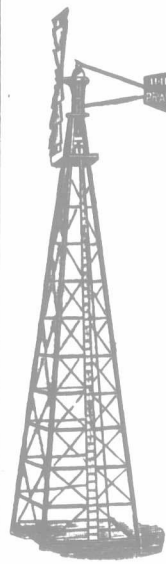


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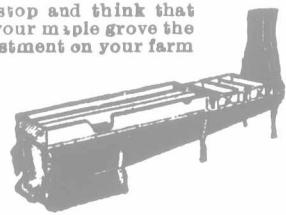
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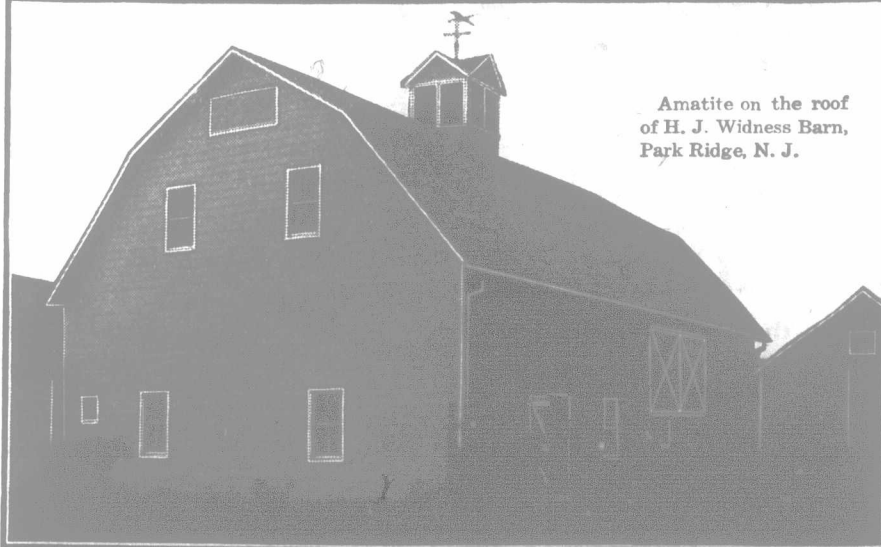
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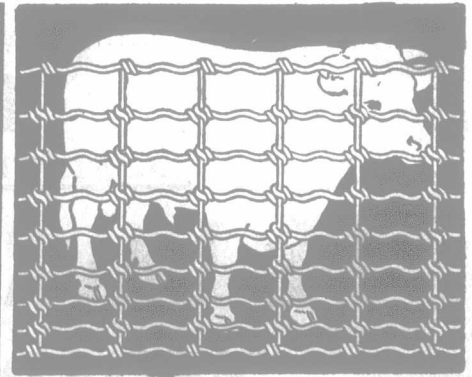
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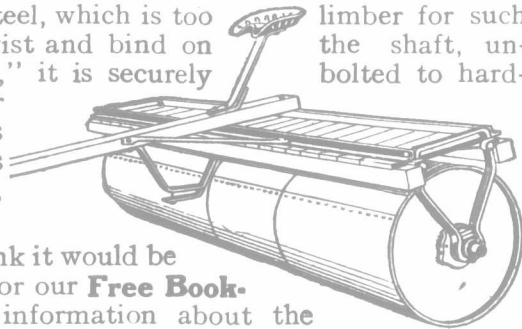
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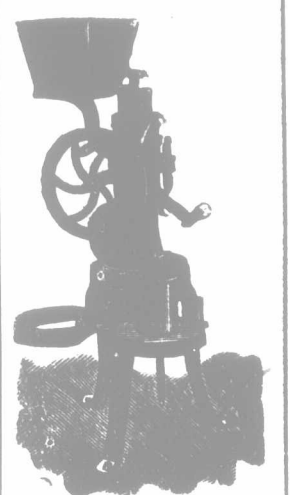
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Vol. XLIII.

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LONDON, ONTARIO, FEBRUARY 27, 1908.

No. 805.

EDITORIAL.

WEALTH VERSUS GOOD LIVING.

It is always difficult to compress comprehensive views into restricted space, and, as lengthy articles are but little read, the journalist usually prefers to content himself with treating one or two phases of a subject at a time, depending upon his readers to follow him up from week to week, and thereby come finally to appreciate his general attitude and his outlook over the situations with which he essays to deal. It naturally happens that a certain portion of readers will miss certain of the views he advances, and, on finding some particular phase of a subject presented a few times, with emphasis, will infer that the editor has overlooked one or more sides of his subject. A case in point is furnished by the contribution headed "The Farm vs. the City," signed "A Farmer's Son." The letter is well written, and well to the point, but the writer has apparently missed some of the editorials which have appeared in our columns during the past year or two, and which he would find somewhat substantially in line with some of the opinions his letter conveys, although we do not go as far.

Our correspondent, alluding to our recent editorial, "The Farm and City as They Are," contends, in substance, that the real reason that the sons leave the farm is because the great majority of people in both city and country are intent on money-getting, and the farm does not offer as good opportunities in this line as some city occupations; that it demands, in fact, unremitting toil and thrift to accumulate a competence, with small opportunity for mental or physical relaxation, and with scant prospects of setting the children up in the same occupation until such time as they can step into their parents' shoes. Freer economic conditions, with less toll to the middleman and more profit to the farmer, are the essentials our correspondent stipulates as necessary for the uplift of agriculture and country life; and he suggests local organization as a means of accomplishing it.

The picture is overdrawn. The generality of Canadian farmers are not nearly so hard-pinned as our friend represents them to be, and there are an increasing proportion of farmers nowadays who enjoy numerous comforts, privileges, and even luxuries, once confined almost exclusively to the towns. Time will bring more, and distribute them more widely. Suffice to say that few good, up-to-date business farmers to-day, except those visited by special misfortune, are denied a reasonable measure of leisure and of the creature-comforts of life, although some do deny themselves and their families unnecessarily, and it is not infrequently just such deprivation that drives the young folks from the farm.

But while rural economic conditions are not so bad as they have been painted, there is no gainsaying that injustice is being done. Transportation charges, middlemen's tolls, and tariff-bolstered prices on manufactured goods, are among the exactions that sap our financial strength. There are reasons why we are willing to bear a moderate tariff impost, but all considerations of prudence and equity demand that it be progressively reduced. Transportation charges, also, must be modified, and the service constantly improved, while, by co-operation, it will be possible, in many lines, as in fruit shipments, for instance, to escape the cost of middlemen's services, minimize risks by cash

sales f.o.b., and reap such indirect advantages as accrue from getting close to the consumer. Public ownership (though not necessarily public operation) of certain public utilities, agricultural co-operation and organization, and agricultural aggression and influence in political life, are among the factors which will tend to reduce the farmer's economic burdens. All such movements, when judiciously conceived and promoted, "The Farmer's Advocate" champions.

But it may as well be recognized that, no matter how favorable economic conditions may be made for agriculture, farming will never be a business offering opportunities for great and speedy enrichment. All wealth comes originally, from the soil or the sea, and the greater part from the farm; but the farmer deals chiefly with nature's products in the raw, or elementary, stages, and his operations are frequently and seriously inconvenienced by and dependent upon seasonal conditions, which render it difficult to organize and execute in an extensive way. For this and other reasons, farming is not a business which lends itself to profitable prosecution on a large scale, hence the opportunities for amassing great wealth by realizing profits on the labor of others are very limited indeed. Farming in this country is, and, we hope, always will be, a business conducted in a small, or, at least, a modest way, by a very large number of people. The baron, with his thousands of serfs, is a factor fortunately foreign to our occupation.

Such being the case, it is perfectly clear that clever men, of questionable integrity and overweening ambition to be rich, are not likely ever to choose the farm. Farming is a poor business for the man whose chief anxiety is to become rich.

But what is the good of wealth, beyond the provision of a reasonable competence? Has wealth brought happiness to the rich people of your acquaintance, even where honestly won? Young people commonly expect it will, and many parents encourage them in the belief; but does it? Why should so many people bring the frown to their brows, the stoop to their shoulders, the unrest to their minds, and insomnia to their pillows, chasing the shining dollar, which loses its lustre in their hands? What is the sense of getting rich, anyway? We have in mind an old couple who have spent a lifetime endeavoring to amass wealth, toiling early and late, depriving themselves of every privilege and every luxury that cost anything, in order to settle their children around them. They accumulated some twenty thousand dollars, but the children did not take to that kind of life, and struck out for themselves, leaving the parents with their money and—what else? Is there anything much more pathetic than an old couple, facing the sunset of life, ambling down hill, clutching their miserable, blood-sweated shekels, over which their heirs will presently squabble? We have no fault to find with thrift. It is essential to success in farming. But so many run to the extreme of penury, living miserable lives in a frequently vain endeavor to die rich. And what good is it all? Why should a generation of people slave till old age, in order to learn wisdom? Why not take a more philosophical view of things in youth?

It is to this end we write so often of the advantages of farming. We are not holding up the occupation as a money-making one. If there were nothing better than that to say for it, we should have sorry inspiration indeed. It is because the farm offers unrivalled opportunities for

the living of a healthy, thrifty, interesting, moral and happy life close to God and nature; because it affords an ideal opportunity for the nurturing of a vigorous family and a sturdy race, that we uphold it; and just in so far as freer economic conditions conduce to these ends, will they be an advantage. What is needed most of all is a larger number of examples of broad-gauge success on the farms, that our people may realize the advantages which the farm offers, and derive the help and inspiration necessary to make agriculture a prosperous, progressive, widely-coveted and highly-esteemed occupation. Such examples are multiplying about us, but we need many more of them still.

