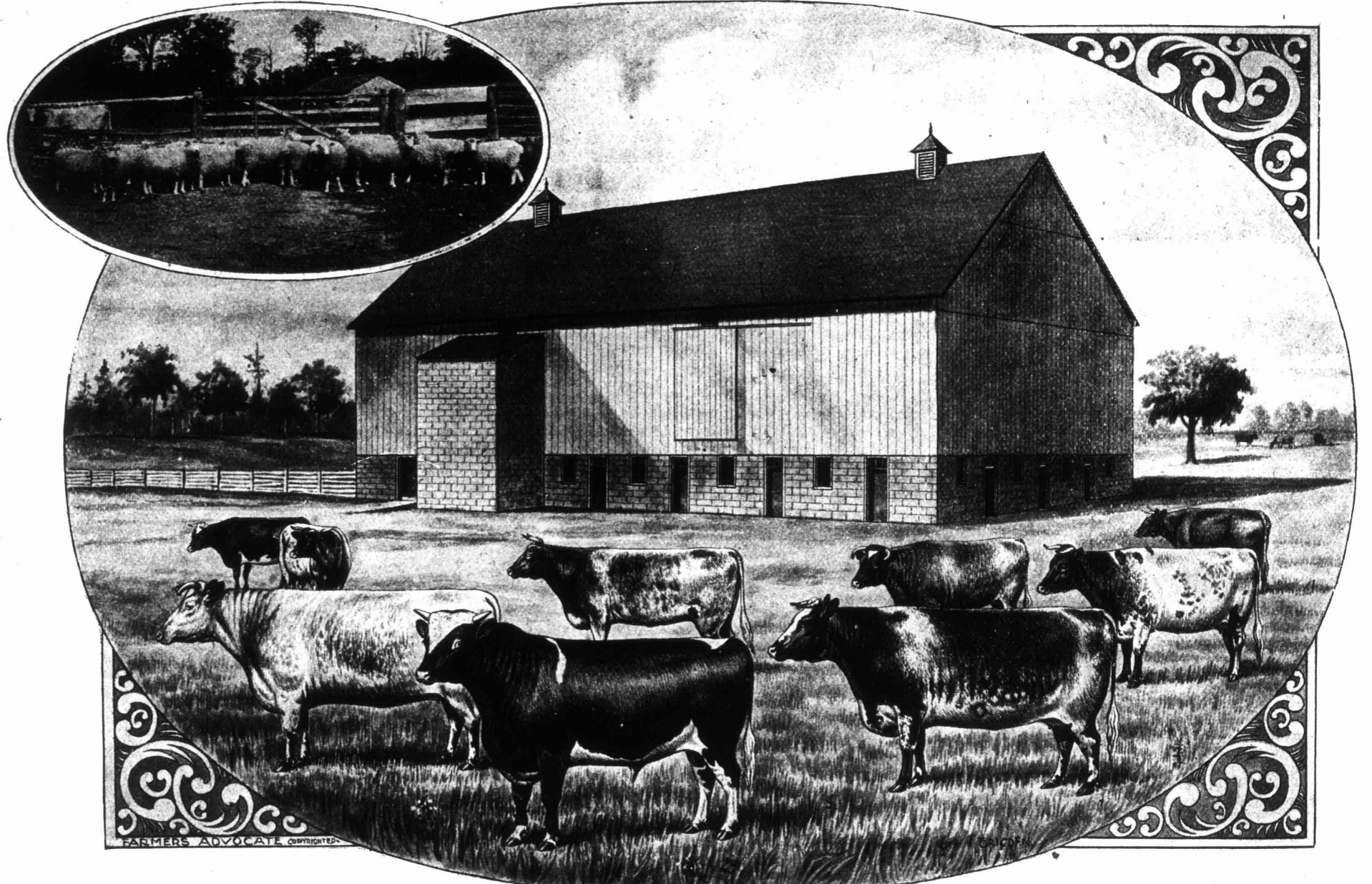
The Shorthorn herd of Capt. T. E. Robson, M. P., maintained on his excellent farm at Ilderton, 16 miles from the City of London, has gained an enviable reputation in the last few years, from the signal success which selections from the herd have achieved by their record as prizewinners at principal shows in Canada. It is probably safe to state that no other Shorthorn herd in the Dominion has scored so high a record in winning as many times in straight succession, at the Toronto Exhibition, the much-coveted senior herd prize for the best bull and four females of the breed, the Spring Grove herd having for the three years previous to the present year captured that distinctive honor, besides winning in the last two years the junior herd prize, and for the last three years, including the present, the male championship of the class, while animals sold from the herd have made splendid records in prizewinning at many Western Provincial and State fairs during the last five years. The present herd is now comfortably domiciled in the completed new barn represented in the accompanying engraving, a thoroughly up-to-date building, roomy, well ventilated and lighted, and provided with an excellent water service, each animal having a drinking fountain in its stall, supplied from a spring by means of a hydraulic ram, the walls and floors being of cement concrete. The dimensions of the building are 100x62 feet, with

Provincial Fair of British Columbia as a 9-year-old.

The herd has been enriched in the past year by the addition of the following quartette of richly-bred imported cows: *Bella 3rd*, bred by Philo L. Mills from a deep-milking family, and sired by a son of Mr. Duthie's great Star of Morning. This cow has proved a splendid breeder, her heifer calf, born last year, selling for \$510 at public auction when but 9 months old, and she has now a beautiful 7-months-old heifer calf, sired by Precious Stone, sold for \$800 at Mr. Flatt's sale last December, a son of Corner Stone, champion bull of the Highland Society Show last year. *Craibstone Baroness*, a rich roan 3-year-old cow, imported in 1898, was sold at the same sale for \$610. She is of the Miss Ramsden family, from which came the \$6,000 bull, Brave Archer, by Scottish Archer, and many other noted prizewinners. She was sired by a son of the noted William of Orange, and has a blocky, thick-fleshed bull calf by Best of Archers, another excellent son of Scottish Archer. The third imported cow is *Star Princess*, a wealthy-fleshed daughter of Star of Morning, and of Proud Princess, of the Miss Ramsden tribe. She has a capital red bull calf, now a little over a year old, sired by Best of Archers. *Jenny Lind*, the fourth of the imported cows, is a roan 3-year-old daughter of Matadore, by the Duthie bull, Prince of Fashion, by Scottish Archer, and her dam by the Cruickshank Spicy bull, Dauntless. Among the other matrons of the herd represent-

best show cow that ever figured in a Canadian show-yard. The crop of calves growing up includes a lot of very promising things, while among the young bulls is the imported yearling Bracelet bull, *Red Duke*, by Lord Hampton, a richly-bred Marr Missie, by Deane Willis' Bapton Czar, a Sittyton Cicely, out of Missie 147th, by William of Orange. The handsome and symmetrical red and white bull in the engraving is *Ribbon's Choice*, 2nd-prize bull calf at Toronto this year in a strong class, and a son of imp. Blue Ribbon and of Rose Hill, of the Kinellar Rosebud tribe. A number of other useful young bulls, ranging in age from a few months to two years, are held for sale, and are good enough to improve almost any herd they may be used in. The Spring Grove herd has never been in better form for breeding high-class stock, and there is every probability that on the rich pastures of the farm, and with the advantage of the rare good judgment of the owner, it will continue to hold a prominent place among the best of the herds in the Dominion.

The scene depicted in the center of the colored front page of this number of the FARMER'S ADVOCATE is from a photograph taken for the purpose by one of our own staff last autumn on the farm of R. Shaw-Wood, near London, Ont. Mr. John Fleming, steward of the estate, is the plowman, and he drives a favorite team of well-bred Clydes-



SNAP-SHOTS AT THE "SPRING GROVE" HERD AND FLOCK OF CAPT. T. E. ROBSON, M.P.P., ILBERTON, ONT., CANADA.

an extension of 30 feet at the north-east end, making the width at that end 92 feet. A root house and silo are included in the outfit, and, taken all together, it is one of the most complete stock barns in the Dominion, and it is probably not too much to claim for the Spring Grove Shorthorn herd that it has not only made its owner famous as a breeder and exhibitor, but has paid for the commodious home building it now occupies, and in which it may reasonably be expected to do even better work than in the past.

The herd now numbers, notwithstanding numerous sales made during the year, fully fifty head, most of which are members of well-known and highly-esteemed Scotch-bred families, and carrying the blood of one or more of the noted bulls which in the last ten years have headed the herd, among which may be mentioned imp. *Guardsman*, sire of the successful show bull, St. Valentine, champion in many State-fair contests; imp. *Blue Ribbon*, sire of many prizewinners in Canadian shows; *Moneyfall Lad*, the three-times champion of the Toronto Exhibition; *Topsman*, the sire of the great son last named, and himself twice a champion at the Provincial Fair at Winnipeg, champion last year at Toronto, and this year winning the same honor at leading shows in the State of Oregon and at the

ing families of excellent repute may be mentioned: *Crimson Gem*, a handsome roan cow of approved type, sired by Scotch Nobleman and of the favorite Crimson Flower family. *Claudia's Eclipse*, a light roan Kinellar Claret, of fine character, sired by a son of the Duthie-bred imported Eclipse. *Frieda*, a beautiful young roan cow, which as a 2-year-old at London defeated Mysic's Rose, the Toronto champion of the same year, and was second at Toronto this year, and first at the Western Fair at London. She is a daughter of Abbotsford, a first prize winner at Toronto, and of the same family as the World's Fair champion, Young Abbotsburn. The fine old cow, *Daisy Strathallan*, of that excellent family, is still looking well and breeding regularly, while the retired champion cow, *Louise of Broaddale*, dam of Queen of the Louans, the highest-priced yearling at Mr. Flatt's Chicago sale, selling for \$1,800, is looking fresh and promising to be good for years to come. The cows in foreground of cut are Claudia's Eclipse and Frieda.

Among the heifers in the barn boxes are a number of choice young things, including a handsome Golden Drop yearling heifer; a pretty roan Village Girl; a well-fleshed Isabella, by Riverside Stamp, dam by imp. Royal Sailor, and tracing to the famous Bow Park show cow, imp. Lady Isabel, the

dale horses. Literally, he is breaking the sod for the farming operations of the first year of the 20th century. On the first page of the letterpress within, Mr. Robt. Elliott, in his poem, "Turn the Furrow New," makes the picture symbolical, and with a vision of the coming years before him, rings out a stirring appeal for higher aims and still greater achievements in the future, a theme also dealt with by a member of our editorial staff in the article, "Lessons from a Dying Century," a study in human progress, and in the various thoughtful contributions under the title, "Retrospective and Prospective."

The Ontario Agricultural and Experimental Union meeting held at the Agricultural College, Guelph, Ont., on Dec. 10th and 11th, was most successful. There were given reports upon forty-one individual co-operative experiments in agriculture, horticulture, soil physics, economic entomology, economic botany, and poultry, conducted over Ontario in 1900. Prof. I. P. Roberts, of Cornell University, gave two valuable addresses, and took part in many discussions. Many Farmers' Institute workers and other advanced agriculturists were interested visitors. The ladies' session, given to domestic science, was a genuine success.

Stock Raising and Mining a United Industry.

Mining and agriculture seldom go hand in hand: but at Queenston, Ont., we have a unique example of advanced farming on good soil proceeding immediately over the mining of cement rock. It is some seventeen years since Isaac Usher & Son commenced to mine, burn and crush the blue hard rock underlying the limestone that appears at the surface, over which the waters of the Niagara cataract tumble in ceaseless roar from year to year. The Queenston mines are about a mile and a half from the Niagara gorge, where the cement rock exists as a seam six to seven feet thick, lying parallel with the surface underneath about forty-five feet of limestone and soil. Fortunately, the mine opens at the side of the hill, so that the upper matter has not to be disturbed, nor the cement material elevated. The mining of the rock and the manufacture of the cement proceeds by a simple process. During the day the miners are employed drilling rows of holes into the face of the rock with steam drills. In the evening, the machinery, etc., are removed, and a set of men engage the night by blasting with dynamite, which throws out the rock in chunks easily handled. This is conveyed in horse cars to the mouth of the mine, and deposited

best customers, and they are anxious to render them assistance in every possible manner.

Dwelling houses, as well as outbuildings, are constructed of this material. Messrs. Usher have two houses of this material upon their own land. The one in which Mr. Usher's (Sr.) family resides is a beautiful structure, of cement concrete from cellar floor to tops of chimneys, with cement partition throughout in the first story. It would be difficult to conceive of a more suitable material for this purpose, as it is enduring, thoroughly tight and dry. Messrs. Usher will gladly entertain any who visit them to inspect the herd, house or outbuildings, and give all the information possible regarding them.

The work of laying out buildings for patrons kept one or other of the firm out amongst the most progressive farmers and stockmen much of the time, and being observant, practical men, an inclination to till the soil gradually possessed them. It was evident to them, as to most wide-awake observers, satisfactory farming could not be accomplished without live stock as the basis, and after some 200 acres of first-rate land had been added to their 150 acres, a part of which overlies the cement rock, the establishment of a herd of pure-bred Shorthorns was begun. Probably a dozen of the representative herds of Ontario were drawn upon for the fifty head of useful Shorthorns, chiefly

by Sheriff Hutton. She, like Fanny, is bordering on two years old, and forward in calf to a Kinellar Sort bull. *Bonny Queenston 2nd* and *Monument Rose 2nd* are the roan and the red calves shown in the illustration. They were bred by W. H. Taylor, and sired by Guardsman (imp.) 18956. They are a pair of grand coated heifers, that well uphold the junior members of the herd. Their dams, by *Mysie's Chief 18326*, are a pair of exceptionally good dairy cows. The above animals represent in fair degree the members of Queenston Heights herd, which includes gets of such sires, not mentioned, as imported Blue Ribbon and Royal Standard.

Queenston Heights Farm is appropriately named, since it corners up to Brock's Monument, and is, with the exception of a small area of pasture land, a beautiful elevated plain, of a good class of clay loam. Previous to Messrs. Usher's ownership, much of it had been poorly farmed, and is therefore considerably depleted; but very vigorous steps are being taken to restore its lost fertility. To this end, the fields are being seeded to clover as rapidly as possible. This year thirty-five acres of fall wheat are being grown on land manured or awaiting to be top-dressed, or after corn. This land will all be seeded to clover the coming spring. Another means of restoring plant food will be by plowing in crops of peas the coming summer,



QUEENSTON HEIGHTS STOCK FARM, OWNED BY ISSAC USHER & SON, QUEENSTON, ONT., CANADA.

in furnaces, where it is burned almost to a clinker in forty-eight hours. After it is cooled it is crushed in heavy special machinery, bolted and put in sacks ready for shipment.

For a number of years, while building material was plentiful, and the virtues of this rock cement little known, the output of the Queenston works was not large; but with the need of enduring, cheap building matter, especially for farm buildings, came a growing demand for Queenston cement, until there has at this date been mined from this subterranean vein an area of some six acres of rock. Nor is the demand decreasing, as the present capacity of 350 barrels per day, an increase of 100 barrels per day in the last year, is being raised to 500 barrels, while the storage capacity is being correspondingly augmented by a large new shed, now in course of erection.

In the development of their cement business, Messrs. Usher have given most earnest attention to the needs of the farmer by going personally to his farm and laying out and commencing the work of building in the proper manner. While this has greatly assisted the builder, it has insured good results with the cement, thus upholding its reputation as a valuable construction material. Nor has the work of instruction and help ended here, as great pains are given to the drafting of basement and barn plans, giving due attention to sanitation in light, ventilation, and drainage. The facts are, Messrs. Usher realize that the farmers are their

young females, now included in the Queenston Heights herd. The illustration presented on this page represents in a fair measure the personnel and breeding of the herd. The stock bull, *Lord Gloster 26995*, by *Abbotsford 19446*, and out of *Gaiety 22730*, by *Prince Albert*, was bred by Mr. Harry Smith, Hay, Ont. He traces through his dam to Canadian Duchess of Gloster. He is a showy fellow, with a deal of choice quality. A representative of the herd already known to Shorthorn breeders is the red (with little white) cow, *Rose Hill 21161*, by *Goldfinder's Heir 2nd* (imp.). She is a big cow, of the thick-fleshed sort, a capital milker, and a rare good breeder. Her bull calf, one of twins, won 2nd prize for Capt. T. E. Robson at Toronto and London, 1900. *Gold Leaf Lady 33115*, by *Strathclyde*, another representative, portrayed in the illustration, is a thick young cow, of useful type. She was calved in Jan., 1897, and is forward in calf. She was bred by McEachern Bros., and had for dam *Fairy Pride*, by imported *Traveller*. *Angel 36955*, by *King Mina*, a smooth young matron, out of *Blanche Stamford*, by *Grover Cleveland*, is one of the roan cows in the group, the other being *Fanny 33326*, by *Crimson Chief*, out of *Princess May* by *Marmaduke*, tracing to *Nonpareil 1632*. This cow, bred by Chas. Rankin, is a particularly fine handler, and having the most desirable kind of a mossy coat. Another cow in the herd, also bred by Mr. Rankin, is the dark red *Cherry 33325*, by *Crimson Chief 18991*, and out of *Lady Grace Hutton*,

preparation for fall wheat. The proprietors of this farm realize that the labor involved in conducting a farm of this extent is at best an expensive item, and the larger the crops produced, the greater will be the profits realized. This is in keeping with each and every operation by this firm. It might be mentioned that the farming operations will be confined to the one branch—that of Shorthorn cattle. For this, a suitable barn, 75 by 75 feet, has been remodeled out of two old structures, rearranged and enclosed by cement concrete walls. It is laid out for three rows of tied cattle, two rows of box stalls, and two elevated feed passages, with which is used Usher's patented ventilation system. The Woodward watering system is employed: in fact, the basement is remarkably well laid out, and equipped with every reasonable convenience. [Our artist has incorrectly represented the silo at end of barn as being apparently of frame on stone-masonry foundation, whereas it is of cement concrete throughout, as are also the walls underneath the barns.]