Then, as to schools. Nothing is farther from our minds than to picture agriculture in the schools in oversanguine tints. That would defeat its aim. What we want is a kind of rural schooling that will open the pupils' eyes to the real opportunities and advantages of their occupation. If, for instance, we could illustrate to them the value of the soil-mulch in conserving moisture and promoting growth, it would unfold the edge of investigation into the physical processes of nature. Agriculture is a science the study of which can never make men sordid, because, not only does it help them to make more money, but it makes their daily work more interesting, and brings them closer to nature's heart. Reformed rural education will not only remove the prejudice against agriculture that our schools have been constantly creating, and incline more pupils toward the farm, but it will make them better farmers, better citizens, and better men and women. And good living is the great object of life.

INSANITY IN STOCK BREEDING.

For the purpose of this article, insanity may be defined as a tendency to irrational extremes, or a lack of mental balance. In the field of animal husbandry and live-stock breeding there is a great deal of insanity, and it is particularly rife on the American continent. It leads us into all sorts of indiscretion, and the trouble is we seldom perceive its drift until much mischief has been wrought. We are becoming wiser, however, and succeeding generations, profiting by the present and the past mistakes, will undoubtedly avoid many extremes of which we have run foul.

The splendid success of the breeders of Britain and Holland may doubtless be attributed, in part, to the stability, the conservatism, the rationality of their ideals and purposes. They maintain a staunch regard for the cardinal essentials, constitution, thrift, soundness, essential merits of conformation, and, in the case of milking stock, high average production, without undue forcing or extravagant premiums upon the phenomenal. In America we chase after freaks, fads, world-beaters, and star-performers. The result is that, while we develop some of these, we also produce a great many weeds, culls, misfits, and animals which, for lack of constitution, hardiness, prolificacy, substance, or wearing conformation, fail to perpetuate their good qualities in satisfactory degree. We fail, as a rule, to produce races of stock of uniform high standard. In straining for one point, we neglect others; often, in pursuing fads of form or pedigree, we sacrifice utility. Thus we play out good strains of blood which might have been combined and developed to good purpose.

Examples? Take the Standard-bred horse, bred for speed alone, to the egregious neglect of

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conformation, with the result that, while we have secured racing machines—horses with almost the speed of express trains—we have an immense number of ragged roadsters, which, under a more rational system of breeding, would have had enough weight, conformation, action and wearing qualities to add twenty-five or fifty dollars per head to their value.

Cattle? The Holstein breed has probably been more modified in American hands than any other, and, so far as big records are concerned, we have beaten the Dutchmen with their own breed. Feed and selection have done it—forcing and high development. But are the generality of American Holsteins to-day as good a breed with which to work as the native race of Holland, where good average production, without forcing, is still the ideal? Are the American herds as healthy, as hardy, as likely progenitors of a profitable race? Perhaps another generation or two will answer. The wisest breeders now favor what they call the milk-and-beef type.

For the opposite extreme, take the Ayrshires, and here it was the Scotchmen who exhibited the greatest folly. For years the most fashionable show herds of Scotland were owned by men who disregarded milk for type, fancy points, the particular set and curve of the horn, the tight milk vessel, the short, corky teats. Sizable teats and capacious udders were discounted, and many of the heifers raised with as little regard for the development of dairy quality as the heifers in some of our show herds of Shorthorns. The Ayrshire breeders chased fads to an outrageous extreme, and, but for the existence of a good many commercial herds, where milk was preferred to style, the faddists would probably have run their breed to the wall. At last, thanks in part to the Canadian demand, they saw the error of their ways, and Ayrshires are now being bred for milk, as they should be. The only caution we would

throw out is that they avoid swinging to the opposite extremity, sacrificing constitution, conformation and substance in a blind craze for milk records. We do not believe they will.

Take beef cattle. Some of the most ridiculous fads of breeding have been followed by the Shorthorn men in their quest for pedigree, insisting on "pure Scotch" breeding, simply because some Scotchmen bred good cattle, and valuing a bull or a cow largely according to the number of times the names of certain fashionable Scotch strains appeared in its extended pedigree. Individuality has cut all too small a figure; inbreeding, or something very near it, has been condoned and encouraged at the expense of size, constitution, stamina and procreative faculty. Last, and perhaps most supreme folly of all, the milking function has been almost entirely lost sight of. A change, however, is coming rapidly. Shorthorn breeders are awakening to the signs of the times. A record of dairy performance will soon be adopted, and milk records kept. As the Hon. John Dryden predicted a year ago, the breeder who goes in for milk will be in the swim ten years from now.

In swine, our American friends have gone to extremes in breeding the lard hog, and have developed great compact masses of meat and fat—principally fat—seriously lacking in fecundity. Already they are after our Yorkshire and other blood to cross on their puncheons of pork, in order to secure satisfactory litters. In Canada, we have done pretty well in evolving the bacon type, though at first we made the mistake of seeking excessive length and neglecting constitution and digestive capacity.

So it goes in many classes and breeds. Perhaps sheep furnish an exception. Poultrymen have long sacrificed utility to fancy points. To a certain extent this may have been justified, because, in the case of poultry, exterior markings are relied on as the evidence of purity of breeding. There was no excuse, though, for placing upon fancy points so much stress as has been done; neither is it wise to overlook type and constitution in single-eyed concentration on trap- nest records.

In all classes of stock it is high average production by healthy, substantial, thrifty stock, that counts best in the long run. Phenomena seldom reproduce their kind, or, if they do, the chances are that, along with the performing capacity will come weakness of constitution, lack of substance, or defective generative faculties which ultimately tend to mediocrity, barrenness or disease.

The true breeder must be, above all things else, judicious.

EXPERIMENTAL WORK DONE WITH ALFALFA.

The editorial paragraph headed, "A Tip to the Professors," in "The Farmer's Advocate" of February 6th, has elicited remonstrance from the Ontario Agricultural College. It is pointed out that in 1900, an excellent bulletin on alfalfa was issued, the author being Prof. R. Harcourt, of the Department of Chemistry, who early became and has steadfastly remained a staunch advocate of this crop. We are also reminded that a good deal of investigation has been carried on of late years by the College Bacteriologist, experimenting co-operatively with artificial inoculation of this and other legumes, and that a comprehensive bulletin has been in course of preparation, embodying the results of these experiments, and also presenting information as to the value and cultivation of alfalfa. It is also added that experiments with alfalfa have been conducted on the College plots for twenty years, and that many inquiries concerning it are being continually answered.

While none of these facts are new to "The Farmer's Advocate," which has for years given close attention and considerable publicity to the work done with alfalfa at the O. A. C., it is possible that, by omitting (in the interests of brevity) to state them in the above-mentioned article, we may have created an unfair impression in the minds of casual readers, and for this rea-

son we cheerfully avail ourselves of an opportunity to place the facts before the reading public. While on the subject, we may as well anticipate possible protest from another quarter, by explaining that, in 1904, a very good bulletin on alfalfa, by Professors Grisdale, Shutt and Fletcher, was issued from the Central Experimental Farm, at Ottawa, and we would not for a moment leave the impression that the authorities at either Guelph or Ottawa were indifferent to this crop.

But we have long been convinced that, in view of the immense soil-improving virtue of alfalfa, its peculiar adaptability for rolling land, its unrivalled merits as a soiling crop, and its unquestionable economy as a substitute for bran and other expensive commercial concentrates, a great deal more stress might properly be laid upon it than has commonly been done by the agricultural authorities at these institutions. The fact that it is a legume and nitrogen-gatherer, and that its fodder is exceedingly rich in the valuable protein compounds which make it specially valuable for combination with the general run of farm roughage, needs to be emphasized strongly and repeatedly. There are immense possibilities in alfalfa for Canadian agriculture, but there is also much more for us to learn about the culture and adaptability of the crop. There is need for elaborate experimentation with it at all our Canadian colleges and stations, as to soil, culture, fertilization, and feeding. The call is for practical demonstration and experiment on a large scale, and this without reflecting at all on the good work already accomplished.

DR. SEATH DISCUSSES RURAL SCHOOL MATTERS.

We were pleased to observe, in a recent press despatch, that Dr. John Seath, Superintendent of Education for Ontario, had agreed with Oxford County's Rural School Trustees' Association that it would be well to have one of these associations in each county in Ontario. The same despatch represented him as saying that the Entrance Examination is largely to blame for the deterioration of the rural schools. Apropos of this matter, Dr. Seath has expressed himself to "The Farmer's Advocate" as follows, adding that the Minister of Education would, during the present session of the Legislature, explain in detail what his Department intends to do:

"The curriculum for rural schools is not bad, but the trouble is that it is not lived up to. This is partly because the work has been conducted with the object of getting many to pass the Entrance Examination, and partly because the teachers have not been properly trained to teach the course for rural schools. However, we are going to provide the education such teachers will need. School gardens will be established at each of the Normal Schools, and the revised course for the Normal Schools will have several other important improvements. I believe that in a couple of years the number of continuation and fifth classes in rural schools will be trebled; but the urban schools, as well as the rural schools, need improvement. At the University of Toronto, next summer, there will be a course in personal and school hygiene. All the Normal-school teachers who teach the subject will be required to attend the course, and many others who can come will be welcomed."

While Dr. Seath does not expect that the kind of medical inspection being introduced into Toronto will be introduced into rural schools, he expects that there will be inaugurated in the latter schools, some system of testing the pupils for physical defects.

Dr. Seath also draws attention to the amended regulations of 1907, relating to elementary agriculture and horticulture, and school gardens, in village and rural schools:

"1. Any Rural-school Board, or any School Board in a village, that provides and maintains a School Garden, with the accommodations and equipment described below, shall be entitled to an initial grant not exceeding one hundred dollars, and a subsequent annual grant of twenty dollars out of any grant made for Elementary Agriculture and Horticulture by the Legislature, to be expended in caring for such School Gardens and for keeping the school-grounds in proper condition.