In the inter-collegiate stock-judging competition at the Chicago Fat Stock Show, Mr. W. J. Black, student of the Ontario Agricultural College, Guelph, took 3rd place in the contest for sweepstakes for the Spoor trophy cup, 2nd for prizes given by the Hereford Association, 1st for prizes given by the Cotswold Association for sheep judging, and 3rd for prizes given for swine judging.

Canadian show-up includes a lot among the young acelet bull, *Red Marr Missie*, Sittyton Cicely, of Orange. The 2nd-prize bull class, and a son of Hill, of the Kin, of other useful a few months are good enough may be used in been in better k, and there is pastures of the the rare good continue to hold of the herds in

of the colored FARMER'S ADVOCATE for the purpose on the farm of mt. Mr. John the plowman, ell-bred Clydes-



ing the sod for year of the 20th erpress within, n the Furrow al, and with a im, rings out a id still greater also dealt with in the article, a study in us thoughtful prospective and

Experimental tural College, was most suc- upon forty-one in agriculture, ic entomology, nducted over ts, of Cornell esses, and took Farmers' Insti- agriculturists session, given success.

A Glance at China.

The problem of China is the problem of the world. It confronts the 20th century, complex, difficult, isolated, vast and far-reaching. The impending overflow of its people or their products on the Western world is called "The Yellow Peril."

The eighteen provinces of China proper contain over 350,000,000 people, averaging 250 or 300 to the square mile, industrious, skilful as workers, frugal, capable of existing on a cent a day, carpenters working for two cents per day, or farm workers for

hull a bit of rice; where cotton is spun and most articles made by hand; great timber wealth, and yet a sawmill consisting of two men and an old rip saw; coal and wood abundant, but twigs and bits of straw used for fuel; versed in Confucian philosophy, but attributing a drought to a water pipe on a foreign consul's house; gambling and opium smoking national vices; mineral resources the greatest in the world—gold, zinc, tin, silver, copper and iron; coal enough in Shansi to supply all the earth for 1,000 years and worth but 13 cents per ton at the mine's mouth, but people perishing for

lack of fuel and industry stagnant; skilful enough 1,200 years ago to bore 2,000 feet through the rock for salt, but drinking still from a well a mere filthy, open hole in the ground; two-thirds of the people farmers, a few fishermen, the rest laborers, scholars (officials) and merchants; tolerant of all religions, and docile, but panicky as a swarm of bees, as witness the late Boxer (secret society with which China is honey-combed) outbreak against foreigners.

If it took eight centuries under the slow processes of the past to develop the Roman Empire, and as long to make the England of to-day from barbaric root stock, how long will it take to renovate China? In the summer of 1898 the "Son of Heaven," His Majesty Kuang Hsi, Emperor of China, issued edicts abolishing the "eight-legged examination essay" as an avenue of literary attainment, and introduced what was called practical Chinese literature and Western learning in county and provincial academies. Potentially, these edicts revolutionized intellectual life, bringing mathematical, geographical and astronomical questions into vogue. But towards the end of September the Empress Dowager seized the reins, suppressed her nephew and set back the hands on the dial of intellectual and political progress. Seeing the loss of Formosa, Kowloon, Wei-hai-Wei and Kiao-Chau, and the influx of the foreigner threatening all his cherished past, what wonder, with an official faction behind it, that the Boxer outbreak came? China needs railways and enter-



CHINESE HULLING RICE.

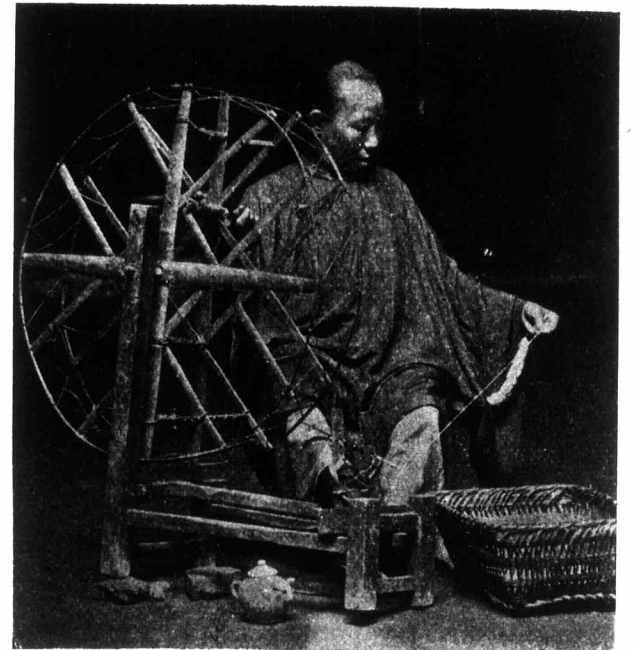
\$5 a year and food; the great masses poor, thousands never knowing where the next meal will come from; but some Mandarins rich and Li Hung Chang one of the world's biggest millionaires; not heathens as commonly understood, but with a civilization thousands of years old; wearing the same sort of clothes, in the same way, in the same sort of houses, as did their ancestors, whom they worship, five hundred years ago; with 400,000,000 acres of land cultivated or capable of producing good crops of wheat, corn, barley, rice, millet, sweet potatoes, beans, silk, cotton, hemp, orange trees, apricots, pears, plums, peanuts, melons, tea, sugar cane, etc.; abundance in one province and famine in the next for want of railways to transport the food; conservative, superstitious, leaving everything to "luck" and chance; having no regard for time and never in a hurry; the family idea strong, yet practising foot-binding and infanticide of girls; without public spirit and having the worst roads in the world; produce and merchandise transported on the backs of men, mules, camels, wheelbarrows or flat boats, he incredulously asks "why make a change?"; possessing the oldest newspaper in the world, yet the great masses probably not yet aware that they were beaten in war by the Japs four years ago; schools where philosophy or poetry ages old is memorized, but where geography, history and arithmetic are unknown; the highest achievement of scholarship by "hook or crook" to write an essay that will admit to a public service, where the pay is so poor that every official must overreach and peculate to live; where nearly everybody borrows and never pays back till compelled by repeated "duns" to do so, though it's not his purpose to defraud; a land without savings banks, but with crop-protecting societies, for everybody has to watch everybody else—dogs, insects, birds, men—all regard the maturing crop as common prey if they can take it without being stopped; population swarming in villages from one-half to two miles apart; an eighty-acre farm divided into ten different plots; linences a bush or an old stone; where people distrust each other and legislation is perennial, but where a verbal contract is better than a written one; with no reputation for truth, yet more to be trusted, commercially, than the vaunted Japanese; where agricultural business and trade in animals is done at street markets and fairs or sales (with theatricals as attractions), and the dates of which, though fixed for generations, may not, after all, occur on the day appointed; no national spirit or cohesion as we know it, yet most things done on a co-operative plan; where it takes four or five men and an ox to

prise, but she needs MEX more, and the all-comprehending problem is how to bring christianity to bear upon the millions of the Celestial Empire.

Greetings to the Christmas "Farmer's Advocate."

DEAR ADVOCATE:

A kindly greeting and a welcome we'll
Thee give, on this most joyous, this glad time.
Well we remember thee when thou wert but
A child of stature small: no mushroom growth
Was thine, but, like the oak from acorn, till
Thy roots have ta'en deep hold, and far and wide
O'er this fair land thy living branches spread.
Of Britain's sons were none more leal and true
Than thy most noble sire, who ne'er did turn
Deaf ear to tale of misery or woe;
Bravely and well he fought 'gainst odds, that thou
To his beloved land might be a boon,
And that fair "Ceres" with her magic wand
Might scatter old opinions to the wind.
So then the oldest, noblest of all arts



CHINESE WOMAN SPINNING COTTON.

To us, in all its grandeur, should be shown:
And how from Nature's storehouse might be drawn
Her hidden wealth—our fair land's greatest strength,
For in the wealth of nations lies her power.
Yet let not this alone inspire thy pen:
"To thine own self be true," and ever keep
The line thy noble architect has drawn.
Let truth, integrity and right, like gems,
On every page shine forth with purest ray.
And still from bribes, as ever, wash thy hands,
Expose the wrong, let every leaf be clean,
And still proclaim the "Lady of the Snows"
Has fertile soil, sweet air and laughing skies,
And gallant sons and daughters, who arise
At duty's call and do her bidding well.
Hearing in it the sacred "voice of God"
Show to the world this land of loyalty
(Dearly we love our good old Mother-Queen),
Where Freedom, crowned with olive, monarch sits,
And tyranny is trampled under foot.
Tell, tell it out, in tones both loud and clear,
Then wilt thou win a nation's gratitude,
And true success in future will be thine.

"Dorset Farm."

AGNES BURNS SPENCER.



ORDINARY STREET SCENE, CHUNG KING CITY, ON YANG-TSE-KIANG RIVER, CHINA.

The FARMER'S ADVOCATE will be brighter and more helpful in the first year of the new century than ever before.

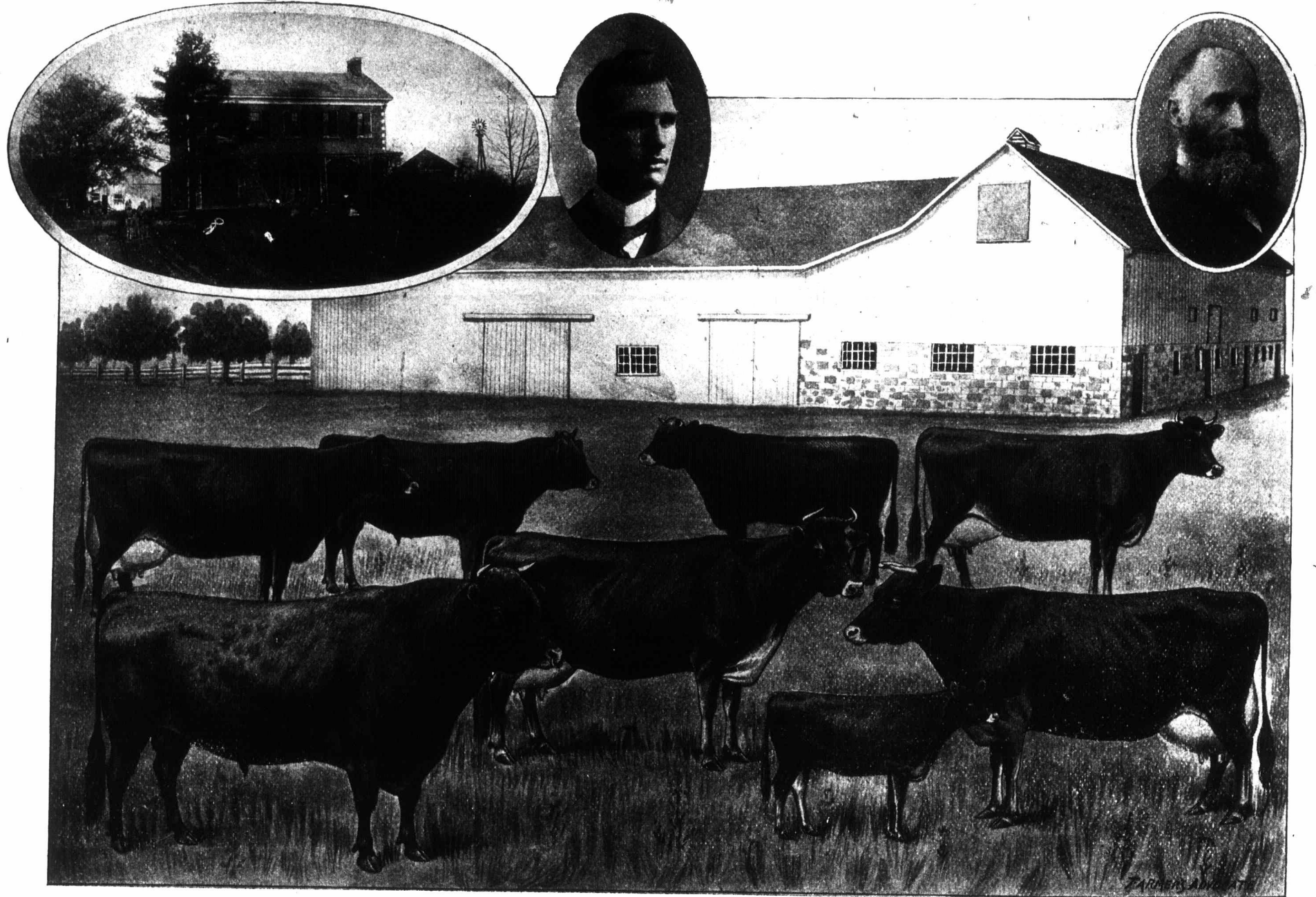
The Brampton Jersey Herd.

Prominent in the list of prizewinners in the class for Jersey cattle at the principal exhibitions in Canada in the last decade has figured the firm of B. H. Bull & Son, of Brampton, Ont., whose herd was founded some twenty years ago, on a small scale as to numbers, but on a sound foundation as to breeding and capacity for profitable dairy work. The foundation stock was deeply bred in the blood lines of the St. Lambert family, which has written its record in imperishable lines on the Advanced Record of the breed by producing a larger proportion of cows in the list testing over 14 lbs. of butter in a week, and a larger number making over 20 lbs. a week, than any other tribe of any breed. For a number of years bulls of superior individual merit, richly bred in the lines of the St. Lambert and St. Heller families, were used, and the herd increased in numbers, until the ambition of the firm to figure in the showing was gratified by the record of a measure of success which has been equalled by few if any breeder of Jerseys in the Dominion, with animals of their own breeding, in the same time, winning a large proportion of the best prizes year after year at the great Provincial Exhibitions at Toronto, Montreal, London, and Ottawa, and in the milking tests at the Provincial Dairy Show.

and sweepstakes at the Western Island Show, and second over all the Island in 1898, and a half-sister of Monarch took 1st prize at the London Dairy Show the same year, and was sold to Lord Rothschild at a long price. The dam of Brampton's Monarch, imported Canada's Queen, known on the Island as Manor Lass 2nd, besides winning two years in succession the championship as best female any age at Canada's greatest fair, at Toronto, made the remarkable record before being imported of winning first over the Island of Jersey as a yearling and as a 2-year-old, 1st at St. Mary's as a 3-year-old, and 1st at the Royal Jersey Show in the same year.

At the Toronto Industrial Exhibition, in 1898, was witnessed the unique and unprecedented spectacle in Jersey circles in the history of that show, of the male and female championship of the breed being captured by mother and son, Brampton's Monarch being adjudged the best bull of the class of any age, and his dam, Canada's Queen, the best female. And this was in decidedly the strongest show of Jerseys ever seen in Canada, among the bulls competing being a championship winner at the American Live Stock Show at New York and at the Trans-Mississippi Exposition at Omaha. In proof of the prepotency of Brampton Monarch as a sire and a happy nick with the St. Lambert blood, it may be cited that in 1900 his get won at the Win-

in 1896 of first prizes as a 2-year-old at six shows, including Toronto and London; in 1897, 1st as a 3-year-old, the sweepstakes for best female, and one of the 1st-prize herd at Montreal, her son being the sweepstakes bull at the same show; 1st in milk test at the Southern Counties Show, at Brantford, over all ages and breeds, her firstborn winning 1st at Toronto as a calf, and her sons heading high-class herds in Ontario, Nova Scotia, and Vermont. *Dolly's Pet*, a model Jersey, winner of six 1st prizes as a 2-year-old in 1899, including the shows at Toronto, London, and Brantford; and in 1900, 1st at London and Ottawa as a 3-year-old, her son, Golden Lad of Brampton, winning 1st this year at the two last-named shows, and being sold to Mr. Slater for the Newfoundland Government. *Jetsam's Molina*, 1st prize at Toronto as a yearling, daughter of imp. Jetsam, one of Valancey Fuller's 1st-prize herd at Toronto some years ago, and sold as a 4-year-old for \$400. *Battina of B.*, 1st in Provincial dairy test at Brantford as under 3 years, and 1st in Toronto the same year. *Minette of Brampton*, *Princess of Brampton*, and *Princess Flo*; daughter and granddaughters of Princess Minette, dam of Adelaide of St. Lambert, are a magnificent trio, the first named winning 2nd prize in the Brantford test, and milking 40 lbs. per day on the Toronto Fair ground as a 3-year-old, where she won 2nd prize in 1899. She



THE HOME AND JERSEY HERD OF B. H. BULL & SON, BRAMPTON, ONT., CANADA.

Realizing the possibility of lowering the constitutional vigor of the breed by a system of too close inbreeding to any one line of family blood, and having witnessed the virtue of an outcross of imported blood in the production of *Princess Minette*, with a record of 18 lbs. 6 ozs., a member of their own herd, a massive daughter of the Island-bred bull, Prince Boulivot 8757, and the dam of the phenomenal cow, Adelaide of St. Lambert, whose record of 76 lbs. milk in a day, and 2,005 in a month, has never been equalled, Messrs. Bull were satisfied that the standard of production stood in no danger of being lowered by a judicious introduction of new blood from the fountain head, and were at the same time convinced that the stamina and conformation of the cattle could be much improved. Acting upon that conviction, they secured the Island-bred bull, imp. *Brampton's Monarch* 52866, A. J. C. C., a grandson of the illustrious Golden Lad, whose progeny has made a phenomenal record in prize-winning at the Island shows, and the Royal of England, in the last few years, his daughters being noted for the remarkable size and balance of their udders. The sire of Brampton's Monarch, Castor's Pride, by Golden Lad, was a son of Castor's Beauty by Castor, winner of the championship and the Queen's gold medal at the Royal Show of England. Quack, a half-brother of Monarch, by the same sire, won 1st

and Brandon Exhibitions, the championship for best Jersey bull any age, for Artisan of Brampton, a choice son of the Toronto champion and of Jetsam's Molina, sold to Mr. W. V. Edwards, Souris, Man.; at Toronto, 1st and 2nd for bulls under a year, 3rd for bull calf under 6 months; at London, 1st for herd of 4 calves, 1st for yearling bull, for bull calf under a year, and 1st and 3rd for heifer calves under a year; at Ottawa, 1st for heifer under a year, 1st for heifer under 6 months, 1st for yearling bull, 1st and 3rd for bull calves, and 1st for herd of 4 calves. So great has been the demand for his progeny, that sons of Monarch have this year been sold to go to several Provinces and States, including Newfoundland, Nova Scotia, Ontario, Manitoba and New Brunswick, and the States of Vermont and New York.

The limits of allotted space admit of reference to but a few of the individual animals in the herd of some 75 head, all told, but among the matrons that have a record as prizewinners may be mentioned: *Rhoda of Brampton*, the dehorned cow, always admired for her typical dairy conformation and milk-making machinery, winner of 1st prize as a cow at Montreal in 1897, 2nd in the Provincial dairy test in 1898, and 1st and sweepstakes at the Western Fair, London, in 1899. *Sunbeam of Brampton*, the acme of dairy form and udder development, winner

has 75 per cent. of the blood of Adelaide. The granddaughter, *Princess*, now in her 4-year-old form, is doing good work, and gives promise of maintaining the record of the family for large milk production, while *Princess Flo* has figured well as a yearling this year, being 1st at Ottawa, 2nd at London, and 3rd at Toronto. As evidence that the herd is up-to-date in character, it is only necessary to state that 81 prizes were won at five fairs in 1900, 35 of which were 1st prizes. The above is but a partial statement of the record of a herd which has played a prominent part, not only in public competition, but also in the restoration of a once run-down farm to a high state of fertility, in the rebuilding of once delapidated barns, in the education of a large family, and the maintenance of a happy home. The Brampton Jersey herd enters the vestibule of the new century in comfortable quarters, where generous supplies of fodder, fresh air, sunshine, and pure water will tend towards making even a more honorable and useful record in the future than it has achieved in the past, which has certainly not been an unenviable one.

The animals included in the engraving are Brampton's Monarch (imp.), Rhoda, Golden King, Golden Hero, Sunbeam, Dolly's Pet, Jetsam's Molina, and Golden Lass.

Beresford Farm Shorthorns and Clydesdales.

[FOR ILLUSTRATION SEE PAGE 734.]

Golden Measure = 20057 = (72615), the imported bull now at the head of the Beresford Stock Farm of John E. Smith, Brandon, as will be seen by a glance at the beautiful portrait of him herewith presented, is a bull of rare individual excellence, low-set, deep-bodied and broad-backed, wonderfully smooth, evenly and thickly fleshed, possessing in marked degree the characteristics of the Scotch type, easy feeding and early maturing, together with the facility of putting meat on those parts which furnish the most valuable cuts. Along with these practical and moneymaking qualities, Golden Measure is not lacking in style and carriage; in fact, he seems conscious of the noble ancestry from which he has descended. Bred by William Duthie, Collynie, Aberdeenshire, Scotland; calved February, 1897, and imported same year by John Isaac; a son of the richly-bred Brawith Bud bull, Golden Count (68711), bred by J. Deane Willis, Bapton Manor, and sired by Count Lavender. The dam of Golden Measure is the Missie cow, Mistletoe 5th,

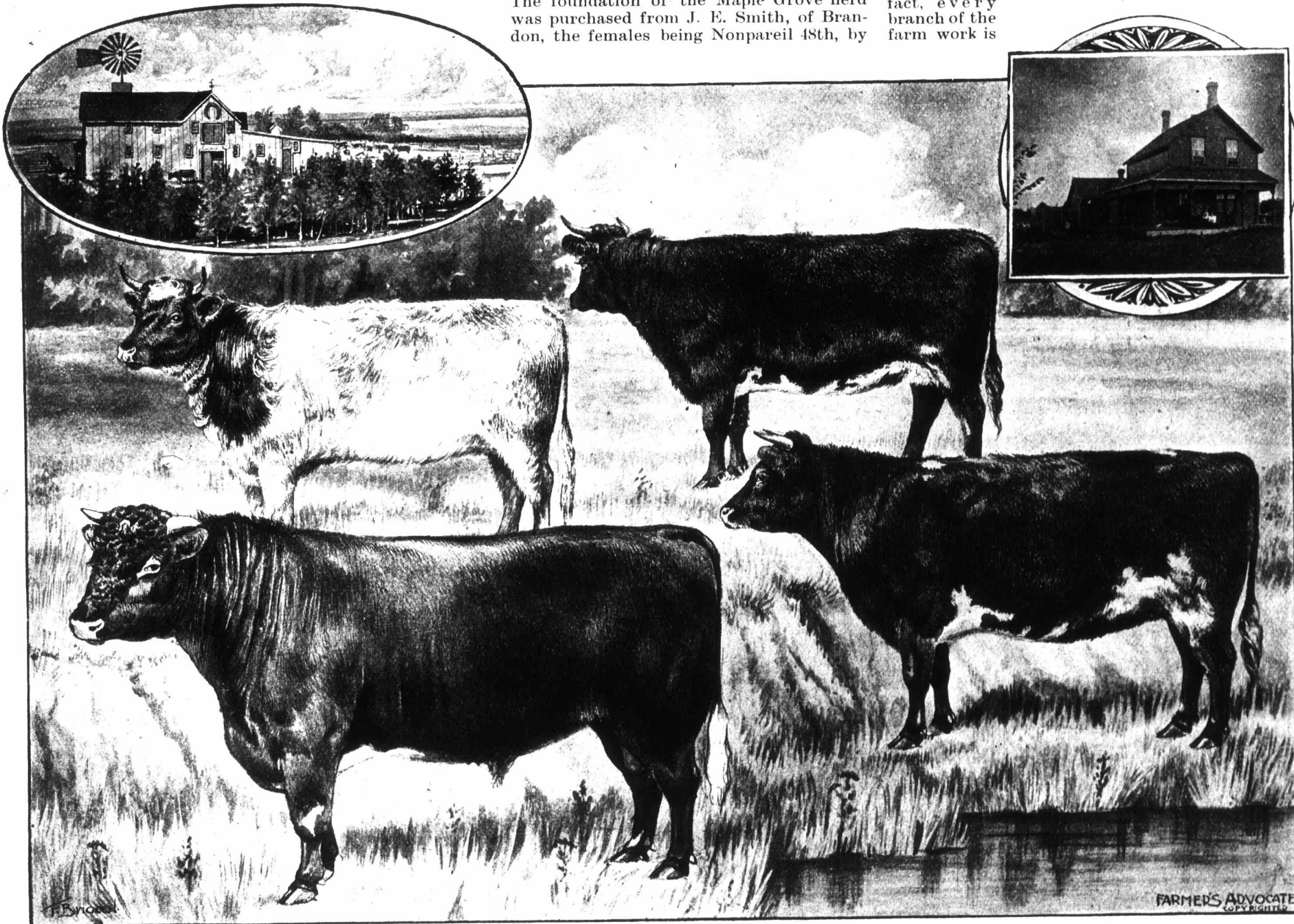
mare. Prince Charles was 1st-prize 3-year-old stallion at the Winnipeg Industrial last July, and reserve for sweepstakes.

Maple Grove Stock Farm, Rosser, Man.

Maple Grove Farm lies in one of the most favored mixed-farming districts of the Province, only four miles north from Rosser, on the main line of the C. P. R. and convenient to the City of Winnipeg, which provides a cash market for all kinds of farm produce. Hay of good quality is always plentiful, fuel handy and cheap; water of excellent quality, right out of the limestone rock, is everywhere available; and it has been a very safe wheat and oat district. Mr. Walter James, the proprietor of this farm, has for the past ten years been quietly building up a nice herd of Shorthorns, until now the herd numbers some thirty-five head of pure-breds. Mr. James was, along with Walter Lynch, of Westbourne, and Kenneth McKenzie, of Burnside, one of the earliest importers of pure-bred Shorthorns into this Province. He was at that time located near Westbourne, on the White-Mud River.

The foundation of the Maple Grove herd was purchased from J. E. Smith, of Brandon, the females being Nonpareil 48th, by

without sacrificing the excellent milking qualities of the foundation females. A ready market has always been found for all the bulls raised in the adjacent districts of Rosser and Stonewall. The land now cultivated by Mr. James and his two sons consists of 810 acres, mostly rich wheat land available for cultivation: of this, 200 acres are in crop, about 140 in wheat. Oats, barley and some flax are also grown, with about an acre of turnips for winter feeding. Timothy has for years been a prominent factor in the rotation. Other grasses have been under experiment, and the Native Rye grass is considered as perhaps the best suited to the soil and conditions of the district. The land is kept in a high state of cultivation, and the work accomplished with a minimum of labor, four or five horse teams being used wherever possible. The buildings are comfortable and substantial. A 12-foot windmill on the stable, which is 70x70, is used for crushing grain, sawing wood, and pumping water for the stock, a large tank being situated in the stable. Water is provided in troughs, inside or out, according to the weather. A comfortable poultry house, 16x20, is located behind the house, on the edge of one of the shelter bluffs, and a fine flock of Barred Plymouth Rocks, bred from choice prize-winning strains, is made a profitable department of the farm. In fact, every branch of the farm work is



MAPLE GROVE SHORTHORNS, PROPERTY OF MR. WALTER JAMES, ROSSER, MAN., CANADA.

by Scottish Archer (59833), bred by Amos Cruickshank, and sold to Deane Willis for 300 guineas; grandam Missie 135th, by William of Orange, also bred by Amos Cruickshank; great-grandam Missie 73, by Prince Charlie, bred by W. S. Marr.

Such notedsires and showyard winners as Maren-go, Mountaineer and Mirandó belonged to the Missie family, which is one of the oldest and best at Uppermill. As a stock-getter he has already proved himself: several bulls of his get have been sold at good prices, for herd-headers. Two were sold at the Flatt sale at Chicago in August last. Mr. Smith has bred Golden Measure to a select lot of Lord Stanley 2nd heifers, and his prepotency as a sire is demonstrated by the uniformly rich red colors and mossy coats, the broad backs, and generally low-set, blocky type of this bunch of calves.

The Shorthorn herd at Beresford is maintained at its usual strength of about 50 females, although large drafts have been made from it during the past season in supplying the ever-increasing demand for Shorthorn foundation stock.

The Clydesdale stud is also kept up to the usual high standard, with the imported stallion, Prince Charles, as stock horse. He is by Sir Morrell Mackenzie (9116), he by Sir Everard (5353), dam Princess Charlotte (12651) by Royalist, out of a Top Gallant

Imp. Windsor = 6165 = ; Lucy of Beresford 2nd, also by Windsor; and Priscilla 2nd, bred by Hon. M. H. Cochrane, by Lord Adrian. To these were added several deep-milking Bates families, purchased from Greig Bros., Otterburne. Upon these females were used in succession the bulls, Sir Walter of Beresford

15800, by the Barmpton Hero bull, Sunrise, of Watt's famous Matchless tribe, and Rosser Lad, by Indian Warrior, out of an imported Warrior dam. At the head of the herd now stands the young bull, Lord Stanley 25th 29217, a big, growthy red two-year-old son of Lord Stanley 2nd, by Topsman, out of Lady Greenway, by imported Lord Lansdowne. This bull forms an attractive feature in the accompanying illustration. A glance at the three smooth, showy two-year-old heifer, which are also portrayed in the illustration, affords ample evidence of the successful outcome of Mr. James' breeding. They are the roan Olenka, out of Violette; the red-and-white marked Lenora, out of Lalleen Arkwright; and the red Monica, out of Muriel; all three by Rosser Lad. Mr. James aims to produce the broad-backed, thick-fleshed sort,

made to pay, a careful system of accounts being kept. Besides granaries, implement shed, and stone milkhouse, there is a carpenter and blacksmith shop, whereby either Mr. James or his son Allen can save themselves many a run to town for repairs, etc.

The house is not large, but very comfortable and homelike, and surrounded with shelter belts of native maple. In front is a nice lawn and shrubbery, which has been planted with spruces, Scotch pines, tamarack, birch, Russian poplars, caraganas, golden and laurel leaf willow, lilacs, etc., giving to the homestead the appearance of thrift and real home comfort.

The American Shropshire Association met on December 14th at the Chicago Stock Yards, with a large attendance. The report of the executive committee showed a balance on the right side of the ledger, and a gratifying increase in entries. Officers were elected: President, John Dryden, Toronto, Ont.; Vice-President, W. C. Latta, Lafayette, Ind.; Secretary-Treasurer, Mortimer Levering, Lafayette, Ind.

d at six shows, in 1897, 1st as a female, and one son being the 1st in milk at Brantford, 1st in Vermont, and 1st at Toronto in 1900, 1st at the two Mr. Slater for daughter of imp. 1st-prize herd at as a 4-year-old special dairy test 1st in Toronto Princess of grand- of Adelaide of the first named test, and milk-air ground as a e in 1899. She



Adelaide. The 4-year-old promise of for large milk figured well as Ottawa, 2nd at ence that the only necessary fairs in 1900, above is but a herd which has public compe- nce run-down rebuilding of on of a large happy home, e vestibule of arters, where sunshine, and even a more ture than it certainly not

graving are Golden King, Pet, Jetsam's

Riverside Stock and Dairy Farm.