"2. (1) The area of the School Garden shall be sufficient for the number of plots required, and shall be at least one-quarter of an acre, in addition to the requirements as to area of the regular

school-grounds, in each case prescribed by the Education Department. The School Garden shall be adjacent or convenient to the regular school-grounds. (2) The School Board shall provide the necessary tools, implements, seeds, and other requisites, and also a garden shed or a suitable apartment for the storage thereof, and for use as a working laboratory.

"3. One legally-qualified teacher in each school, who holds a certificate from the Macdonald School at Guelph, or any other institution approved by the Minister of Education, that he is competent to give instruction in Elementary Agriculture and Horticulture, and who shall thereafter give instruction, approved by the Inspector, in said subject at any Rural or Village Public School having a School Garden attached, in accordance with the regulations of the Education Department from time to time, shall be entitled to receive an allowance, at the rate of thirty dollars a year, from any sum voted by the Legislature for these subjects.

4. (1) Should the sum voted by the Legislature not be sufficient to pay in full the grants on the foregoing bases, the Education Department will make a pro rata distribution of the sum voted."

As indicating that the subject of educational reform is not likely to become a party football, espoused by one side, and opposed on general principles by the other, it is encouraging to note that Hon. Richard Harcourt, ex-Minister of Education for the Province, has recently advocated in the Legislature a system of Industrial Education. With this, of course, we entirely agree, although taking occasion to point out that a system of education for the farm is of vastly greater economic and national importance than education for urban arts and crafts, important as the latter unquestionably is. School-gardening and nature-study, carried on under the direction of trained and competent teachers, bids fair to do more to improve our rural education than any one other reform that can be introduced.

MILITARY DRILL AND TUBERCULOSIS.

At present we are hearing much about military drill in schools, as a defence against a possible invasion of our country. A greater enemy lurks on our highways and in our gloomy barns than will ever invade our shores. We talk of the yellow peril, but a greater evil lies in the white plague, which in Toronto kills, in one year, three hundred and thirty-eight people. The statistics are equally alarming throughout the Dominion and the United States.

Tuberculosis, or consumption, is the national disease of North America. It is estimated that six thousand people in Pennsylvania and four thousand in Massachusetts die every year, victims of this terrible disease. Dr. Biggs estimated that tuberculosis annually costs the city of New York twenty-three million dollars, while the total loss to the United States, as a whole, is three hundred and thirty million dollars during the same period.

We are woefully ignorant about our enemy at home. Would it not be wise to teach our school children how to combat this deadly foe, instead of training them to fight an imaginary one?

It is inconsistent to expect a boy to carry out the principles of the Prince of Peace and a rifle at the same time. If we are what we profess to be, why confuse the lad?

How many of our boys know that consumption is infectious? That the germs are spread in the sputum of diseased people on our roads, or in our buildings, either through ignorance or criminal carelessness? How many of our people are aware that, when these germs dry, they float in the atmosphere, seeking the weak spots in man and beast?

Our cities are protected by signs on which we read,

"PLEASE DO NOT SPIT."

Why cannot our country halls and churches, and last, but by no means least, our barns and pastures, be protected by such notices?

It is an acknowledged fact that tuberculosis is infectious. If it attacks the lungs, it produces consumption. It may attack other organs of the body, and develop into spinal disease, hip disease, consumption of the throat, tuberculosis of the glands, or brain, and other complaints. Abdominal tuberculosis is very prevalent among infants who are reared upon unsterilized cow's milk.

Tuberculosis can be transmitted from men to cattle, and from cattle to men. It is picking us off more surely than is possible with the rifles of an enemy; therefore, we need recruits from all over the Dominion to join in the crusade against this deadly foe.

We need inspectors in country districts who will compel small farmers to let light and air into the cow stables.

I am familiar with many barns which are a disgrace to civilization. (Right here let me say that the majority of owners of such buildings will never see this article, as they never take an agricultural paper worthy of the name.) There are many barns in which there is no window at all. Others possess a port-hole, by courtesy called a window, but never made to open. Others have windows through which the light and the dust struggle together. In these dark and ill-ventilated barns stand the producers of human food, in a most filthy condition. These buildings are ideal breeding places for the germ tuberculosis.

It is the exception, rather than the rule, to see a clean herd in this district. It has been facetiously remarked that, when some apple-growers in the Annapolis Valley wish to fertilize their orchards, they have only to turn their cows out in the rain!

It is surprising to see what pains some men will take to groom the horse which he intends to show off as he trots past his neighbors! This same man will sit down to milk the cow which has never known currycomb and brush, while bits of filth drop from its plastered flanks into the pail. If you suggested such a thing as cleaning the udder and grooming the creature, he would think that you were in need of work. Milk cannot be kept clean unless the cow is brushed and well bedded; the latter is, to many cows, an unheard-of luxury. In these filthy surroundings, germs are continually dropping into the milk, where they multiply with astonishing rapidity. Then, we wonder why the white plague is carrying us off one by one. Upon the health of the herd depends the health of all who partake of their products.



Memento (13100).

Clydesdale stallion; black; foaled May, 1903. Sire, Baden Powell (10963). Winner of the Brydon Challenge Shield in 1906, and the Cawdor Challenge Cup in 1908, at Glasgow Stallion Show.

It is time we taught our boys and girls the proper care of milk utensils and farm buildings; then, perhaps, things would be clean and interesting enough to keep them on the farm, where, if they put as much energy as they are compelled to put in their city work, things would be more remunerative.

It is claimed that military drill will improve the physical stamina of the people. Will it affect the girls who will eventually become the mothers of Canada—these young women upon whose health depends the bodily strength of the nation? No! Until we can prevent our girls, especially in the Eastern Provinces, taking positions over the border, where they must stand long hours in overheated and ill-ventilated factories, partaking of hurried and non-nutritious meals, the physical stamina of the nation will deteriorate.

Would it not be more profitable for the country to pay our young people to stay on the farms, rather than spend the present six millions of dollars on armaments?

Where in this vast Dominion can be found a better place for nourishing sturdy young men and women, where they live on the luxuries of the land, than on the farm?

How is military drill to affect our boys? If they enter the militia, will it not make them discontented with the quiet, solid life of the old homestead? A military-drilled farmer would be a ludicrous individual, reminding us of the wooden Mr. Noah in the arks of our childhood. Military officials realize this in the army, and strive to counteract the stiff and unnatural positions by gymnastics.

In the country, the old axe would be an efficient substitute for Indian clubs, while on ladders, scythes, spades and pitchforks could be performed gymnastics requiring as much skill as displayed in any gymnasium. We waste a lot of time and energy punching balls which might be spent more profitably chopping kindlings!

The freedom of the farm is the birthright of every son of the soil, and a country life, if lived according to the laws of health and industry, will strengthen the nation; but more militarism means a growing burden of taxes and a sacrifice of liberty.

King's Co., N. S.

THE FARM VS. THE CITY.

Editor "The Farmer's Advocate":

I have read, with much sympathy, your spirited editorials advocating the interests of the farm as preferable to those obtained in following city vocations.

You very truly point out the possibility of a truly ideal life on the farm, and people of all times have doubtless been allured thereto by the same romantic conceptions of happiness, free from the harsh and bitter experiences of city business life. It seems to me, however, that the great mass of mankind, whether in the city or on the farm, are not actuated by lofty ideals as to the most noble and ennobling form of living, but by the simple desire to get wealth and to get the comforts it will buy, and to use the power it gives them over the less successful in the competition of business.

The real truth about farm life, and the cause for which so many sons and daughters leave the farm home, is that, in spite of the most unremitting toil and the most scrupulous economy,

after many a long year, the parents have only eked out a bare living; and, though the children are grown-up, and, having had their full share in the homework, they find the parents unable to do anything to set them up in a farm business; and, unless they wait for the old people to die, there is no alternative to leaving the home, and often following the vocation of menials to people in other pursuits. In my judgment, as the result of close observation and considerable personal experience, both in cities and on the farm, there is no harder-earned dollar in Canada today than the dollar earned by the farmer, and there is no life in Canada where the incessant labor demanded is so great as on the farmer, robbing him of all

legitimate leisure for mental and physical relaxation, until labor, cheerfully accepted, becomes drudgery, and finds him in a struggle that knows no let-up or end, and from which the grave alone gives him rest.

This great burden on the farmer is borne in order that the dealers who buy his produce—the fruit of many months' labor—may go and make a profit thereon of 50 to 100 per cent, in less hours than he has taken months to produce it. To make bad worse, the farmer is up against trade combines amongst dealers in his buyings and sellings, until he is fairly fleeced of what he does get.

The Hon. John Dryden stated publicly, not long ago, that he saw no chance of improved prospects for the farmer, "until the margin of difference between what the consumer paid and the producer received was lessened," and all the poetry that may be written about the charms of farm-life will fall utterly flat on the minds of those who know, by hard experience, what it all means; and nothing will stop the exodus from the farms going on unless it can be made more profitable to those engaged at farming. Because farmers cannot go into the labor market and offer equal wages for the same number of hours' labor as in other pursuits, every day is making the term "farm laborer" a remembrance more and more of past history.

Again, anyone well acquainted with ordinary city thought about farmers, knows too well that the thought is of one illiterate, dirty and sordid, and suggestive of anything but the type of manhood depicted in your columns; and, where any-

thing strikes their attention in homely comfort and cultured habits of life amongst farmers, they are spoken of, by way of distinction, as "gentlemen" farmers.

A prominent writer lately was quoted by an agricultural-college professor as stating how a farmer was to get rich, and he was told "to get up early; work all day and late at night; to eat nothing that he could sell; to give nothing away, and, if he did not then get rich and go to the devil," he added, "you can sue me for damages." And, under present conditions, it is about the only chance the farmer has of wealth.