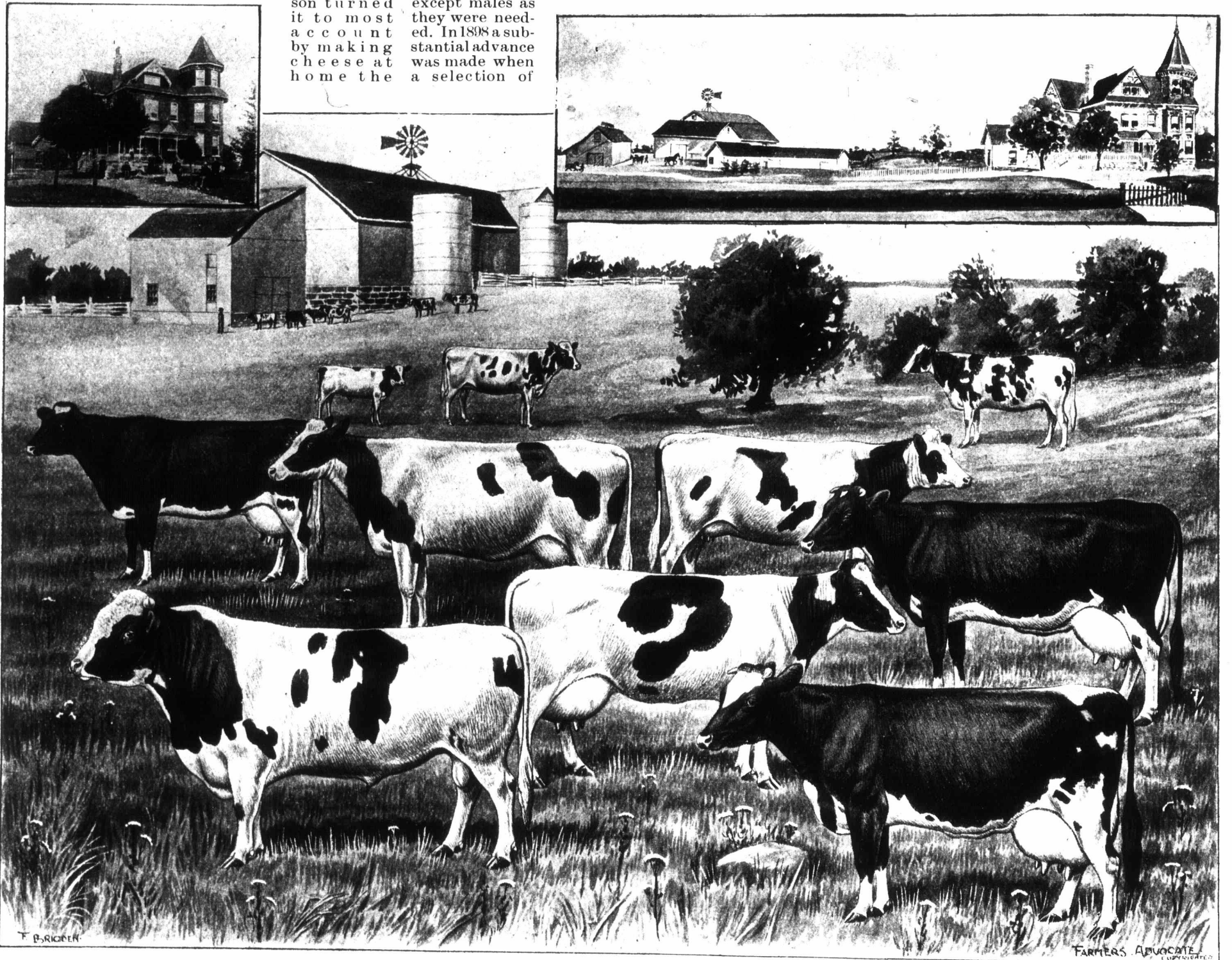
To change from beef-raising to dairying may be termed a "right-about-face" movement, but when it occurs after a careful study of the possibilities and requirements of either during nearly two years, the venture is more than likely to prove successful. Up till about eight years ago, Messrs. M. Richardson & Son, whose farm is situated on the north bank of the Grand River, three miles west of Caledonia, Ont., raised pure-bred and grade Short-horn cattle. From the time the senior member of the firm commenced to till the soil and accumulate land, some thirty-five years ago, he farmed well, making the best of his opportunities, always striving to add to the fertility of his soil. The importance of using live stock as a medium between the farm crop and the salable products received proper recognition, so that while most farmers were selling grain, Mr. Richardson was feeding his to cattle, and selling beef and dairy produce. His herd being a beef-producing one, the milk supply was

not large, but Mrs. Richardson turned it to most account by making cheese at home the

purchases until the herd now numbers some forty head of typical black-and-whites, that produce in cheese per year from \$60 to \$100 per head. This is not a matter of accident in any sense, for selections were made from among the best animals of leading herds of America. Eight years ago, the Holstein bull, Ira's King, was purchased from the late John Pringle, of Ayr, Ont., and used upon the milking stock. One year later four registered females, including two members of the Wayne tribe, bred by T. G. Yeomans & Sons, Walworth, N. Y., were introduced. The cow, Hulda Wayne, proved herself a very fortunate purchase, as she continued to give, for an extended period after calving each year, 75 pounds of milk per day on ordinary feed. This was not a surprise, as her grandam, Princess of Wayne, gave 24,008 pounds of milk in a year, at eleven years old. Cinderella Wayne also turned out well, as her daily performance was to give 55 pounds of 4.2 per cent. milk. Of this family, Messrs. Richardson still have 8 females in their herd. For several years the herd grew only from within itself.

represented is Aaggie Iris of Erie, that won 2nd award as a three-year-old in 1898, in the Holstein-Friesian official authenticated butter-test, during seven consecutive days. She was the only cow from a Canadian herd to win anything in that contest, in the performance of which she entitled herself to registration in the Advanced Register. The others in the group, besides the stock bull, are: Hulda Wayne's Aaggie, Polly Wayne, Woodland Molly De Kol, Toitilla Echo De Kol, Flora Wayne of Riverside, the heifer calf, Tensen's Beauty, and bull calf from Woodland Molly De Kol.

This really beautiful and valuable herd are cared for in the most becoming manner for continuous profit, being partially soiled in summer, and housed and fed under extremely favorable conditions during the winter season, the effort being to provide, as far as possible, June conditions in comfort and feeding throughout the cold season. The cows are fed for a full flow for about ten months in the year, and the milk is manufactured the year around at the farm, into a line of mild, soft cheese, for a



HOLSTEIN-FRIESIAN CATTLE AT RIVERSIDE STOCK FARM, PROPERTY OF MATT. RICHARDSON & SON, CALEDONIA, ONT., CANADA.

year around for a special market that was always ready to receive the good homemade product. While beef sold for a good price the herd in hand returned a fair profit, but when a good three-year-old bullock would bring no more than about sixty dollars, the dairy end of the business was doing most to keep the enterprise on foot. It was this circumstance that induced the change that has brought the firm of Messrs. Richardson & Son prosperity and comfort that is due every industrious farmer. Yes, it was that sixty-dollar steer that settled the question, as some of the best cows in the herd then in hand returned that much revenue inside the twelve months, but such were exceptions in the Shorthorn breed, so that a change of working stock seemed desirable. The different dairy breeds were studied for some time, and it was almost decided to adopt the handsome little Scotch breed, the Ayrshire, but for a cheese cow the Holstein was believed to possess advantages on account of giving more milk containing an excess of casein over that from other breeds of cows. A few good pure-bred Holstein heifers and a bull were secured, which were perpetuated and increased by

four heifers and one bull was made from the herd of Henry Stevens & Son, Lacona, N. Y. The females were four finely-bred De Kol yearlings, and the bull, Victor De Kol Pietertje, still at the head of the herd, was sired by De Kol 2nd's Butter Boy 2nd, whose dam, De Kol 2nd, had an official butter record of 26.57 pounds in seven days, while the dam of Victor De Kol Peitertje had an official three-year-old record of 18 pounds 1.92 ozs. butter in seven days, average per cent. of fat 4.02. The heifers were sired by De Kol Artis, and out of heavy-producing dams. In the same year there were other additions made from the noted herds of Ellis Bros., near Toronto, and G. W. Clemens & Sons, St. George. From the former herd four females and one male were secured, all of which were choice in character and breeding. From Messrs. Clemens were secured Daisy Meathille and Inka Mercedes De Kol; the latter at 21 months old made in an official test 9 pounds 1 oz. of butter in 7 days.

The Riverside herd, produced from the above stock, is fairly represented in the group portrayed in the illustration. Among the females

special market. Mrs. Richardson still conducts this important branch of the work in a painstaking and successful manner.

In connection with the dairy, hogs are kept, and these too make up a considerable revenue, as they are fed with the same intelligence as characterizes all the other branches of work on this well-conducted, profitable farm. Nor is profit the only object sought, for neatness and comfort are evident on every side. The beautiful, modernly-furnished dwelling and surrounding grounds, the fruitful and well-kept orchard and garden, and the nearly two miles of evergreen hedges, give Riverside Stock Farm every appearance of a prosperous farm home.

The American Cotswold Association has elected the following officers: - President, D. McCrae, Guelph, Ont.; Vice-President, J. Hal Woodford, Paris, Ky.; Secretary, George Harding, Waukesha; Treasurer, F. W. Harding, Waukesha. The annual report showed a healthy growth in registration and an active demand for Cotswolds.

J. G. Barron's Shorthorn Herd, Carberry, Man.

The most prominent breeder of Shorthorn cattle in that magnificent agricultural district generally spoken of as the Carberry Plains is Mr. John G. Barron. Having spent his early days in the celebrated live-stock counties of Wellington and Waterloo, Ontario, he early learned to appreciate the importance of live stock, and had not long been settled in Manitoba before he began to lay the foundations for his present herd of Shorthorns. For although located only four miles north of Carberry, in the very center of what is justly recognized as one of the best wheat-raising districts of the Province, he realized that no system of farming that did not include the breeding and feeding of live stock could be permanently successful.

As a wheat-grower Mr. Barron has enjoyed marked success, operating in connection with his home farm (which consists of a full section, 640 acres) several outlying farms. Twelve teams, mostly of Clydesdale breeding, a complete outfit of modern farm machinery, including a 20-H.-P. engine and separator complete, make up the equipment. Grass (timothy), which does well in this district, has for years been regarded as essential to proper cultivation, and a system of grass rotation with manure is being introduced. Every particle of straw produced on the farm is put through the stock barns either as feed or bedding, and every pound of manure applied to the land. A small acreage near the

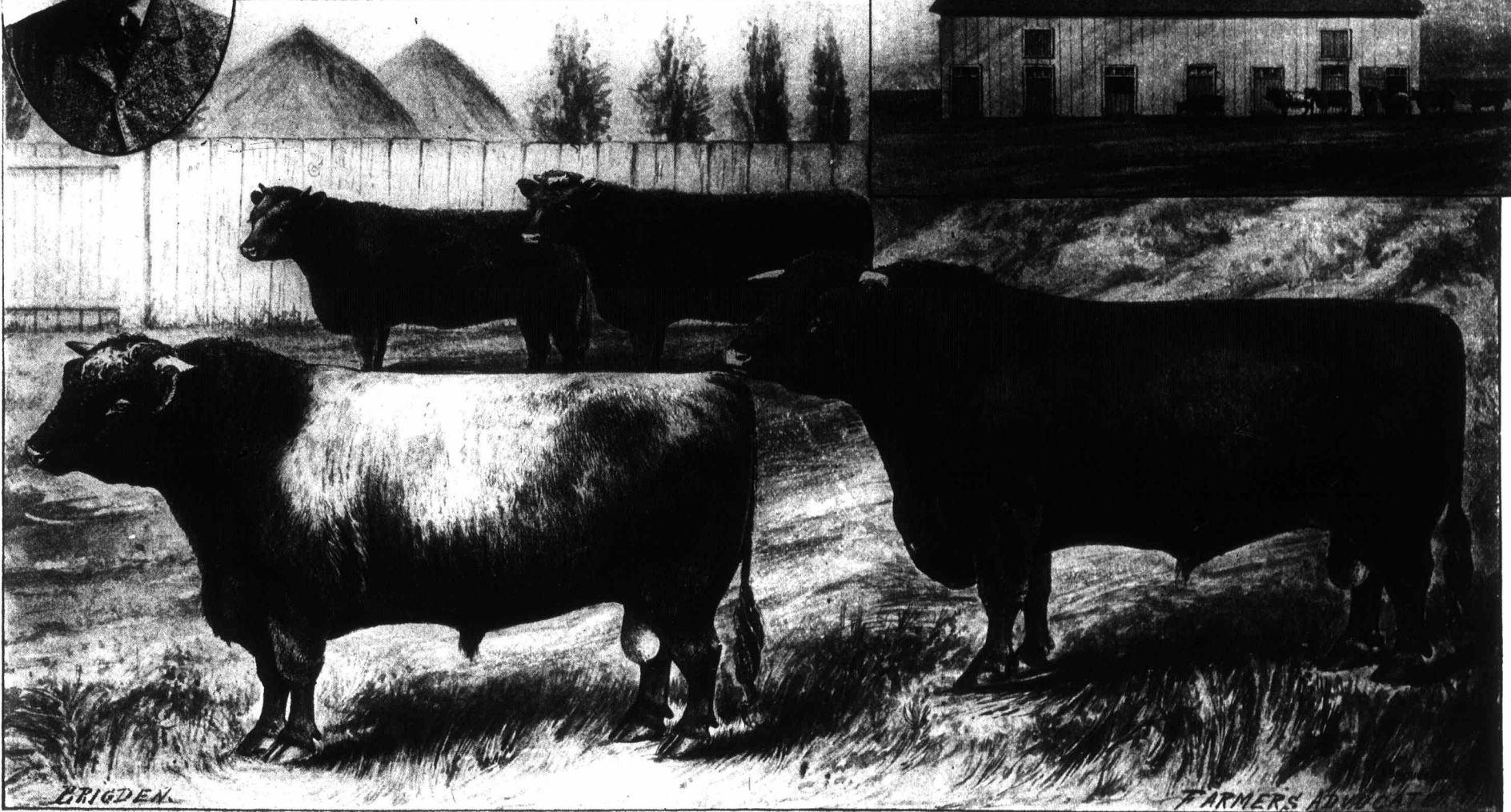
Stanley 4th, by Scarlet Velvet, out of a Centennial Isabella, by Stanley; but of these, undoubtedly the greatest was the celebrated showyard champion, Topsman, three times sweepstakes winner at the Winnipeg Industrial, sweepstakes winner at Toronto, London and Ottawa in 1899, and at New Westminster in 1900. An excellent portrait of Topsman appears in "Canada's Ideal." In describing this grand bull, as he appeared in the showing at Toronto in '99, our reviewer says: "Topsman's true lines, smoothness and quality of flesh, immense heart-girth, the perfect placing of his strong, straight legs, and his majestic walk of apparently conscious superiority carrying conviction to the critical judge at sight." Not only was Topsman invincible in the showyard, but he proved himself an excellent sire, his influence greatly strengthening the herd, reproducing his own wonderful loins, deep, full quarters, foreroasts, and, above all, his marvellous constitution.

At the John Isaac sale of imported stock, in the winter of '98, Mr. Barron was a strong bidder for some of the best numbers, securing the imported heifers, Jenny Lind 4th 31182, bred by Sir Arthur Grant (Aberdeenshire, Scotland), sired by Marr, a smooth, low-set, wonderfully good, thick heifer, that is breeding well, and Kinaldie Rosebud, bred by Campbell, of Kinellar, and sired by Clan Alpine, and the Nonpareil bull, Nobleman 28871, by Clan Alpine (60495). Nobleman was bred by J. L. Reid, Aberdeenshire, Scotland. He is, as may be seen by the engraving, a low, thick-set, red bull, with

The Prairie.

The following vivid description of the prairie is given by Capt. Buttler, F. R. G. S. (now General Buttler), in his work entitled THE GREAT LONE LAND, published in 1873, "a narrative of travel and adventure in the Northwest of America." In this interesting book, the author describes a trip from Fort Garry, via Fort Ellice, on the Assiniboine, and Fort Carlton, on the North Saskatchewan, to Rocky Mountain House, and back to Fort Garry by the Saskatchewan River and Lakes Winnipegosis and Manitoba:

"The old, old maps which the navigators of the 16th century framed from the discoveries of Cabot and Cartier, of Verrazanno and Hudson, played strange pranks with the geography of the New World. The coast line, with the estuaries of large rivers, was tolerably accurate; but the center of America was represented as a vast inland sea, whose shores stretched far into the polar north—a sea through which lay the much-coveted passage to the long-sought treasures of the old realms of Cathay. Well, the geographers of that period erred only in the description of the ocean which they placed in the central continent, for an ocean there is, and an ocean through which men seek the treasures of Cathay, even in our own times. But the ocean is one of grass, and the shores are the



A GROUP OF MR. JOHN G. BARRON'S SHORTHORNS, CARBERRY, MAN., CANADA.

buildings is devoted to growing fodder corn and turnips. Corn, North Dakota Flint and Red Cob Ensilage, has proved so satisfactory a crop that in future more of it will be grown. The buildings are located near the north-east corner of the section; right on the corner is the district school-house, a neat building of red brick, one of the best country schoolhouses in the Province, only requiring the planting of some trees and a little attention to the grounds to make it a model. The cattle barn, as will be seen by reference to the accompanying engraving, is a comfortable and commodious frame structure, 8x14, on a two-foot stone foundation, ten-foot ceiling, twenty-foot purline posts, giving fine loft capacity. The floor is cement throughout and gives perfect satisfaction. A sixty-five barrel water tank stands in the loft, which is kept supplied with water by a twelve-foot windmill. Water is conveyed to all parts of the stable by pipes, with troughs in front of each row of cattle.