My own solution for the farm problem is that farmers' clubs should be formed in every township, to meet weekly or monthly, to discuss every matter affecting their vocation, and to mark out the path of united action in all their buying and selling, and to place themselves, thereby, in such a position, at all cost, where they can protect themselves from being robbed of the legitimate fruits of their labor, and being turned into the bondage of being mere hewers of wood and drawers of water for wealthy dealers who live and fatten on them.

When farming is more profitable, capital and labor will go in that direction, just as naturally as water would flow down hill. And, because of this fact, editorial comment on farm life, as it MIGHT be and OUGHT to be, is only a sort of artificial force-pump, trying to force back the current.

School theories about farming may be made beautiful to the child-mind, but they will be powerless against the hard experiences which, like a hot iron, are being burnt into them, and nothing but relaxation from the fierce struggle for existence which HOME means for the farmer's children will ever reconcile them to it, and which only profound ignorance of better things will induce them to tolerate. A FARMER'S SON.

Carleton Co., Ont.

OUR MARITIME LETTER.

THE BANKS, AND AGRICULTURAL PROSPERITY.

The discussion on the policy of the banks of Canada, which Dr. Sproule started in the Commons the other day, and which is but a reflex of the criticism heard on every side throughout this country, should certainly result in some improvements in the Bank Act at the decennial revision which is now fast approaching. As a general thing, the ordinary rural voter does not dream that the banking system is anything with which he has to do; that it is to him at all comprehensible, at best, or that, whichever way it goes, his financial condition is very likely to be favorably affected. The banking institutions of the country, possessing the sinews of war, he is satisfied, hold in the hollow of their hand the governments of the day, and squeeze or release them to their exploitations, as they vouchsafe the legislative privileges so relentlessly enacted. He is only half right in this. It may be impossible the way things are constituted in this new country, to get the full value of the franchise promptly on the public clearing-house, as there are, with the watchfulness of the Argus, many avenues of escape, from the election booth to the final enactment and promulgation of national laws; but, all the same, the common voice, raised in no uncertain sound, and persistently forced upon the law-givers of the country, can, ultimately, almost completely, attain perfect results in requital. And sometimes these results are secured in a wonderfully short period of agitation. Take, for example, the denunciation of treaty rights, and the abrogation, only the other day, of the Federal Order-in-Council, according undue privileges to Norwegian and other foreign shipping in our coasting waters—a matter of great moment to maritime communities. Since, then, the foodstuffs of a country are of necessity the largest commodity on which its money institutions depend, entering as they do into every species of commercial enterprise; and since they are resultant upon the agricultural capabilities of the people in producing and marketing, it is easy to bring home the personal interest, as imperative in all that concerns the proper obtention of the circulating medium, when necessary to the maintenance of the basic industry, and under conditions which do not favor unduly the organizations formally engaged in its handling. In other words, the farmer should see to it that his bankers no longer enjoy the fat of the land, while he, the real producer, sits down to the lean. A fair distribution of obligation and profit were necessary.

Our granaries, bursting with corn, and with a brisk demand for it, at big prices, without, we, in Prince Edward Island, are more crippled in our commercial operations at the present time than in short years, when we had not in sight that with which to meet the ordinary obligations of frugal living. We do not discuss here the wisdom or unwisdom of exporting coarse grains; there are no two sides to this question, but the methods of a conservative farming Province are not changed in a day; we do not ascribe this, either, to the

handicap of transportation, hard as that is to continually struggle against, but we speak now of the refusal of the banks to advance money on warehouse receipts as hithertofore, a proceeding which excluded, at one stroke, the majority of our merchants from touching the grain crop at all during the close months of navigation, and greatly restricted the purchasing capabilities of the others. Were the banks losing anything by their operations here? Were the stringency conditions of the West duplicated in our life? Not in the least. We came in under the general order of the Bankers' Association, as served by their representatives in the national banks. We had handed over our own only Provincial Bank, with branches all over the Province, to the Canadian Bank of Commerce, and that eliminated all the patriotism, so to speak, left in our Island institutions. The order, "Take in sail," as addressed to the Northwest, where there was a short crop and a considerable stringency, was served in the same terms upon us, with our plethora of corn and a strong market upon which to sell it. The rate of interest went up on all transactions with the banks, and that on deposits remained at the minimum of three per centum. Accommodation was given you as far as you had deposits to secure it, and no farther. A man's richness in all else counted for nothing if the money were not to his credit in the bank ledger. People opened their eyes to the one-sidedness of this banking business. They read the annual report announcing immense earnings, and for once they resolved that, come what might, they would bring pressure on their representatives to so adjust the banking privileges as to save themselves from usurious practices and enable them to secure needed accommodation on reasonable security. This banking issue, then, is a real, living, imperative issue all round. No country can afford to let its "money sharks" (we are not responsible for the term) prey thus upon the producing element of its people.

The matter is up in Parliament, and it will be up quite frequently until the discrimination complained of is removed. We do not vouch for Dr. Sproule's remarks in their entirety, but there is a good deal in them that may well be remembered, in considering the present stringency.

Dr. Sproule was followed by Mr. Pringle, who severely criticised the banking system of Canada, and cited instances of usury which are anything but creditable to us. He named two banks as capital offenders, one having taken 24 and the other 18 per cent. on loans. The earnings of the banks were out of all proportion to their allowances on deposits, and the safeguards were none too good, as instanced in the failure of the Ontario, Sovereign and Ville Marie banks in recent years. The Bank Act should be amended:

1. To provide for Government inspection.
2. To provide more stringent regulations as to circulation.
3. To make provisions as to percentage of capital and reserve that may be loaned to any one borrower.
4. To make provisions for percentage that a bank may loan to its combined directors.
5. To limit the amounts of interest or discount that banks may contract for.
6. To revise the powers of the Bankers' Association.

When the resolution which embodies the foregoing comes up later in the session, a full discussion of this matter may be looked for, and it were just as well for farmers to keep their eyes upon Parliament and the bankers.

A. E. BURKE.

MECHANICAL APPLIANCES.

A Wentworth Co. subscriber writes, warmly commending the paper, and adding: "One department which I think could be added to your already valuable paper is a 'Mechanical Appliances Department,' for the illustration and explanation of mechanical helps on the farm. There are many appliances which farmers use to lessen the heavy work, or to save an extra man, that many others would be glad to know about, and an illustration and short explanation would help wonderfully."

For editorial and mechanical reasons, it would be awkward to add another to the already numerous departments of "The Farmer's Advocate," but we are always pleased to receive clear sketches and descriptions of contrivances useful on the farm or in the home. For such as are worth publishing, we are prepared to allow liberal contribution rates.

THE STRONGEST ADVOCATE OF GOOD RURAL SCHOOLS.

Permit me to say that I consider your valuable journal the strongest advocate for good rural schools that is published in Canada.

Kent Co., Ont.

J. H. SMITH.

HORSES.

MONEY IN SPECIAL-PURPOSE HORSES.

[Part of an address by H. G. Reed, V. S., Georgetown, Ont., at the Ontario Winter Fair, December, 1907.]

I do not advocate the breeding of any of the different types, and do not wish to say that one breed is so very much better than another. I believe the farmer is perfectly justified in gratifying his own taste in the matter of horse-breeding. While I think the draft horse is the best for the farm, yet I know many farmers who don't care to raise draft horses; they say, we don't like these heavy horses, and I wouldn't urge a farmer with feelings of that kind to go into draft horses. Let him breed a lighter horse. He can breed a profitable horse that is light; but there is one thing I wish to emphasize, and that is that a farmer should breed some special-purpose horse.

What is a special-purpose horse? We have several classes of them. We have draft, carriage, road and saddle horses; they are all special-purpose animals. Then we have the general-purpose horse. What is the general-purpose horse? As a rule, it is an animal that will not conform to any of the types that I have mentioned. The great bane of the horse-breeding interests of Ontario is a large proportion of the farmers are engaged in the breeding of general-purpose horses. I don't wish to be understood as speaking too hard of these horses. I know that the large proportion of farming work is done by them, and that they are good, useful animals, but there is not a uniform market demand for them. Occasionally any kind of a horse will sell right, but there is not a gentleman in this audience but knows that a few years ago a general-purpose horse would not sell for what it cost to raise him, and yet, even at that time, a good special-purpose horse would sell readily for a fair price, sometimes for a real good price. A special-purpose horse might be described as an animal specially fit for some particular kind of work. Take a draft horse, for instance; he is fit for dray work, and not fit for anything else. If you have an ideal carriage horse, he is simply a carriage horse, and, while he may be used for other purposes, he is not an excellent horse in any other class. The same may be said of the road horse and the saddle horse. If you are going to raise ideal special-purpose horses, you must have animals bred along some special line. You cannot produce them in the way in which general-purpose horses are produced.

CROSS-BREEDING PRODUCES GENERAL-PURPOSE HORSES.

In almost every case a general-purpose horse is a cross-bred animal, and that is why we have so many general-purpose horses in the country. Farmers have got into that baneful way of crossing the breeds, that they have nondescript animals that don't sell for good prices, and can't be raised at a profit. In draft horses, you can breed Shires, Clydesdales or Percherons, or Belgian or Suffolk Punch, or Lower-Canadian Draft horses, though the latter would not be considered draft horses here. Make up your mind what breed you are going into, and then stick to that breed. I suppose you are aware of the fact that four grades will enable a man to register a filly foal. I know men in this audience that have been breeding horses for forty years, and they could not show me an animal with two crosses of one breed in its make-up, simply a mixed-up conglomerate and nondescript horse. In the show-ring we are often called upon to decide between six or eight or ten or twelve general-purpose horses, and we will have animals ranging all the way from race-horses to draft horses. There is no well-recognized or uniform type as applied to general-purpose horses. Some farmers cannot distinguish between the type of a carriage horse and a road horse. If they have a pair of light-bred horses, they are sometimes at a loss to know how they ought to enter them in the show-ring, and sometimes they will enter them in both classes, and then size up the exhibits and put them in where they will have the best chance to get the prize-money. A man who understands his business ought to know the difference between a carriage horse and a road horse, because they are bred along different lines. We have some good carriage horses on the "Other Side," bred from Standard-bred horses, and they get some excellent horses bred in that way; but in Canada, the best carriage horses are the product of Hackney or Coach sires. A road horse is nearly always the product of a Standard-bred.

MANY LINES OF SPECIAL-PURPOSE BREEDING.

You have a large range before you; you can gratify any particular taste you have and still raise a special-purpose horse, and I can assure you that farmers who have been breeding these general-purpose horses would make more money if they devoted their attention to raising special-purpose horses, which would not cost them any

more money, and they would produce a young horse that would sell for double the amount that a general-purpose horse does. Every farmer should try to make a specialty of breeding; it is the man who specializes who is going to succeed, and I would say, cease raising the general-purpose horse, and raise an animal of special-purpose type, if you wish to attain success. If a farmer is breeding only horses enough to supply his own demands for the working of his farm, then I say to that man, breed whatever kind of horse suits your own purpose best. I remember, one time, out in a Western Province, meeting a man on a hill with a steer and a mule hitched together, and I said to him, "Why is it that you select such a team as that?" "Well," he said, "they answer the purpose." When you are raising horses for the purpose of selling them, you have got to raise the kind of horse the buyers will buy from you, and there never was a time in the history of the horse market of Canada that there were not men going up and down the country trying to buy good draft horses and road horses, carriage horses or saddle horses.

HORSEMEN'S EXPERIENCE COMPETITION.

(Alex. Innes, Huron Co., Ont., 5th place, commended.)

I cannot but admire the great interest you take in trying to advance the horse-breeding interests of our country, which is certainly of great importance to our country's finances.

You ask for some practical experience in raising draft, saddle or carriage colts, handling vicious horses, and treating wounds. As I think the draft colt is the safest proposition for farmers generally, I will confine myself to that subject, and will give my experience willingly, if it will be of benefit to anyone.

Some three or four years ago I bought three or four good registered mares (Clydesdales), ranging in prices from \$225 to \$300, weighing 1,600 to 1,825 pounds, thoroughly sound and of good conformation and temperament. I bred them to the best Clydesdale stallion my judgment could select; I bred two the latter end of May and two in July, and in that way could do the spring's work with the ones that foaled late, and the ones which foaled early could be weaned in time for the fall work. The brood mare must have at least ordinary care during winter months, and special care near and at foaling time. I always have the stalls thoroughly cleaned and disinfected before the foal arrives. A box stall with clay floor is the best by all means, as I think 75 per cent. of blemishes are caused by sprawling and slipping on slippery floors when the colt is very young. I always try to be with the mare, if possible, at foaling time. When the foal arrives I tie the navel cord tightly with a strong string, so as to shut off all circulation, then immediately use strong antiseptic on the end of the cord. I use the antiseptic three or four times daily until the cord is dried up. I am never in a hurry about letting the colts suck; I let them have the first milk, but keep them good and hungry till their bowels move freely. I am sure I have lost colts by letting them have too much milk the first few days.

I handle the colts a good deal when very young, as it tames them, and I can catch them any place when they get older. I always halter-break them while on the clay floors. Proper handling when young, I find, is the best cure for a viciously-inclined horse.

I find that I can sell all these colts from the mares referred to for \$120 to \$175, mostly the latter, at from six to eight months of age; yearlings sell at from \$225 to \$250. These colts, of course, are all registered, and are sold for breeders. The entire yearlings run with the geldings or mares that have foals without any trouble. There must, of course, be no fillies with them.

Brood mares can do all the work on an ordinary farm in winter, so that there are only about three months in the year that the mare is idle, and, in fact, she can do light jobs at any time. I think that they pay for their board the year round, so allowing, say, 25% for losses or misfits, the remainder will certainly show that raising colts is one of the best paying things on the ordinary farms.

Even good grade mares of the draft type, if properly mated with imported pure-bred Clydesdale or Shire horses, have bred good commercial foals very profitably, which sell at six to eight months old for \$75 to \$110. There are many other breeds—Percherons, Belgians, Suffolks, etc.—good individuals when kept pure, but my experience teaches me that it is best to keep the breeds pure, if possible. But there is no loss breeding grade Clyde mares to Shire horses, or grade Shire mares to Clyde horses, as there is no doubt the two types are coming closer together all the time. I find that it is not advisable to put fillies into show condition after they are started to breed, and I always breed my fillies, if well matured, at two years old, and in that way I can get quick returns.

PREMIUMS FOR THOROUGHBRED HORSES.

The directors of the Ontario Jockey Club have decided to offer the sum of \$1,000 in premiums for Thoroughbred stallions, with the hope of improving the half-bred horses in the Province of Ontario. The conditions are to be as follows:

1.—Stallions to be registered in the Studbook of the Canadian Thoroughbred Horse Society, Ottawa.

2.—To be owned by Canadians.

3.—To stand for service in Ontario for mares (not Thoroughbred).

4.—Owners wishing to compete (a) must register the name of stallion, (b) the service fee, (c) where standing, and must obtain from the Secretary of the Ontario Jockey Club a service book, which book must be returned to him not later than the 1st of September of this year, stating the names and addresses of owners of mares covered. By the 1st of September of the following year—that is to say, 1909—a sworn affidavit of the number of living half-bred foals, taken before a Notary Public, must also be forwarded to the office of the Ontario Jockey Club. The Ontario Jockey Club reserves the right to verify the affidavit, when prizes will be awarded and paid in the following proportions:

1st prize	\$250.00
2nd prize	200.00
3rd prize	175.00
4th prize	150.00
5th prize	100.00
6th prize	75.00
7th prize	50.00

5.—No horse will be awarded the first prize, viz., \$250.00, two years in succession.

dual-purpose cow is becoming a certainty in the minds of farmers in widespread circles. A case in point: While travelling through Simcoe County last month, reports of many cheese factories standing idle, or in a few cases turned into creameries, were frequently heard of, and not one operated factory in all Simcoe was mentioned, though many enquiries were made along that line. Similar conditions prevail in the south part of Victoria County. Why so, is the nut to crack? To the writer the solution is easy. The dairy cow, "pure and simple," and cheesemaking, were tried and found sadly wanting in fitting in profitably with the other existing conditions. There, and in all similar localities, of which there are many in Ontario, the dual-purpose cow, which gives a fair quantity of good milk—such milk as Mr. Miller says grows the pink-skinned calves and fine babies—a milk rich in butter-fat; and the cow which will produce the profitable steer for the butcher's block, and also profitable to the man who breeds it and finishes well for the market, is the cow in demand. What of the dairy cow of Ontario? No matter where a company of dairymen gather, be it at Institute meetings or conventions, never do they fail to state that the average dairy cow yields no profit.

What is the next conclusion which we must arrive at? Simply that dairying as a whole does not pay. And yet, let us notice what is being done to foster that unprofitable industry, unprofitable according to the universal testimony of Ontario dairymen. Eighty thousand dollars in direct grants, and Senator Derbyshire exultingly stating at the Ottawa Winter Fair that an additional grant of fifteen thousand dollars had been secured; and the results are the same old 3,000-pounds-of-milk cow, a boarder, a companion, with profits nil.

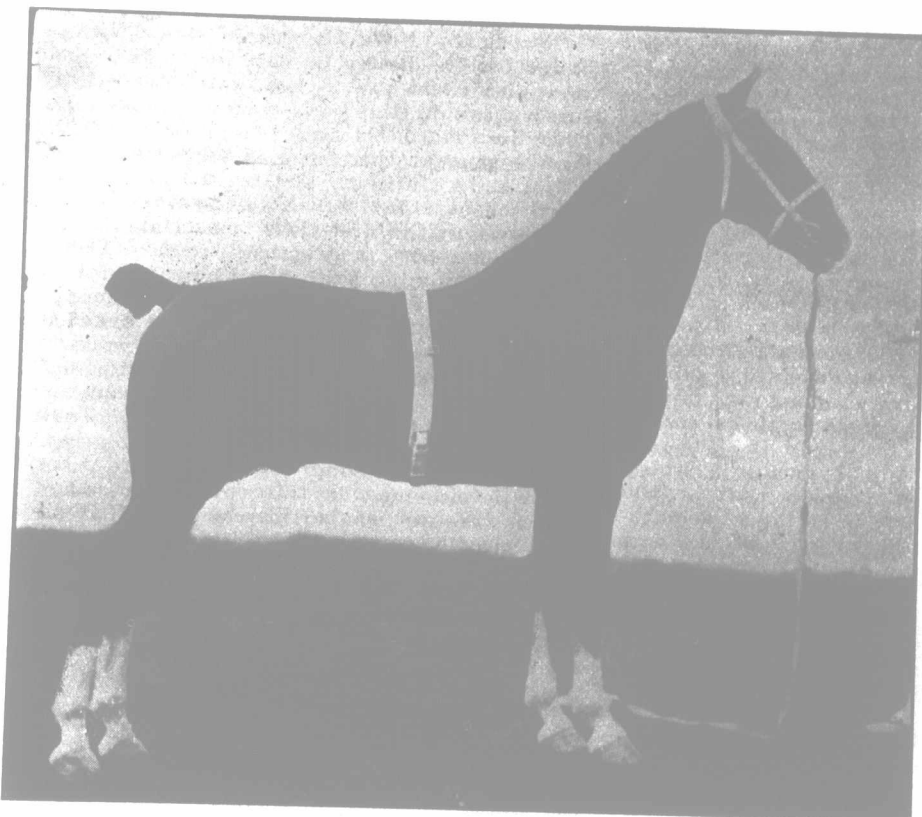
Why that lavish expenditure of public funds in one direction, while practically very little aid is given by our Provincial Government to other and extremely profitable lines of live-stock husbandry? The undue fostering of the dairy industry has caused untold loss to the beef-making industry in Ontario the past twenty years. Go where we will, into the mixed-farming sections where stall-feeding and grazing are important factors, and the complaint is general, of bullocks to buy, being not so good by long odds as a decade or two ago. The Government promoting of the one and the continued neglect of the other are the apparent causes.