The foundation of the Shorthorn herd was selected from the leading herds in the vicinity of Mr. Barron's old home in Ontario. Among the bulls that have been successfully used in the herd may be mentioned the Bates bull, Barrington Waterloo 10855; the Scotch bull, Topsman 17817, by Stanley 7949, of World's Fair fame, out of a Victoria Nonpareil, by imp. Vice Consul; and Lord

good top and bottom lines, deep, heavy quarters, and his calves from Topsman heifers are coming just right, wide topped, thick and level. The two beautiful red heifer calves in the illustration are fair samples of a dozen youngsters of this mating. These two are Lousia 2nd (with the white on face) and Roan Betty 3rd. The other bull in the illustration is Topsman's Duke 29045, the first-prize two-year-old at the Winnipeg Industrial. He is a worthy son of Topsman, out of the J. & W. Russell-bred Gipsy Queen 2nd, imported from the Kinellar herd of S. Campbell. One of the best bull calves in the herd is by Topsman's Duke, out of Princess by Scarlet Velvet. Another bull in service is the two-year-old Judge 2nd, bred by the Hon. Thos. Greenway, by the sweepstakes bull, "Judge." He was the second-prize calf in 1899 at the Winnipeg Industrial.

There are some thirty-five breeding Shorthorn cows in the herd, which numbers about sixty-five head. Berkshire and Yorkshire swine of fashionable strains are also bred.

Lawyer—"What is your gross income?" Witness—"I have no gross income." Lawyer—"No income at all?" Witness—"No gross income. I have a net income. I'm in the fish business."

crests of mountain ranges and the dark pine forests of sub-arctic regions. The great ocean itself does not present more infinite variety than does this prairie ocean of which we speak. In winter, a dazzling surface of purest snow; in early summer, a vast expanse of grass and pale pink roses; in autumn, too often a wild sea of raging fire. No ocean of water in the world can vie with its gorgeous sunsets; no solitude can equal the loneliness of a night-shadowed prairie: one feels the stillness and hears the silence; the wail of the prowling wolf makes the voice of solitude audible; the stars look down through infinite silence upon a silence almost as intense. This ocean has no past time has been naught to it, and men have come and gone, leaving behind them no track, no vestige, of their presence. Some French writer, speaking of these prairies, has said that the sense of this utter negation of life, this complete absence of history, has struck him with a loneliness oppressive and sometimes terrible in its intensity. Perhaps so; but, for my part, the prairies had nothing terrible in their aspect, nothing oppressive in their loneliness. One saw here the world as it had taken shape and form from the hands of the Creator. Nor did the scene look less beautiful because nature alone tilled the earth and the unaided sun brought forth the flowers."

CANADA.

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Castle Farm.

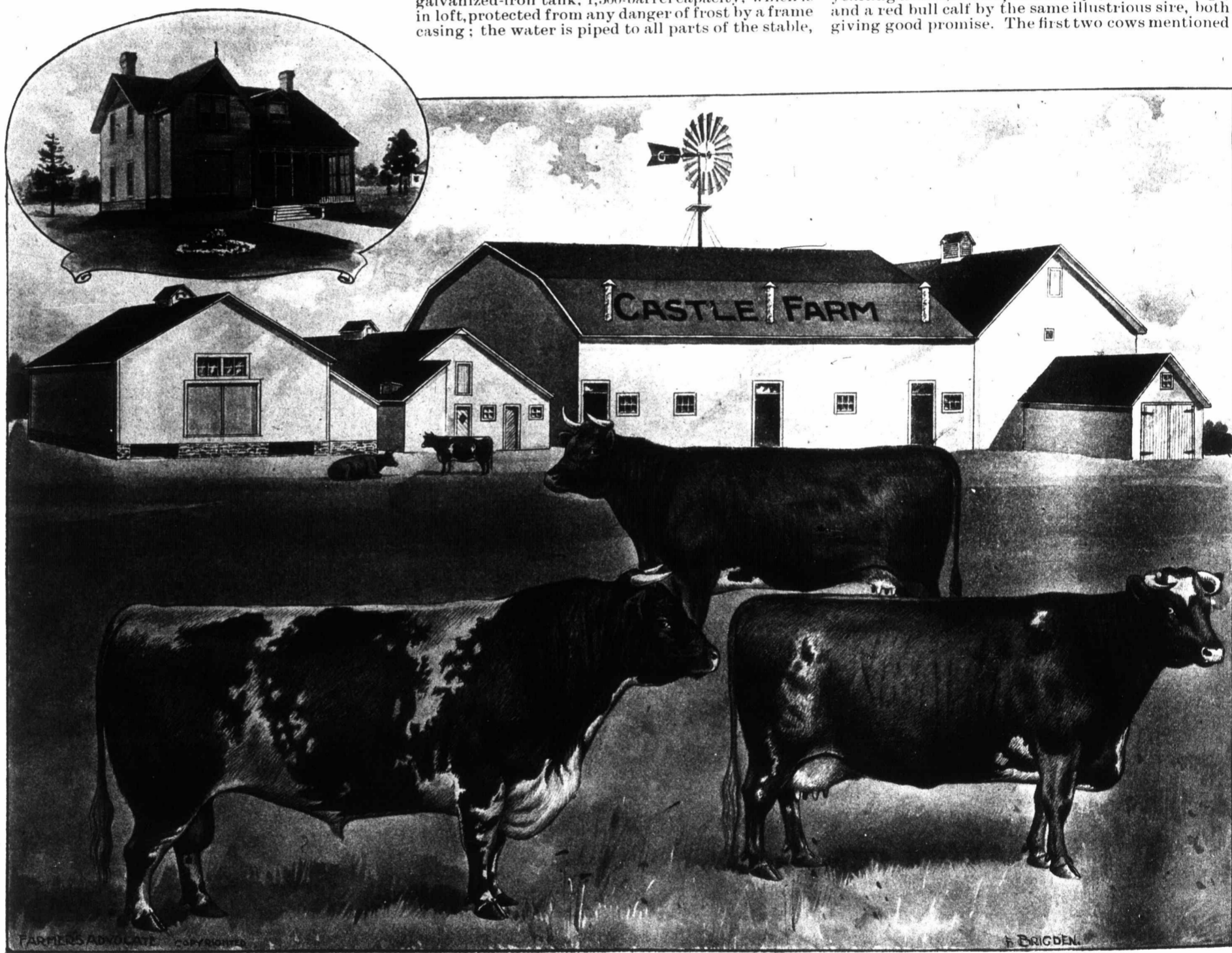
A mile and a half east of Teulon, the present terminus of the Stonewall branch of the C. P. R., is the Castle Farm, the property of Mr. C. C. Castle, who has recently been appointed to the important position of Warehouse Commissioner. The Castle Farm consists of a section (640 acres) of land. The soil is a fairly heavy clay loam, with excellent drainage. It lies on the eastern slope of a limestone ridge, many feet above the level of the St. Andrew's marsh, which lies away to the east and has within recent years been drained by the Local Government. On the edge of this marsh is a 160-acre hay claim belonging to the farm, which is all enclosed in a three-wire fence, and furnishes yearly an abundant supply of hay. Of the home section, 375 acres are under cultivation, and the balance is subdivided into two large pasture fields, all fenced with three and four wires. The district is well settled, the main crops being wheat, oats, and cattle. Although

fine barn, which is illustrated in the accompanying engraving, is 150x40; at the north end is the horse stable, with accommodation for 10 head of work horses, and the balance is devoted to the 60 head of cattle.

In the main stable the walls are 16 feet high; 2x6 inch studding and rafters are used, and the building double-sheeted, with tar paper between; good sized windows, doubled for winter, and fanlights over the doors, afford plenty of light. A system of ventilation is installed, on the plan recommended by Dr. Rutherford, of Portage la Prairie, and described and illustrated in the *ADVOCATE* last winter: fresh-air inlets, one foot square, are provided at the floor level on one side, with ten-inch galvanized iron foul air pipes on the other side, running from the ceiling up through the roof, each of these furnished with a damper to control the draft. All the buildings stand on stone foundations. Surmounting the barn is a 12-foot geared windmill, utilized for pumping and crushing. The water is obtained from the bed-rock 60 feet deep, in a six-inch drilled well, iron piped. From this well water is pumped into a galvanized-iron tank, 1,500-barrel capacity, which is in loft, protected from any danger of frost by a frame casing; the water is piped to all parts of the stable,

butter-fat, have returned an average of \$40 each for the season, without estimating anything for the calves, which are a choice lot, all in fine, growthy trim. They are the get of the Shorthorn bull. The cream, after being separated, is placed on ice and shipped three times a week to a Winnipeg creamery.

As foundation for a Shorthorn herd, Mr. Castle selected three females from the Prairie Home herd of Hon. Thomas Greenway. These were: Village Flower = 16865-, a big, thick, handsome cow of the Village Blossom family, of which the World's Fair champion, Young Abbotsburn, was a member. She was sired by the Barmpton Hero bull, Prince Albert. Gladness = 23884-, a Canadian Duchess of Gloster, also sired by Prince Albert, another of the big, thick, sappy sort. These two cows are shown in the engraving. Gladness, the rich roan with horns turned down; Village Flower, the dark red. The other female was Moss Rose of Strathleven = 23189-, by imported Northern Light. She was third-prize yearling at the World's Fair, a low-set, smooth, handsome cow. From her is a red yearling heifer, sired by the sweepstakes bull, Judge, and a red bull calf by the same illustrious sire, both giving good promise. The first two cows mentioned



SHORTHORNS AND HOMESTEAD, PROPERTY OF MR. C. C. CASTLE, TEULON, MAN., CANADA.

much of the land has been wooded, an excellent sample of No. 1 hard can be produced, and the soil is peculiarly well adapted for growing oats, which the convenience of the Winnipeg retail market makes a profitable crop every year.

Special attention is given by Mr. Castle to soil cultivation, the following plan being adopted: Summer-fallow, one deep, thorough plowing, followed by repeated surface cultivation to conserve moisture and germinate and destroy weeds; wheat follows, then the land is fall plowed and another wheat taken off. It is then spring plowed and cropped with oats. Manure is applied direct from the stables during winter to land to be spring plowed for oats. Banner oats are grown exclusively, and the seed is annually taken from carefully-selected seed grown on new land. The most scrupulous care is exercised in the preparation of all seed grain. About 160 acres of wheat is grown each year, and this year the yield was 22 bushels per acre, oats yielding 15 bushels per acre.

This district is eminently adapted to mixed farming; native hay is abundant, the farms are well sheltered with natural bluffs of timber, and the water supply is of the best. Mr. Castle has made stock-raising a prominent feature. The

with water troughs in front of the cattle. In one corner of the stable is the milk room, furnished with a No. 3 De Laval separator, which is run by a one-horse tread power in covered shed adjoining. There is also a 10,000-bushel granary, 36x34, with lean-to for implement shed.

The commodious and handsome farm residence, with nice lawn in front, is also shown in the engraving. It is conveniently planned, well built and very warm. In the background will be observed a poultry house, which is 12x25. Black Minorca and Barred Plymouth Rock fowls are kept.

Some years ago Mr. Castle purchased a herd of high grade Holstein cows and a few Shorthorn grades. On these were used the Holstein bull, Omitta's Mink Mercedes Count, 2nd prize bull at the Winnipeg Industrial in 1898. The result of this breeding, while highly satisfactory for producing milk and butter cows, was not considered satisfactory for getting profitable stecker calves or steers, consequently Shorthorns have been introduced. The dairy herd has been carefully selected, and already reached a high standard. Twenty cows have been milked this past summer, and the number will be increased to thirty next year. These twenty cows, testing on an average 102 percent, of

are nursing big, broad-backed, blocky roan bull calves, sired by the herd bull. This bull, What-For-No = 21606-, is a lengthy, low-set roan son of Village Hero, bred by Walter Lynch, Westbourne, Man.; his dam being Pussy, by Silverskin, he by a Cruickshank Lavender, with Barmpton Hero next preceding on the sire side. Village Hero is by the famous Barmpton Hero bull, Prince Albert, out of the imp. Village Blossom.

This year the Prince of Wales heads the list of winning race-horse owners, having won nine races worth £29,500, nearly the whole of which was secured by Diamond Jubilee in five races.

Loss of a Suit. — While Judge Gary, of Chicago, was trying a case recently, he was disturbed by a young man who kept moving about in the rear of the room, lifting chairs and looking under things. "Young man," Judge Gary called out, "you are making a great deal of unnecessary noise. What are you about?" "Your Honor," replied the young man, "I have lost my overcoat and am trying to find it." "Well," said the venerable jurist, "people often lose whole suits in here without making all that disturbance."

"The End of the Skein."

What picture more appropriate to this especial time and season, to this Christmas month of A. D. 1900, could the ADVOCATE offer to its quick-witted, responsive readers, than that which we present to them to-day under the suggestive title, "The End of the Skein"? To each it may convey, according to age or temperament, a somewhat different meaning, or tell a somewhat different story; but we think it cannot be without its timely little lesson for us all.

The dear old couple are evidently the Squire and Lady Bountiful of the parish, as their forefathers have been before them. She sits in the high-backed chair by the quaint old worktable. On the floor lies the big brocaded bag with the stockings and mitts and bright-colored mufflers which have all been knitted by her aged fingers for her cottage pensioners at Christmas. It is bulging out with completed work, but she has still to finish just one little article more, for must not Goody Brown have the night socks her old mistress promised her? With old-world courtesy, and in answer to a mute appeal from the dear eyes wistfully turned to him, the Squire has stretched out his hands and has

have worked with her, helping to make the Department one of wholesome, interesting and instructive reading, she tends warm greetings. To those who have by their co-operation and good-will increased our already long list of subscribers, she tenders her sincere gratitude; and to all the new friends of the FARMER'S ADVOCATE, she says, "We welcome you heartily, we greet you gladly, and we will do our utmost to please you." We wish you, one and all, a very Happy Christmas and a Glad New Year.

THE QUIET HOUR.

The Human Touch Divine.

"O God, O kinsman loved, but not enough!
O man, with eyes majestic after death,
Whose feet have tolled along our pathway rough,
Whose lips drawn human breath;
By that one likeness which is ours and Thine,
By that one nature which doth hold us kin,
By that high heaven where sinless, Thou dost shine
To draw us sinners in:
Come! lest this heart should, cold and cast away,
Die ere the Guest adored she entertain -
Lest eyes which never saw Thy earthly day
Should miss Thy heavenly reign!"

the world half as much as his quiet intercourse with a few poor men who were with Him day after day? They touched Him more and more closely until, filled with His spirit, they went out resolutely to convert the world. Was His time wasted when spent in influencing these humble friends and companions?

In all our Christmas festivities, do not let us find that, as in the inn at Bethlehem, there is no room for Him whose birthday it is. What are all other gifts compared with the one He offers?

"Not Thy gifts I seek, O Lord:
Not Thy gifts, but Thee.
What were all Thy boundless store
Without Thyself? What less or more?
Not Thy gifts, but Thee."

His other gifts do not satisfy unless, with them, He also gives Himself. It is the same with our gifts. If we would do any real good in this world, it is not enough to "give all our goods to feed the poor," we must truly touch other lives. It is really easier, in many ways, to do this in the country than in the city. We are well acquainted with our neighbors, know their joys and sorrows, their wants, and characters.



"THE END OF THE SKEIN."

patiently held the skein until the unwinding of the very last strand. His paper lies unnoticed on the rug, but as their aged fingers move in helpful unison, their work has become mechanical, for the thoughts of each have met and mingled until it is no mere tangible skein they are unravelling, but that other one of many strands which has formed their life's long story, and which has now so evidently reached, for both alike, the end of the skein. Although there is weariness in their placid old faces, and some pathos too, yet one knows that it is only the weariness of eventide, which will be dispersed at the first glint of the sunrise of that other and brighter life upon which they will both so soon be called upon to enter.

H. A. B.

Good Wishes.