Last December, at Rochester, being with New York breeders in convention, the very gratifying statement was made that in that noted dairying

State the standard milk production of the average dairy cow has been raised of late years, from 3,000 to 4,500 lbs. annually, and that altogether resulting from individual effort, without their Government fostering one line of industry at the expense of another.

When our Government is so liberal in promoting dairying, why does not the sheep industry receive some attention?—a business that for years is yielding a clear profit of one hundred per cent. per annum. We cannot even get protection from the multitudes of more than worthless curs which curse our country. Were we outside spectators, what would we think of a people protecting in their midst animals of which not one in a gross had any value; animals which, because of the want of restraint, drove many of the inhabitants from having on their farms another kind of an animal which contributed very largely to their comfort and was very profitable? Such is a picture of Ontario conditions at present, so far as sheep and dogs are concerned.

How long are we, the breeders and feeders of the meat-making animals in Ontario, to continue satisfied with the apathy of those concerned? How long are we to be content with the powers that be, leaving nothing undone to promote one line of live-stock industry, while all that is done for all other lines of live-stock interests is but a drop in the bucket? Why should the unprofitable line be so fostered, while the profitable ones are practically neglected? These are questions that at present demand the "most serious consideration"



Rudstone Prince (8630).

Hackney stallion; chestnut; foaled 1902. Winner of numerous prizes at leading English shows. Sire Rosador 4964; dam by Garton Duke of Connaught.

LIVE STOCK.

IS DAIRYING UNDULY FOSTERED?

Editor "The Farmer's Advocate":

Critics and friends of the Shorthorns have been giving the wants and failures on the one hand, and the redeeming features of the breed on the other, in your columns of late. That good will result is beyond doubt, as breeders of the "red, white and roan" from the discussion will not lose any faith in the goodness and profit of their favorites, while the public, who so generally read "The Farmer's Advocate," will realize more clearly than ever the leading position occupied by the Shorthorn and its grades as the producers of high-class beef, and the dual-purpose cow, which is growing so rapidly in favor in the sections where mixed farming of the better class is carried on.

To realize what breed is in general favor, we have only to consult the reports of auction sales of the best herds of the different breeds in order to understand that the Shorthorns have a strong lead, and 'tis the same when Shorthorn grades with those of other lines of grading are exposed for sale in sections where no special attention is paid to any kind in particular. There, again, the dual-purpose grade, got by the Shorthorn sire, is the money-getter for the seller nine times out of ten.

Year by year the wisdom of sticking to the

if our stock interests and general welfare of our Province are to make the possible advance in the years to come.
 JOHN CAMPBELL.
 Victoria Co., Ont.

AS TO HOG PRICES.

For some time past middlemen have been accounting to farmers for the low prices of hogs, by saying it was due to American hogs, etc., coming into this country. This statement has been passed along till in some sections it is generally believed that once more American stuff is being rushed into Canada, and Ontario particularly. It has, no doubt, caused many to run their half-fat bacon hogs and breeding sows onto the market. Trades and Commerce returns show this rumor to be without foundation—a pure fabrication, invented by some person or persons to account for the low prices and shift the responsibility from their own shoulders.

The cause of the continued low prices in Canada is due to a certain extent to the money stringency and low prices in the United States, and also to the scarcity and very high price of grain in

Britain, and the consequent short-sighted policy of rushing half-fats, grass widows and everything else to market. Already in Britain heavy bacon and fats have advanced in price, while the others are still low. One of the largest and best English breeders says that in his opinion prices are bound to soar before the next six months are over, because hogs are being sold out rapidly and breeding operations seriously curtailed.

The same thing is true in Canada. True, many men had to sell, but many did not; yet all joined in a mad rush to see who could get out of business in the shortest space of time. One of the curses of the buyers has been that in order to get a carload of hogs they had to take at least one-third of them unfinished; in fact, some pigs were not fit to make decent grease. True, competition among buyers has caused some men to take what they did not want, and often they found the profits on the wrong side of the cash account. Competition is all right in its place, but in the end that sort works injury to every hog breeder in Ontario. The cry from East to West is, "We cannot make any money out of hogs at the present market prices of grain." Granted, but right here let us answer several questions. Did hogs pay

for the best part of 1907? Has grain selling paid in the past? Are present prices likely to last? Is it advisable to go out of what has proved a profitable business for an uncertain one, to say nothing of selling with every bushel of grain part of the fertility of our farms? Last, but not least, can we afford to lose a good sure market that has taken us years to work up just because for a few months prices of hogs go down and coarse grains away? Some men had to sell—they are to be pitied—but many were not forced to do so, yet they dipped in and helped make things worse for their less fortunate neighbors, while at the same time they sympathized with them. After all, would it not be a safer, surer, more accurate way of doing business for the hog men to charge the grains fed at the price they cost to produce, as is usually done in the case of roots and green feed. It is surely a short-sighted policy, akin to madness, to ruin what has proved to be a profitable industry, and one that it has taken years to establish, simply because a few must sell and the rest cannot see past the inflated prices of coarse grains that are even now steadying down. NEMO.

Survey of the Canadian Live-stock Industry by Provinces.

[Address by Duncan Anderson before the National Live-stock Convention, Ottawa, 1908.]

I think it was Mr. Matthews who said he had a big subject, but just imagine the magnitude of mine, covering an area of some four thousand miles in length and some five hundred in width, embracing nine Provinces. The question is, how can I begin? Many of you know that I have been leading, during the past few years, a wandering life; I have been in every Province of the Dominion, and in every county in those Provinces, and I suppose, Mr. Chairman, that is the reason I have been picked out to speak to you of the needs of the live-stock industry in Canada.

IMPORTANCE OF THE LIVE-STOCK INDUSTRY.

At the outset, I will endeavor to lay before you the value of the live-stock and agricultural industry of Canada, as compared with some of the other sources of our national wealth, such as fish, mines and timber. I thought, also, of drawing a comparison with our manufacturing industry, but, in trying to investigate this subject I was unable to draw a line of demarcation between the stages wherein certain articles ceased to be the finished product of the one and the raw material of the other. What I mean is this: Take the wool off the sheep's back; that is the farmer's finished product, but it is the raw material of the woollen manufacturer. So I was forced to drop out of this line of comparison. Now, I do not take the total output, but I have taken the exports from the whole, for, as has been said, it is our exports that help to keep our national ledger on the right side. If I had taken the total output, it would have put the farmer to a still better advantage. I take the year 1905. I find there was exported that year, of fish, \$11,000,000; of the product of mines, \$32,000,000; of timber, \$33,000,000; and from the farm, \$93,600,000; or, if you add the fish, mines and timber together, you find, in 1905, that the farms of Canada exported to outside countries \$17,000,000 more than those three combined; and, if I was to subdivide that \$93,000,000 to ascertain what proportion was in agriculture and what in animals and their products, I find of the former there was \$30,000,000, and of the latter \$63,000,000. Now, there were years, such as 1903, that were more favorable, from a comparative standpoint, to agriculture and live stock, but I have taken an average year, 1905. It is a safe estimate to put the value of live stock in Canada to-day at \$350,000,000.

PRINCE EDWARD ISLAND.

Taking up the respective Provinces, I will begin at the east. Take Prince Edward Island, and Mr. Theo. Ross put it right when he said the Island had better horses twenty years ago than to-day. I believe that one of the principal needs of that Province to-day in horse-breeding is to have six or eight good stallions placed on the Island, and I trust that the Government of Prince Edward Island will do as they have done in Nova Scotia and New Brunswick, and get a supply of breeding horses there. Then, as to beef cattle. As Mr. Ross also said, the cattle there get too much mixed with dairy blood. I question very much if there is another place in the Dominion that can put up such a line of sheep and hogs as you will find in Prince Edward Island, and I would like the Island to continue along the line they are now following in the breeding of a good quality of sheep and good bacon, but there can be some improvement along the lines of dairying and the raising of beef. When we get to figures, we find that in 1901 there were 55,694 milch cows there, and in 1907 there were 53,096, or 2,598 fewer than in 1901; so you see there are

fewer cows, and consequently not so much milk. And let me say that Prince Edward Island has a soil that will grow almost anything, but there is not enough stock kept there, and not enough succulent food raised. They have, on the average, four and a half cows and five other animals to the one hundred acres of land.

NOVA SCOTIA.

Coming to Nova Scotia, I find a wonderful change for the better in that part of Canada. I know they were pretty far back some years ago. Horses have in the past nearly all been bought either in Prince Edward Island or Ontario, but the Government there now is importing a number of first-class stallions, and, at the present rate of improvement, they will soon be able to supply themselves with first-class material. Of beef production, there is practically none. There are, as Prof. Cumming said, the Counties of Cumberland, Antigonishe, Pictou and Colchester, where they have three classes of hay in the dyked lands, English hay, broad-leaf, and marsh grass. In these parts they will produce beef cattle, but the great bulk of beef there must come from inland. The working oxen there are in fine condition. As to sheep, there has been a great improvement. The conditions are splendid for immense development in this connection. And the number of cows is also increasing. Here is how Nova Scotia stands as to live stock: In 1901 there were 127,945 milch cows, 278,549 sheep, and 55,174 horses; while for 1907 there were 143,369 milch cows, an increase of over 15,000; 384,940 sheep, an increase of 106,391; and 63,418 horses, an increase of 8,244. So, you see, they are making progress.

NEW BRUNSWICK.

Then, coming to New Brunswick, there they have been breeding too many light horses, as in the State of Maine, and some of them not of the best quality, but the people are getting the Government to put forth an effort, as in Nova Scotia, to improve their stock, by importing stallions and mares of a superior quality. I do not know of a part of Canada, bar none, where they have made better headway in dairying than in King's County, N. B., and I do not know of a more important dairying center than the town of Sussex. I have not seen, anywhere in Canada, better work done in the proper grading up of the dairy cow. I find that New Brunswick has 9,907 more horses than in 1901; 22,714 more sheep; 15,999 more other cattle; 69,920 more sheep, and 46,848 more swine. So, you will see, that in the two Provinces, Nova Scotia and New Brunswick, they are making pretty good headway. Of course, there can be improvement everywhere, and the farmer should never be satisfied in his march of progress.

MISTAKES AND SUGGESTIONS.

For instance, when I take New Brunswick and Nova Scotia and Prince Edward Island, here is where I find they might strengthen themselves: They should have a uniform, constant purpose, a steady purpose in breeding, and not be too subject to change. Farmers have not been stable enough in their lines of breeding; they keep changing the breeds from one to another. Many agricultural societies and Farmers' Institutes use membership fees and Government grants to buy pure-bred males to improve their stock. While this method of purchasing pure-bred sires has many advantages, especially amongst farmers where only a few cattle are kept, yet the system is open to one very serious objection, and that is that the breed of animals to be purchased is determined by a vote of the members. Too often the members do not make a continuous, steady

selection from one breed long enough to attain a genuine improvement on their stock. Sometimes the selection ends in a compromise, beef and dairy, time about. However, some stronger societies get over the difficulty by keeping both beef and dairy breeds. I am pleased to say that a vigorous educational work has been in operation, and in some cases a very decided improvement has been made; and, as far as Nova Scotia is concerned, the Government of that Province has appointed a gentleman to go among the agricultural societies and instruct them on proper breeding.

Then, this brings me to the point that I believe the salvation of live stock in the Maritime Provinces is in the raising of more turnips. When I go to the College at Truro, and visit the Experimental Farm at Nappan, I find that for several years they have been getting a thousand bushels of turnips per acre, while throughout the Provinces there the people do not raise enough succulent food to feed their young cattle liberally. Nova Scotia and New Brunswick do not raise one-half acre to the one hundred, when they can raise roots better than in any other part of Canada. Until the farmers grow more roots, they will not be taking advantage of their grand opportunities. There should, first, be steadier breeding; secondly, more succulent feed for winter; and thirdly, more liberal feeding of the animals when young; and, I think, those three points will apply in every section where succulent feed can be raised.

QUEBEC.

Coming to Quebec, with the exception of Huntingdon and its neighborhood, and Chateauguay, I do not find that the horse stock has improved as much as it might. When I go to the fairs in Waterloo and Brome Counties, I find there the best driving horses that can be found anywhere in Canada. They have what I call some real high-class driving horses, but, with the exception of Huntingdon and Chateauguay, they have not paid that attention to horse stock that they might have, and I think some draft stallions could be put through the counties there to advantage. They have the climatic conditions and the market to dispose of their surplus stock; they have the City of Montreal. As for Huntingdon and Chateauguay, I do not think I have been anywhere where milch cows and horses have been more successfully raised than in those counties. I remember, at one of the villages there, at early morning, seeing no less than twenty stalwart Canadians loading their milk and sending it to Montreal. Those two counties have set an example to other parts of the Province of Quebec, and, as the Minister has pointed out, greater interest should be taken in the breeding of the French-Canadian milch cow, and in the raising of sheep. And here is another branch they could do a great deal better in than they are doing, and that is the raising of hogs. They could use the by-products of the dairy in this connection, as it will never do to depend upon the grain feed of the West to feed them. The land has to be tilled much differently, and it would not hurt much if some of the lands of Quebec that have been planted in hay for twenty years were plowed up, had grain crops taken off them, and were reseeded to grass. That would freshen their meadows and give them more benefit than mowing over those old hay fields year after year. Quebec could widen out extensively in the line of producing more hogs, especially along with dairying, because they have the best hog market available. I think I am safe in saying that the City of Montreal consumes, for eight months in the year, from 2,000 to 2,500 hogs a week. Moreover, the City of Montreal will pay, for the

same quality of hogs, 30c. and 35c. per cwt. more, live weight, than the City of Toronto. It is always a good home market, kept sharp by the surplus being exported. Dairying and hog-raising are lines that should be followed on a far more extensive scale. The Province of Quebec turns out \$20,000,000 worth of dairy products a year. Oh, the skimmed milk that comes from that! I do not think the farmers are making the best use of it; and, if the old fields were planted so as to grow more roots with grain, they should treble their output of swine every year. I have been nowhere in Canada, with the exception of the unbroken prairie lands, where there are greater possibilities in the live-stock line than in the Province of Quebec. I had an idea that it was poor land, but there are any number of rich, fertile valleys with strong soil, and if the people of Quebec were aroused to their possibilities, it would not be many years before they would surprise the rest of Canada with their agricultural output.

ONTARIO.

Now, coming to Ontario, if I draw a line between Cobourg and Georgian Bay, I might say that east of that is dairy country. They are doing well there in the manufacture of cheese, but they could also raise more hogs, and it would not hurt, even there, if some of the grass land were reseeded, and grain raised for the horses. Then, going west of that line, what do I find? I find that dairying is on the increase, and will increase; I find that cattle are on the decrease; I find that sheep are decreasing, with a serious decrease during the past year. From Peterborough, west to Sarnia, is an area with a grand home market, as that is the manufacturers' center. It seems to me that the conditions in Central and Western Ontario are undergoing a radical change. If I take the population of Canada, I find that it amounts to about 6,500,000, and if I subdivide that, there are 4,000,000 in the rural part, and 2,500,000 in the urban sections—cities, villages and towns. Now, in order to demonstrate what a home market will consume, I do not know that I could base my calculation on anything better than a report issued by the Board of Agriculture of Great Britain. The report says: "Twenty years ago, the foreign food bill for a year reached a total, approximately, of \$500,000,000. In 1906 it amounted to \$1,000,000,000, an increase far greater than is accountable by the growth of population. Detailed tables compared the imports of food per head in 1886 and 1906. The most notable is wheat, the figures for which stand at 146 pounds and 239 pounds, respectively. Butter and its substitutes stand at 7½ and 13½ pounds, respectively; sugar, 69 and 86 pounds, respectively; and, above all, meat at 20½ and 47½ pounds. In regard to meat, it is noteworthy that the figures not merely represent a great import, but an immensely-increased consumption. The figures indicate that the consumption per head has been more than doubled, showing that the standard of living has been markedly raised in twenty years. Basing my calculation on that, I am safe in saying that Canada would consume at least 60 pounds of meat a year per head. Putting that at 8 cents a pound, would bring it to about \$5 per head, and that, for the 2,500,000 of our urban population, would come to \$12,000,000 a year that our people have to supply, saying nothing of what has to be consumed on the farm. In Central and Western Ontario we find centers of manufacture where the commercial activities are at their best, and can be expected to remain so. In the recent municipal elections there, the people showed themselves alive to the question of securing cheaper power to run their manufacturing plants, and taking every means possible to develop their industries. And what does that mean? It means that in that area there is going to be one of the best home markets in the Dominion. And remember, also, that the area of tillable land in the Province of Ontario is limited; there are only 14,000,000 acres of arable land, and only 10,000,000 in crop. Why, when the C. P. R. built their line they got 25,000,000 acres, and then 3,600,000 more for settlers; and, as a result, they alone have twice as much tillable land as Ontario. But what of it? There is going to be better and more intensive farming in Western Ontario, with a good home market to stimulate the production of beef and bacon—a market in the cities, towns and commercial centers of that section of country. In the export of beef, where do we stand? I find our export of beef, according to the last report, is \$11,500,000, and of this, Central and Western Ontario's share is \$7,000,000, and \$4,500,000 comes from west of the Great Lakes. So, you see that Central and Western Ontario may hold their own in beef and bacon. The export of bacon and hams amounts to \$13,000,000, and of this, \$10,000,000 comes from that part of Ontario I have in mind. The great motto of the farmers there ought to be to produce a better quality of stuff for their own markets. More good butchers' cattle should be

raised and finished younger—from twenty-four to thirty months. The home market will be brisk, especially near large towns and cities, and offering a steady demand for cream and milk. Ontario will not increase her export trade in meat products. The decrease in cattle, by the last returns, was 60,406, and in sheep 198,726. In horses and milch cows there was an increase, and in swine a marked increase.

THE PRAIRIE PROVINCES.

This brings me west of the Great Lakes. If I draw a line from Winnipeg to Saskatoon, and to Didsbury, south to the American boundary, it is either grain-growing or pastoral land. The most of the cattle there come from the Province of Alberta. Manitoba has been farmed for twenty-five or thirty years, and, in speaking to some of the farmers there, they would try to make you believe their land would never crop out. But I can see a great difference in some of the light soils in Manitoba and Saskatchewan to what it was eight years ago; in fact, it would help a good deal of that which was cropped if twelve or fifteen loads of manure per acre were applied to it. I admit that around Indian Head the land will stand cropping a great deal longer than the gravelly soil of some other sections; but here is the problem, even with good strong land, can it be kept clean by successive grain crops? I know a good part of the land in Manitoba is getting dirty with weeds of every kind, and my observation has led me to the belief that that land cannot be kept clean, or in good shape, except in rotation of crops and some seeding-down to grass. Some of the soil is getting crop-worn. Not two weeks ago, I stood near the market at Portage la Prairie, and saw there some thirteen or fourteen loads of prairie hay for sale, and there is no doubt that the land requires some manure and a proper rotation of crops. I believe the time has come when the wheat-growers of the West will be buying cattle grown on the ranches, putting them into some kind of stables, feeding them in the winter, and sending them on to the market around the end of May; and, let me say this, that the Province of Manitoba is ripe and ready for a change. And even in the Further West, with all we hear of it, there are some pretty stiff propositions to get their land cleaned, and the question is, Can stall-feeding be done with profit? I have come in contact with men of ability, and they say, under present conditions, they cannot make it pay, and that is why they do not do it. Why, ten years ago, in some parts of Manitoba, there was more stall-feeding than to-day. The cause of this is that there have been six or seven good wheat crops. I asked one farmer how he put in his time during winter. He worked his farm well in summer; he had three grain crops with one fallow and only one plowing, and they had only two cows and twelve horses; and his answer to me was that he went to the town four days a week during the winter, and his boys went down every night to play hockey. This shows that the human, as well as any other animal, will follow along the line of the least resistance. As to the production: As I have told you, there were, in 1906, \$4,560,000 in cattle exported from the West to Britain, being some 75,000 head. The cattle landed in the Old Country when the beef was at its cheapest. In August it was sold at \$4.50, in September from \$3.50 to \$4.00, and in October from \$3.00 to \$3.50. This shows that if some stall-feeding were done on the wheat plains in the winter, and the cattle shipped in the early summer, there would be more got out of them.