The manager of the Home Department desires to convey the heartiest of good wishes to all its readers. To her old friends with whom she has been in touch through its columns for so many years, she offers her sincerest thanks for their support and sympathy. To her colleagues who

One who had written a very beautiful devotional work, answered a letter of congratulation and praise in these words: "If it be a fine thing to have written a book that has some life from heaven in it, it is finer still to have lived a loyal, consistent christian life, touching with the hand of power the common folk walking near one on life's common paths. . . . it is this that tells. The Master never wrote a book. He only but what a big 'only' - lived a life."

The human touch divine! what a wonderful thing it is! We are apt to chafe and fret because our lives are confined within apparently narrow bounds. We want to do something noble, something that will make the world really better. Surely no life need be narrow. When God would give the world the greatest help possible, He did it through the human touch. As man, He touches our lives with the hand of power. We too, in our degree, may exercise this wonderful gift. Do we live in the country, far from the rush and excitement of city life? So did our Lord, for much the largest part of His life on earth. Even when He preached to multitudes, did that preaching benefit

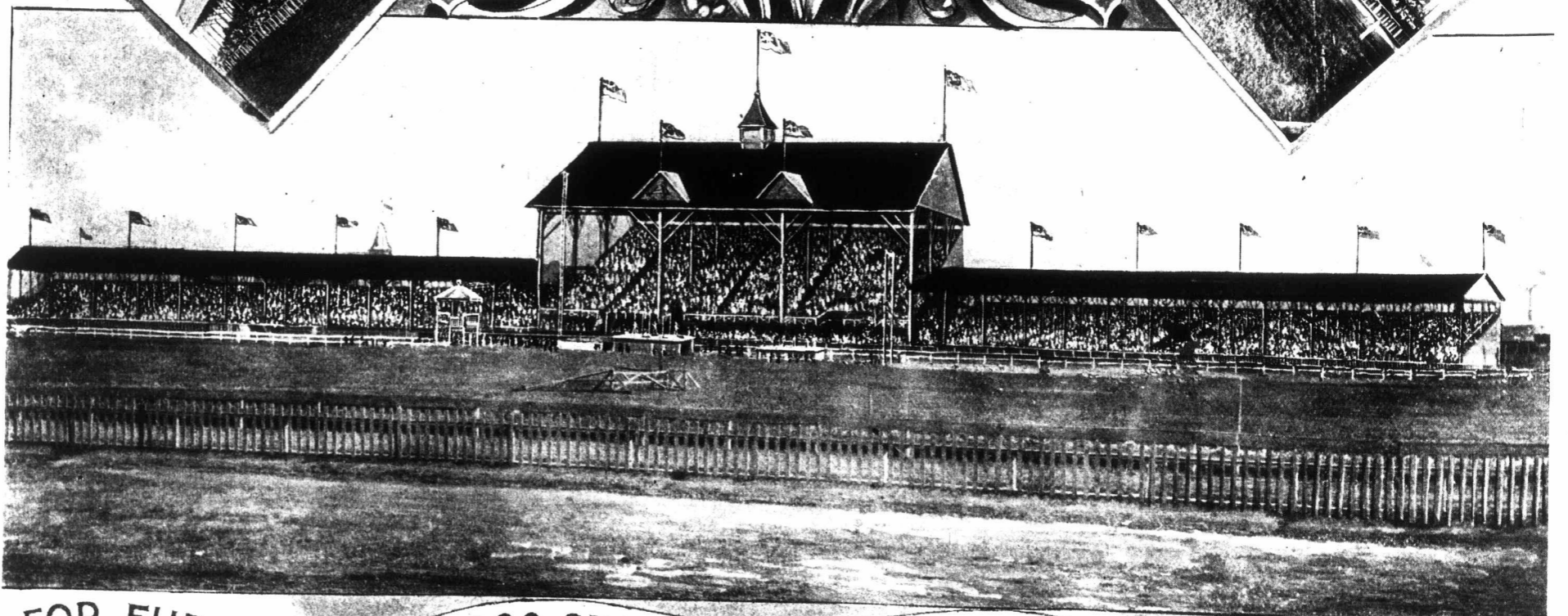
We talk a great deal in these days about animal magnetism, hypnotism, mind-reading, etc., and are learning more and more the mysterious power of one mind over another. We acknowledge that the physical condition of one class affects all classes, the mental force of one man helps to raise or lower many whom he never sees. Have we not another nature within us, too? - the spiritual. Does it alone stand aloof from its fellows? Has it no power to affect the spiritual life of others? It is an admitted fact that a man exercises influence in the world far more by what he is than by what he says or does. This unconscious influence makes the most trifling acts important. What does it matter, we may think, whether our chores are done promptly and thoroughly; whether our houses and dresses are fresh and neat; whether our gardens are free from weeds, and our fences in good repair? Suppose we have a chance to save a life, or do something else that seems grand and heroic, is not that of far more importance than the little trifling duties that meet us at every turn? It is very natural to think so, but look deeper into the subject and you will find that these occasional

WESTERN CANADA'S
GREAT INDUSTRIAL FAIR.
WINNIPEG
JULY

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IN PRIZES AND ATTRACTIONS

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 GENERAL MANAGER
 WINNIPEG-MANITOBA.

Western Canada's Great Fair.

The marvelous progress made by the Winnipeg Industrial Exhibition may be taken as some criterion of the development that has been going on throughout Western Canada.

The attendance from Minnesota and the Dakotas, as well as from Ontario, has increased to very large proportions. Liberal prize lists, unequalled vaudeville attractions and pyrotechnical displays, splendid horse racing, and good accommodation for visitors, coupled with the excellent railway facilities from all points, go to contribute to the success of the Winnipeg Industrial.

A glance at the handsome display advertisement which appears in this issue gives a good idea of the growth of the exhibition during the three years past, as the seating capacity of the grand stand has barely kept pace with the requirements.

In the great live-stock departments of the Fair, the development in almost every branch has been equally rapid; especially is this true as regards the quality of the animals brought forward, until in the more popular breeds of horses and cattle the display made in 1900 would compare most favorably with any show on the continent.

The Winnipeg Industrial is doing a great work in developing and advertising the resources of Western Canada, and it certainly deserves more generous treatment from the Provincial Legislature and the City of Winnipeg than has ever yet been accorded to it.

NOTICES.

Ulrich Ensilage Seed Corn has been coming into Canada for several years, and has proved itself true to name, prolific and very safe for dealers to handle and farmers to grow, being grown in northern latitudes. It is carefully selected and distributed by E. R. Ulrich & Sons, whose main offices are at Springfield, Ill. In this issue six varieties suitable for Canadian conditions are offered by this firm, who pay close attention to their patrons.

Vol. XVI, D. S. H. B.—Owing to the great number of entries received during the past year, the Dominion Shorthorn Breeders' Association have issued, in two parts, Vol. XVI, for 1900. Part I. contains pedigrees of bulls only, running from number 28883 to 32967; Part II. cows from numbers 3409 to 37919. One of the interesting features in this large volume is the large number of entries made by breeders in Manitoba and the Territories. The increase in the number of Western breeders in recent years is one of the most emphatic proofs Canadian Western farmers are not going to repeat the follies of Minnesota and the Dakotas by depending entirely upon wheat until our soils are exhausted. Stock-raising is rapidly becoming an important factor in the agriculture of the West, and the West will continue to be a most profitable market for the Ontario breeders. We are indebted to Secretary Wade for Vol. XVI. in two parts, which completes our office set to date.

Never Too Late

To Try a Good Thing.

I am fifty-two years old and for forty years of that time I have been a chronic catarrh sufferer, says Mr. James Gieshing, of Allegheny City; with every change of weather my head and throat would be stuffed up with catarrhal mucus.

Our good old family physician, Dr. Ramsdell, laughed at me a little, but said if I was determined to try patent medicines he would advise me to begin with Stuart's Catarrh Tablets, because he knew what they contained and he had heard of several remarkable cures resulting from their use; furthermore, that they were perfectly safe, containing no cocaine or opiates.

I tried inhalers and sprays and salves which gave me temporary relief, and my physician advised me to spray or douche with Peroxide of Hydrogen. But the catarrh would speedily return in a few days and I became thoroughly discouraged.

I had always been prejudiced against patent medicines, but as everything else had failed, I felt justified in at least making a trial.

Our good old family physician, Dr. Ramsdell, laughed at me a little, but said if I was determined to try patent medicines he would advise me to begin with Stuart's Catarrh Tablets, because he knew what they contained and he had heard of several remarkable cures resulting from their use; furthermore, that they were perfectly safe, containing no cocaine or opiates.

The next day I bought a fifty-cent box at a drug store, carried it in my pocket and four or five times a day I would take a tablet; in less than a week I felt a marked improvement, which continued until at this time I am entirely free from any trace of catarrh.

My head is clear, my throat free from irritation, my hearing is as good as it ever was, and I feel that I cannot say enough in praise of Stuart's Catarrh Tablets.

These tablets contain extract of Eucalyptus bark, Guaiacol, bloodroot and other valuable antiseptics combined in pleasant tablet form, and it is safe to say that Stuart's Catarrh Tablets are far superior in convenience, safety and effectiveness to the antiquated treatment by inhalers, sprays and douches.

They are sold by druggists everywhere in the United States and Canada.—Advt.

FOR SALE.

CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—in the great sweepstakes winner, The Marquis (1882), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

THOS. GOOD,

Richmond P. O., Ont.

R. R. Station, Stittsville, C.P.R.

GOSSIP.

DATE OF TORONTO INDUSTRIAL. The date for holding Toronto Industrial Exposition in 1901 has been fixed for Aug. 26th to Sept. 7th. A motion to place the date later, as it should be, was defeated at the Board. The Association goes forward towards its next exhibition with the snug sum of \$16,373 on hand.

PLEASE MENTION FARMER'S ADVOCATE.

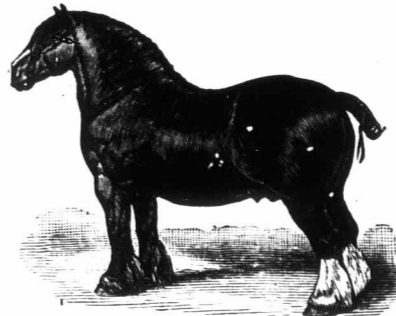
CLYDESDALE STALLIONS FOR SALE.

Third consignment will arrive about January 1st, 1901.

A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St., LONDON, ONT.



FOR SALE OR TO LET, a well-equipped henry, with 10 acres of land, dwelling house and barn. Apply to A. Gray Farrell, Smith's Falls, Ont.

NEW IMPORTATION

Just arrived. Personally selected from the best studs in England and Scotland.

CLYDESDALES

By the champion winners, Baron's Pride, McGregor, Flashwood, Prince Alexander, Prince of Carruchan, etc.

Shires, Suffolks, Percherons and Hackneys

By the leading sires of the day, all combining size, color, quality and action.

Fourteen first prizes and six second prizes won at the recent State Fairs of Illinois, Iowa, and Wisconsin, in the very hottest competition. Inspection cordially invited.

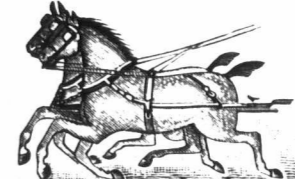
ALEX. GALBRAITH, Janesville, WIS.

WANTED—A situation as herdsman or stockman (used to dairy or breeding herds), by experienced Englishman.

R. GOODALL, EGLINTON P. O.

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by our REMEDIES and TESTIFY they are as recommended. You will do likewise after a TRIAL. Our line consists of

Caustic Balsam (the greatest Liniment and Blisters known it has no superior), Colic, Chill and Fever, Tonic Mixtures, Lotion for Wounds, Heave Remedy, Condition Powders, Hoof Ointment, and Gall Cure. Your druggist or storekeeper should have them. If not, send us his name, and we will see that you are supplied. Every remedy guaranteed, or money refunded. Veterinary advice free. EUREKA VETERINARY MEDICINE COMPANY, London, Ont.

HOGATE & CO., OF TORONTO, ONT., IMPORTERS OF

Clyde and Shire Stallions.



Large importation just arrived. Can show you more Clyde stallions of breeding ages than any firm in Canada. Prices from \$700.00 up. Don't fail to see our horses before you buy. Have had fifteen years' experience, and can save you money. All horses guaranteed to be reasonably sure getters. We are stabling our horses at Woodstock this winter, and can be seen at our barn there.

FOR FURTHER PARTICULARS WRITE— E. R. HOGATE, WOODSTOCK, ONT. PLEASE MENTION FARMER'S ADVOCATE.



GENERAL VIEW ONTARIO AGRICULTURAL COLLEGE, FARM BUILDINGS AND LIVE STOCK.



The successful farmer must be intelligent, skilful and industrious. The farmer of Ontario requires as much skill and intelligence as any farmer in the world.

The farmer's son of to-day will be the farmer of the future. The farmer of Ontario should give his son the best equipment available.

The farmer's son can get part of that equipment at



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Write at once, and get a copy of the course of instruction.

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FARMER'S ADVOCATE

FASHION'S FAVORITE.

SHORTHORNS

140
HEAD

SCOTCH
IMPORTED

140
HEAD

NINETY of the females are either in calf or have calves at foot. The majority of the calves are imported in dam.

Some of the families represented in the herd are as follows:

- | | | | |
|------------|-------------|---------------|-----------------|
| AUGUSTAS | BESSIES | BUTTERFLY | BEAUTY |
| CLARAS | CROCUS | CLIPPERS | MISS RAMSDEN |
| NECTARS | ROSEBUDS | EMMAS | FLORAS |
| GOLDIES | BRAWITH BUD | BROADHOOKS | RAGLANS |
| JENNY LIND | LANCASTERS | MEDORAS | LUSTRES |
| VICTORIAS | MAYFLOWERS | MINAS | GEM OF THE VALE |
| MATILDAS | AMARANTHS | VILLAGE MAIDS | |

FIVE EXTRA GOOD IMPORTED BULLS and A NUMBER of VERY promising BULL CALVES, imported in dam, **FOR SALE**

HERD headed by the IMPORTED BULLS, Golden Drop Victor and Prince Bosquet.



FARMER'S ADVOCATE

CLAN McKAY.

CATALOGUE
FREE.

If interested, come and see us,
or write—



FARMER'S ADVOCATE

PALERMO.

H. CARGILL & SON,
CARGILL, ONTARIO, CANADA.

Do You Want a Farm of Your Own?

IF SO, YOU DO NOT NEED TO GO BEYOND ONTARIO TO PROCURE IT.

Rich soil, well watered, in a splendid climate;
railway connections; good local markets.

RAINY RIVER, EAST ALGOMA,
WABICOON, NIPISSING,
THUNDER BAY, TEMISCAMINGUE.

160 ACRES FREE

Or at the nominal price of 50 CENTS per acre
ON EASY TERMS.

PULP AND PAPER MILLS, MINING, SMELTING, REFINING, LUMBERING,
RAILWAY BUILDING.

COLONIZATION THROUGH NEW ONTARIO CREATES EXTRA DEMAND FOR LABOR.

MILLIONS OF ACRES Now Open for Settlement.

FOR DESCRIPTION OF SOIL, RAILWAY RATES, ETC., WRITE THE

DEPARTMENT OF CROWN LANDS
E. J. DAVIS, COMMISSIONER. TORONTO.

TOLTON BROS. SPECIALTIES!

ALL EYES ARE ON THIS INVENTION.
PATENTED 1893, '95 AND '97.



PEA HARVESTER with New PAT. SIDE-DELIVERING SELF-BUNCHER at work.

We thank our customers for the business of the year just closing, and are in a good position to meet future trade.

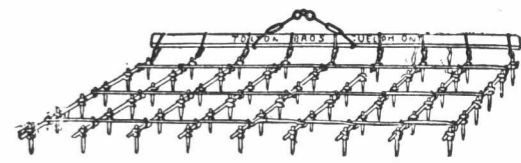
THE LATEST AND BEST AND THE ONLY DOUBLE ROOT CUTTER MANUFACTURED. ALL THE WORLD LOVES A WINNER, CONSEQUENTLY

TOLTON'S NO. 1 PAT. DOUBLE Root Pulper



Is the one which sells, and is the favorite among all root pulpers, having won all the FIRST PRIZES last year. To change from slicing to pulping, and vice versa, is but the work of a moment: the hopper is so constructed that it cannot choke.

Tolton's Improved Flexible **ALL-STEEL HARROWS**
We claim this Harrow has NO EQUAL.



Soliciting your orders, we are, yours truly,

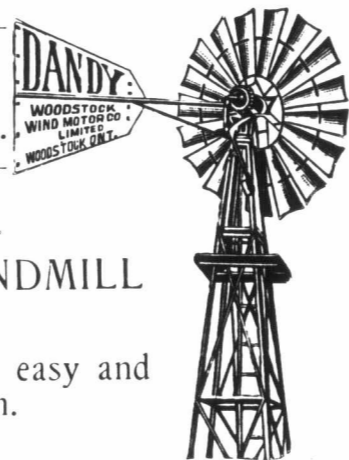
OUR MOTTO: "NOT HOW CHEAP, BUT HOW GOOD."

TOLTON BROS., GUELPH, ONT.

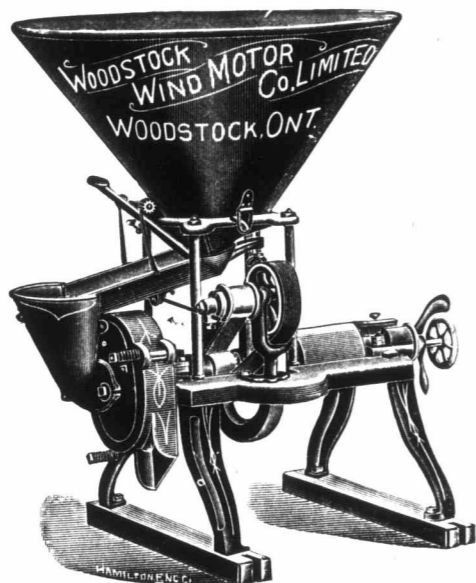
WOODSTOCK.

Steel Windmills

Galvanized or painted.
FOR POWER OR PUMPING.



THE **Dandy** WINDMILL
with GRAPHITE BEARINGS, runs easy and controls itself in the storm.



GRINDERS,
PUMPS,
WATER TANKS,
DRINKING BASINS,
AND
SAW BENCHES.

WOODSTOCK WIND-MOTOR CO., Ltd.
WOODSTOCK, ONT.

Good Young Bulls

Of best Scotch breeding, and a desirable lot of HEIFERS of the low-down, blocky type. Royal Prince 31241 - (bred by J. & W. B. Watt), a worthy son of Imp. Royal Sailor - 18929 - heads the herd.

H. K. FAIRBANKS,
Theford P. O. and Station, Ont.
10 Shorthorn bulls,
20 Leicester and South down rams.
A lot of Berkshires. All choice. - Send for catalogue.
E. JEFFS & SONS, BOND HEAD.

JAS. DORRANCE,

SEAFORTH, ONTARIO,
BREKIDDER OF
Shorthorn Cattle and Berkshire Pigs
Young stock always for sale.

SHORTHORNS FOR SALE, bred from imported Lavonia and Barrington foundation, upon which have been employed such sires as Janitor 21355, Scarlet Velvet 21416, and Chief of Clan 31123. Young bulls for sale, from 7 to 15 mos. old. Also a few choice young females, reds and roans.
JAS. SMITH & SON, INGLIS FALLS, ONT.

Isaac Usher & Son, QUEENSTON, ONT.,

Manufacturers of **QUEENSTON CEMENT.** Proprietors of

Queenston Heights Stock Farm. Shorthorn Cattle.

Herd headed by Lord Gloster (26935), by Abbotsford. We have for sale seven young bulls, 4 to 20 months; also young cows and heifers. Stock offered for sale sired by or bred to such noted bulls as imp. Guardsman, Royal Standard, Abbotsford, Lord Gloster, Indian Count.

P. O., TELEGRAPH AND TELEPHONE, QUEENSTON, ONT.

FARM 3 MILES NORTH OF NIAGARA FALLS.

HOARD'S CREAMERIES' PARIS EXPOSITION BUTTER.

Among the prize-winning exhibits of American-made butter at the Paris Exposition, which were almost exclusively the product of the "ALPHA-DE LAVAL" separators, was that of the Hoard Creameries, Fort Atkinson, Wis. Few Creameries are more widely known than those of the Hoard concern, both by reason of the pre-eminence of "Hoard's Dairyman" as the leading dairy publication of America, if not the world, as well as of the magnitude, splendid equipment and superior merit of the output of the Hoard factories. Hence, while every big and successful creamery enterprise is to-day using De Laval Separators, what the Hoard Creameries may be doing in that regard is of interest to others with less experience.

The following letter speaks for itself:

HOARD'S CREAMERIES,
Fort Atkinson, Oct. 23, 1900.

The De Laval Separator Co.,
31-45 W. Randolph St., Chicago:

Gentlemen,—Yours of Oct. 20th, in regard to our Paris medal, received. In addition to the medal awarded our butter, our Superintendent, Mr. C. I. Fitch, received a silver medal for original processes in buttermaking and apparatus and tests thereto.

The cream from which the prize butter was made came from two "Alpha" No. 1 Belt power machines and from the 20th Century Turbine "Alpha" No. 1. We are running ten "Alpha" No. 1 Belt machines, one "Alpha" No. 1 Turbine, one "Alpha" No. 2 Belt, and own only one other separator—which we wish was an "Alpha" Turbine. Respectfully yours,

HOARD'S CREAMERIES.

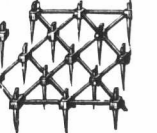
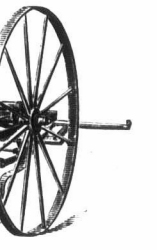
While the separator does not make the butter, practically all prize-winning butter is to-day made from De Laval separated cream, and there is no question in the mind of any well-informed person that under like circumstances and equal conditions any buttermaker will make better butter from an "ALPHA-DISC" machine than is possible from the product of any other separator.

A De Laval catalogue will make plain the reasons for this to anyone who may not already understand them.

GENERAL AGENTS FOR CANADA:

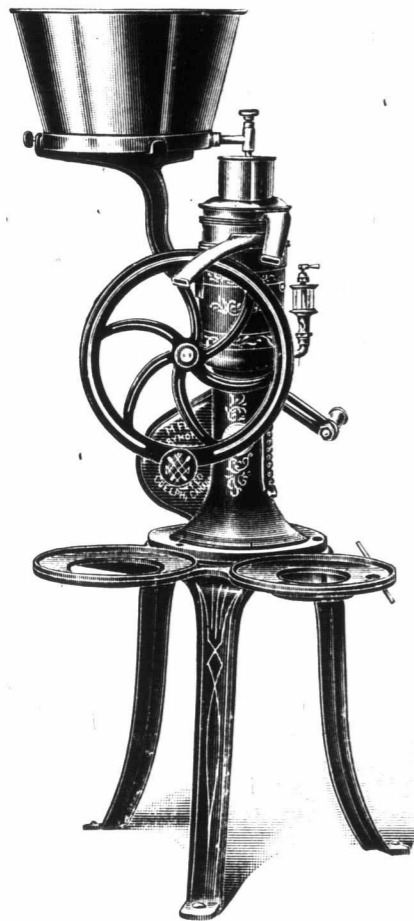
CANADIAN DAIRY SUPPLY CO.,
327 Commissioners Street. MONTREAL, QUEBEC.

PLEASE MENTION FARMER'S ADVOCATE.



THE NATIONAL CREAM SEPARATOR

IS ESPECIALLY ADAPTED TO FARM USE, HAVING A CAPACITY OF 330 TO 350 LBS. PER HOUR.

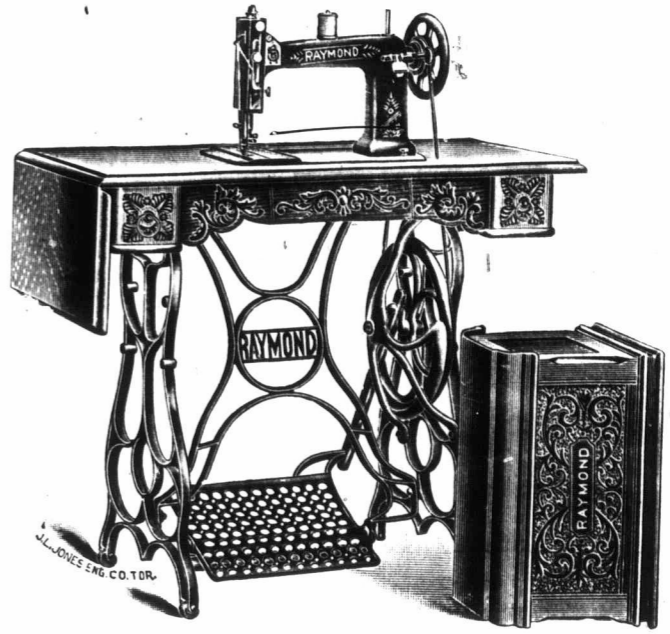


"NATIONAL" No. 1, HAND POWER.
Capacity, 330 to 350 lbs. per hour.
Send for Illustrated Catalogue and Prices.

IT is the farmers' choice, because it runs easy, skims fast and clean, and makes a perfect cream, containing any per cent. of butter-fat desired. It is also easier to clean than any other. The National is built of the very best material suitable for the construction of a high speed machine, and with proper care should last a lifetime. The bearings are interchangeable and easily adjusted. Every machine is guaranteed to do good work, and a trial of the "National" is solicited before purchasing any other. The already large sale of the "National," and the growing demand for it, shows how much the Canadian farmers appreciate a Canadian-made machine that does its work so easily and well, and at the same time returns such a large profit on the small investment. Ask for the "National"; try it and buy it.

GENERAL AGENTS FOR ONTARIO:

THE CREAMERY SUPPLY CO.,
GUELPH, ONT.



..THE RAYMOND..

has been the leading Canadian Sewing Machine for the past 30 years, and is still at the head.

The woodwork this season is of entirely new and beautiful design, and makes a handsome piece of furniture in any of the numerous styles in which it is produced, especially in the Drop Head Style.

These Machines have a world-wide reputation for Durability and Utility, and are unsurpassed for neatness of Design and Finish.

MANUFACTURED BY ..

The Raymond Mfg. Co. of Guelph, Limited,

GUELPH, ONT., CANADA.



BEAUTY & EXCELLENCE

"Famous Model"

RANGE

FAITHFULLY DESCRIBE A

THERMOMETER shows exact heat of oven.
VENTILATED OVEN Keeps Food Pure.
STEEL OVEN BOTTOM heats through quickly.
FIRE-CLAYED oven bottom retains heat in oven and

Saves Fuel

Extra Heavy Cast-Iron Fire-Box Linings.
EVERY RANGE GUARANTEED.

THE McCLARY MFG. CO.,
LONDON, TORONTO, MONTREAL,
WINNIPEG, VANCOUVER.

Pamphlet free from our local agent or our nearest office.
"Famous" stoves awarded **GOLD MEDAL** Paris Exposition, 1900.

BURNS COAL OR WOOD.



BAKED ONE BARREL OF FLOUR WITH 24 CUBIC FEET OF WOOD ALL OPERATIONS BY ONE PERSON

FIRST TIME OF USING STOVE 212 OAVES IN 6 3/4 HOURS

Copyright Registered 1897. Above cut is an exact reproduction of the work done by a FAMOUS MODEL RANGE.

Meeting of the Maritime Stock Breeders' Association.

About the best agricultural meeting ever held on Prince Edward Island was the gathering of the above Association, held in Charlottetown on the 28th and 29th of November. There were present from Ontario, the Hon. John Dryden, Minister of Agriculture of that Province; T. G. Raynor, of Rose Hall; J. H. Grisdale, of the Experimental Farm staff; and F. W. Hodson. Many of the most prominent farmers and stock-breeders of Nova Scotia were present. President E. B. Elderkin, the noted Jersey breeder and farmer, of Amherst, N. S., presided. His opening address was largely a review of the stock interests of the Maritime Provinces, showing where we were deficient in this branch of agriculture, and noting what had been accomplished for the betterment of this industry during the time since this organization has had an existence. The President

spoke hopefully of the progress being made and that has been made during late years towards placing the stock-breeding interests of these Maritime Provinces on a more prosperous basis. Mr. C. A. Archibald's paper was a well-thought-out and strongly-put argument in favor of the registration of all pure-bred stock in standard Herdbooks.

Mr. Walter Simpson's paper, "Live-stock Husbandry on the Island" was, for want of time, adopted by the Association without being read, and ordered to be published with the other proceedings.

Mr. F. W. Hodson's address, on the first day, on "The Requirements of Our Pork Markets, Home and Foreign," dealt with the quality in our hog products demanded in the markets. By the aid of photos and charts he brought very vividly before the audience the necessity of producing the best in this line.

Mr. James Courtney, a large English produce dealer, who is also largely interested in a co-operative bacon-curing house at Brantford, Ont., spoke along pretty much the same lines

as Mr. Hodson, and answered many questions about the bacon trade that were put by the meeting.

J. H. Grisdale's address, illustrated by charts, gave his hearers a very intelligent idea of the kind of pig to feed and the manner of feeding him, in order that the right quality of bacon might be produced at a good profit to the feeder.

T. G. Raynor, of Rose Hall, Ont., gave a very instructive address on "Feeds and Feeding," using large charts to illustrate his subject. It was quite an education for a farmer to listen to Mr. Raynor discuss the composition of all the different feeds grown, and the best manner of combining them to form a proper ration for animals. The charts, showing in colors the proportions of water, protein, carbohydrates and fat in each plant, were a great help, fixing the valuable information brought out by the speaker on the minds of the audience.

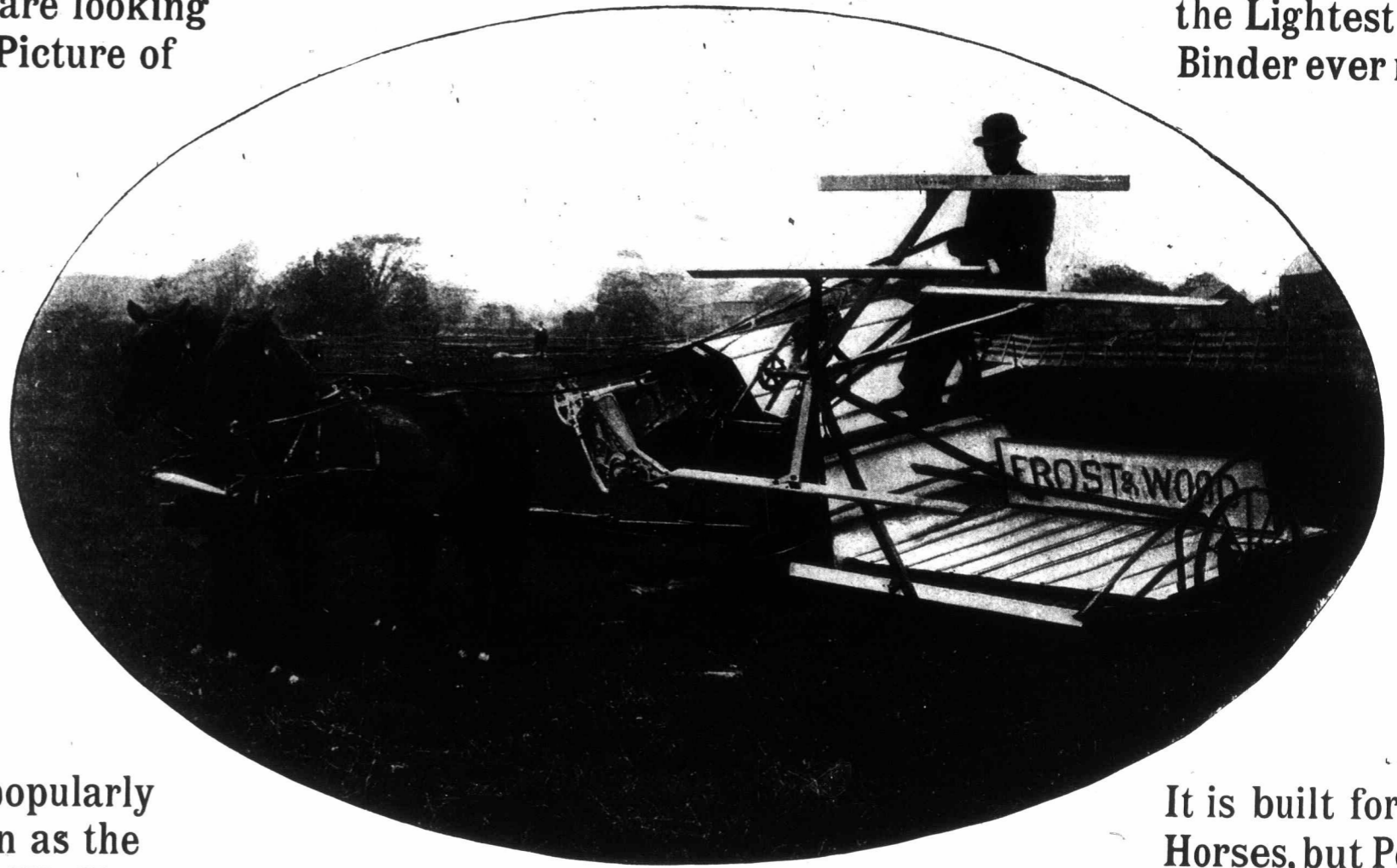
Hon. Mr. Dryden's discussion on the "Establishment and Maintenance of a Herd" was a very comprehensive one. He strongly empha-

sized the necessity of the breeder having a right ideal before him and bending all his energies to attain to it. He paid a high tribute to the skill displayed by the great Scotch breeder, Amos Cruickshank, who had done in his time such a great work in bringing to perfection the strain of Shorthorns bearing his name.

The last session was a public meeting, addressed by Premier Farquharson, who spoke very flatteringly of the addresses of the distinguished speakers from Ontario, and expressed his sympathy with and promised his help in any move to better organize the agricultural interests of this Province. Mr. Dryden's last address, on "The Necessity of Organized Effort from a Government Standpoint," was a very able and lucid discussion of the necessity of the agricultural interests of the country being well organized before the Government could effectually help the farmers. Mr. F. W. Hodson then followed, giving the details of organization that had been found to succeed in Ontario.

You are looking
at a Picture of

the Lightest Draft
Binder ever made.



It is popularly
known as the
"F. & W. No. 2."

We would like every Farmer to see our *Samples*
and get our *Prices*, before placing their
orders for 1901.

It is made by

THE *Frost & Wood Company*
LIMITED.

BRANCHES:
TORONTO, LONDON, QUEBEC, MONTREAL,
WINNIPEG, ST. JOHN, N. B., TRURO, N. S.
HEAD OFFICE AND WORKS:
Smith's Falls, Ontario

It will pay you to do so.

NOTE.—The ponies in the picture stand 11 hands, weigh 425 lbs. each, and on level ground can cut and bind with ease.

A Farm for 80c. an Acre.

(In any of the finest counties in Canada.)



The SPRAMOTOR at work in orchard spraying, by the
Ontario Government, showing proper way to spray.

Thousands of entire farms in Canada are ruined by wild mustard. Pulling it is out of the question (isn't it, boys?). Summer-fallow costs a season's work, the loss of the crop, and yet the weed will grow, and drown out the next crop.

A remedy within financial limits was a question none could answer. Yet, wild mustard can be cleared from the growing crop, without injury to the grain, at a cost of 80 cents an acre. You question it? Still, it's true. It is not a theory. It is no experiment. There is no guesswork about it.

The cost is small, within the means of any.

Sulphate of copper is the material, and the SPRAMOTOR will do the job at the rate of 30 acres in a day. It's fully guaranteed. You run no risk.

For more particulars, write:

SPRAMOTOR CO.,

68-70 KING STREET.

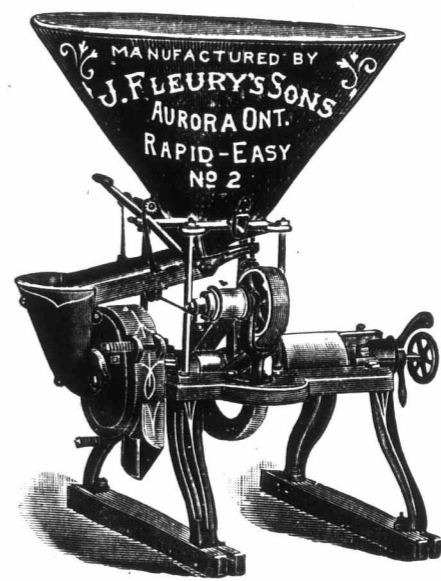
A Treatise, of 85 pages, free.

LONDON, CANADA.

Besides killing the mustard, you can spray your potatoes, 20 acres a day, (kill the horn fly), disinfect your entire premises, make your apple crop your best paying one, and paint your buildings with Spramotor cold-water paint inside and outside, at one-tenth the cost of the old plan. It's every weed true.

"Rapid-Easy" Grinders

Suitable for any power—Engine, Windmill, Sweep Power or Tread Power.
They grind MORE GRAIN with SAME POWER than ANY
OTHERS. Our PLATES outwear all others.



These machines will do for YOU what they
are doing for OTHERS everywhere.

We shall be glad to have your enquiry,
by letter or card.

"I have now run your Rapid-Easy Grinder for two winters in my CHOPPING MILL, and must say it is way AHEAD OF ANYTHING I have ever seen for FAST and GOOD work. I have never regretted trading to your agent for this machine the one I had previously. The plates are also a big consideration, as YOUR PLATES WEAR TWICE AS LONG as the ones in the machine I had before."
Guelph, Nov. 20th, 1900. JOHN MOSKHOUSE.

I thank you for the gentlemanly way in which you have dealt with me, and I take great pleasure in recommending your Rapid-Easy Grinder. This is the THIRD SEASON for it and it runs as good as when I first got it. As an example, I started it at 10 o'clock one morning and ran the Grinder until half past nine at night, and in that time I put through 317 bags, and made FIRST-CLASS WORK, every bit of it.
Guelph, November 12th, 1900. CHARLES TAYLOR.

I am HIGHLY PLEASED with the R.-E. Grinder I bought from Mr. Swayze, of Guelph, a year ago. We grind with HORSE POWER, using from 3 to 8 horses, and do FIRST-CLASS WORK, grinding VERY FAST. It has MORE than PAID FOR ITSELF and a second-hand horse power, and up to the present we have not even had to reverse the plates.
Guelph, November 12th, 1900. HENRY FORRESTER.

I started the Grinder for Mr. Paget to day with a TWO-HORSE TREAD POWER. He was very much pleased with it. I can sell more of these machines.
Novar, Nov. 19th, 1900. G. A. PHILLIPS.

We bought one of your No. 2 Rapid-Easy Grinders from your agent, Mr. Vanstone. It is a MOST SATISFACTORY machine. We have ground 30 BUSHELS of barley IN ONE HOUR, with THREE TEAMS. We can recommend it as a FIRST-CLASS MACHINE.
Lorneville, Nov. 29th, 1900. NEIL MACARTHUR AND THOS. MAY.

On application we will send a beautiful Hanger showing the "Rapid-Easy" Grinder No. 2.

J. FLEURY'S SONS, Aurora, Ontario.

MEDAL: Chicago, 1893; Paris, 1900.

FOUNDED 1866

DECEMBER 15, 1900

THE FARMER'S ADVOCATE.

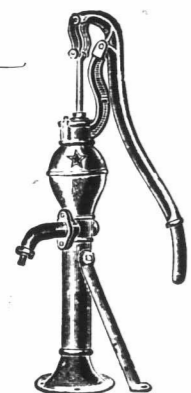
Lightest Draft
ever made.

Money Savers on the Farm

Times have been good with Farmers. They have spent Money this year. We thank you for the share you have given us.



The fact that our Sales have increased over 100 per cent, in three years proves that the goods we manufacture are profitable to the purchaser. If you have not tested them, you have missed something.



A PUMP is an article indispensable on the Farm.

A Good Pump is a Boon.

We manufacture every size and kind in ONE QUALITY only: THE BEST.

This is a MACHINE well known all over Canada.



At your service all the year around, sunshine or rain, day and night, summer and winter. Never takes a rest.

Would you like to have your stock Always Watered? Properly Watered? Economically Watered?



The WOODWARD WATER BASIN

is the only Basin that will do it.

Send for circular and satisfy yourself.

We manufacture everything in the line of

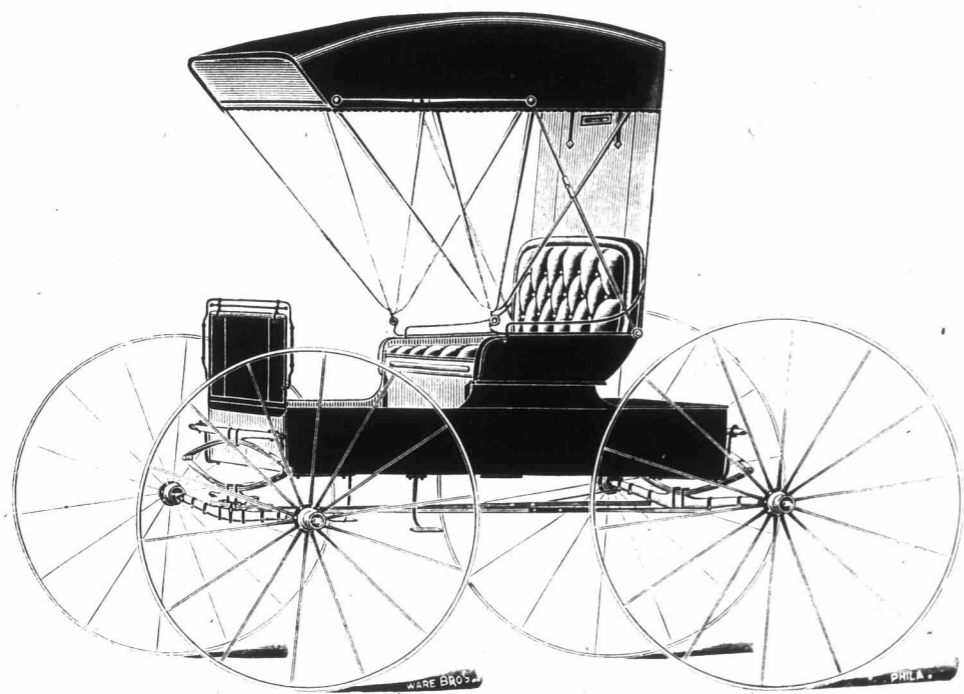
GRINDERS, WATER FIXTURES, HAY TOOLS, PIPE FITTINGS, ETC.

ONTARIO WIND ENGINE & PUMP CO., LIMITED, Toronto, Ont.

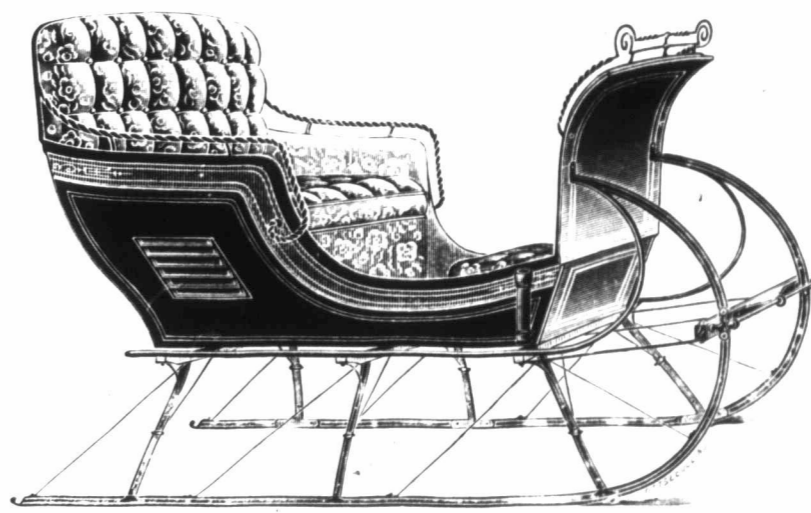
ESTABLISHED 1834.

INCORPORATED 1876.

ARMSTRONG VEHICLES.



NO. 234-PIANO BOX BUGGY.



NO. 66 CUTTER.

ARMSTRONG BUGGIES, Carriages and Cutters have been on the Canadian market for upwards of sixty years. We wish to hold the confidence of the public in the future as in the past, and will always endeavor to supply the best only in material and workmanship. See the ARMSTRONG IMPROVED STYLES before buying.

CATALOGUES ON APPLICATION.

J. B. ARMSTRONG MFG. CO., Ltd., THE GUELPH CARRIAGE GOODS CO., GUELPH, CANADA.

Ontario.

DAVID MAXWELL & SONS

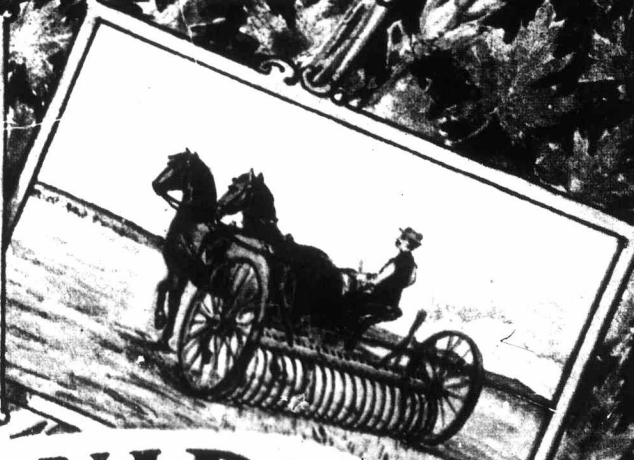
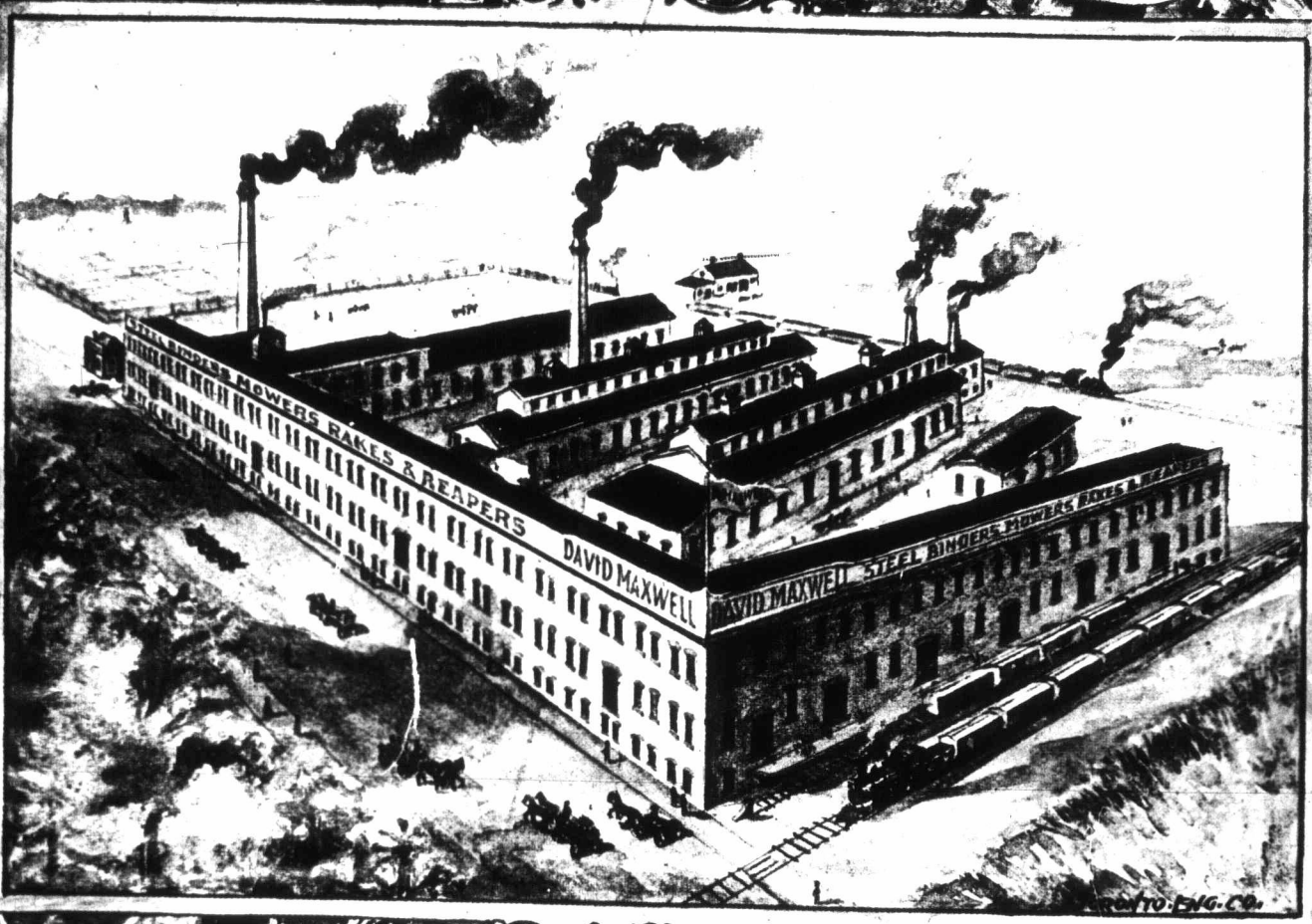
HIGH
GRADE



HARVESTING
MACHINERY

GOLD AND BRONZE MEDALS

AWARDED AT PARIS EXPOSITION



ST. MARY'S ONT. CANADA