THE END OF EXCLUSIVE GRAIN FARMING.

Mr. Anderson here went into the question of cattle-feeding in the West, which subject has been recently treated in these columns, and proceeded to say:

The West is rich in the fertility of the soil, but that will not last forever. When I was a boy, I remember reading of a great fertile valley in the State of New York, called the Genesee Valley, and there they grew the best and largest crops of wheat. But what is there to-day? There is none grown there at all, they are into dairying; they cropped their land out, and they had to make a change. It is the same way with Southern Minnesota; and what happened in the Genesee Valley and Minnesota will just as surely happen in our great West if the present system of farming continues.

STOCK-RAISING OUTLOOK IN THE WEST.

[Turning to the situation as regards the ranching industry, Mr. Anderson discussed the subject which has already been fully covered in our columns. After suggesting a commission of competent men to inspect and report upon the soil, as to its value either for crop or grazing purposes, in order that where large areas of ranching land lie together such might be withheld from homesteading for a number of years, he remarked that the West to-day is in a transition stage, though on what line the change would take place, he did not know.]

Between Winnipeg and Saskatoon the live stock will be principally horses, with beef cattle and hogs and sheep in the arid sections. I do not think there will be much dairying done, as the three essentials are lacking, succulent grass, water and labor. The northern portion of this section is a mixed-farming country. In the grazing sections, where not fit for homesteading, the conditions would be better than at present if the ranching leases were longer. Before leaving Saskatchewan, let me say this, that I do not believe there is any Government in the civilized world has more real good tillable land under its control than has the Government of the Province of Saskatchewan. There is a corner of it, and perhaps a pretty large corner, that is grazing country, but, with that exception, and I have been on four or five lines of railway there, and had a pretty good opportunity of seeing the land in that Province. It is a good rich soil, that can produce anything.

MIXED FARMING FOR ALBERTA.

I would not say the Province of Alberta was quite the same. The climatic and soil conditions are entirely different from those in the grain-growing Provinces of Saskatchewan and Manitoba. But when we come to Southern Alberta and see fall wheat growing, and, with the moisture they have there, they should be able to grow red clover, and where that grows, you can grow anything. And, going further up, I have seen lots of No. 1 timothy hay grow around Olds; and when I came to Lethbridge, where they have the C. P. R. irrigation land, I saw there oats and barley growing, and many stacks of fine alfalfa hay; and in a Province where they can grow fall wheat and clover, and alfalfa and timothy hay, the conditions are favorable for stock-raising of every kind. In fact, I do not know of a place in America where the conditions are more favorable for raising horses than in Southern Alberta. Between Calgary and Edmonton, dairying was established ten years ago, and to-day it is a fixture; they are not only in dairying, but in hog-raising and chicken-fattening, and even exporting eggs; and, altogether, I do not know of any Province in the Dominion which has



Lincoln Yearling Wethers.

First, and winners of breed cup, Smithfield Show, London, England, 1907. Exhibited by S. E. Dean & Sons.

laid a more lasting foundation for a successful live-stock business than the Province of Alberta.

ONE-CROP SYSTEM UNSAFE.

Grain-growing is all right in Manitoba, and in a large part of Saskatchewan, but when men are depending entirely upon a single-crop system they are going to be left, whether growing wheat in the West or potatoes in the East. It is not safe.

BRITISH COLUMBIA.

I will not say much of British Columbia, as that Province has been covered thoroughly (by Dr. Tolmie). For about one hundred miles from the eastern boundary, it is a cattle country, and for about one hundred miles inland from the coast it is a dairy country; and I might say that at the mouth of the Fraser and on Vancouver Island I have found some of the best herds of cattle I have ever seen. One thing I would like to remark, and that is the suitability of that section of country for the French-Canadian cow, which has been justly alluded to here as the best butter-producer on four legs. I may well say to the breeders of the French-Canadian cow that if you put half of the publicity and enthusiasm into it that the Holstein breeders put into their stock, the people of Canada would commence to know what you have. (Applause.) I never met a Holstein breeder anywhere, even though he only had two cows, but he was an enthusiast. But let me say that, for a dairy breed on some of our rolling, dry hillsides, where the grass is not very long, I do not know of any breed that will give better results than the French-Canadian cow, and I am pleased to know that some wealthy men in New Brunswick and Quebec have taken an interest in the breed, so that you may expect to hear more about it in the future, to the benefit of all concerned.

MUST KEEP THE LANDS FERTILE AND CLEAN.

Gentlemen, I have given you the result of my observations. I have formed my opinions freely, and have given them to you honestly. The greatest question before us to-day, bar none, is, How can the farmers keep their lands fertile and keep them clean. I do not believe it can be done, except by a proper rotation of cropping. The climatic and soil condition will determine the line of production, but let it be remembered that no rotation of crops will prove a success unless you have live stock on the farm.

EXPERIENCE IN THE ONTARIO EXPORT BEEF-CATTLE TRADE.

COMMERCIAL LIVE STOCK.

(Address by Mr. Thos. McMillan, at Convention of National Live-stock Association, Feb. 6, 1908.)

In my remarks I will endeavor to deal with the export trade to Britain generally, and its conditions as it affects Ontario farmers and exporters, as it is still from this Province that the large percentage of our high-class beef cattle for export is obtained; and I may also say, as one whose life-business has been largely the growing and finishing of these animals, and for a period of eighteen years continuously having followed them personally to the point of consumption, and examined the carcass after being dressed and hung up in the show-room of the wholesaler, I have had an experience along this line, in which there are many incidents which, did time permit, I could relate with at least some degree of merriment, and which might serve to show that it is an experience that will teach any man to look the battle of life squarely in the face, and decide at once what he will do in a case of emergency. When my brother and I first engaged in the export cattle trade, it was not as shippers—we did not have money enough for that; we hadn't any money to lose then—but it was as underhands, looking after the animals of other men. We thought there was money in the export-cattle trade. As cattle-feeders, we did not think we were getting the price we should for our animals; we thought there must be a good margin going into the pockets of the shippers; and so, being possessed with somewhat of the spirit of adventure, we thought we would like to know something of the outs and ins of the trade, and so we started in at the bottom—apprentices, as it were—to learn the trade, and it was a lucky thing for us that we did make a start in this way, because, when we began to ship ourselves, we knew every time when a shipper had to put his hand in his pocket, and we also knew pretty nearly every time when we could prevent other people from putting their hands into our pockets.

I shall never forget, gentlemen, my first experiment, and the last words my master, addressed to me as we parted on the dock at Montreal. There was generally a greater mortality amongst the sheep than amongst the cattle, although they were all well insured (he was a Scotchman), and his last words to me were, "Now, Tom, ye'll mind, and ye'll no forget, that they sheep will

bring me more in the bottom of the sea than they will in the London market." And with this parting salute from my master, we set out from Montreal on an eighteen days' journey on board of an old hulk, "The Early King." I had two neighbor boys with me, and many a time on that journey, with tears in their eyes, they said to me that if they ever got back to the County of Huron they would never go away on a journey like this again; but, being possessed, personally, of a strong desire to know something at first hand, not only of the outs and ins of the cattle trade, but also of those stately mansions of old England, and that land of brown heath and shaggy wood, of which I had often heard and read so much, I had something of inspiration to bear me on my way. Suffice to say, in leaving my old master of that trip, that during one year he was the largest cattle-shipper from Montreal, and when the season's operations were tallied up, he had lost between \$40,000 and \$50,000. He was at one time wealthy, and died a poor man, losing the bulk of it in the export cattle trade.

In scanning the export cattle trade to Britain during the last ten years, we find that the trade has not increased so much in numbers as in value:

Year.	Number of cattle.	Value.	Per head.
1897.....	120,063	\$ 6,454,313	\$54 00
1898.....	122,106	7,403,990	
1899.....	115,476	7,129,430	
1900.....	115,056	7,579,080	
1901.....	119,050	8,028,476	
1902.....	148,927	9,742,738	
1903.....	161,170	10,842,438	
1904.....	148,301	10,046,651	
1905.....	159,078	11,047,167	
1906.....	163,994	11,045,463	67 00
1907.....	149,340	10,200,137	68 00

There are a few factors upon which the success of this export-cattle trade very largely depend:

1. The breeding and quality of the animals from which these cattle are raised.
2. The system of growing and finishing to which they are subjected.
3. Transportation and treatment during the voyage.
4. The regulation and method of disposal in the home market.

And I may well say that, without the greatest care and the exercise of the very best judgment in all these particulars, we can never hope to reach the pinnacle of success in this most important branch of live-stock development.

In the first place, we, as agriculturists, must have the foundation breeds of animals from which to start. I am not going to particularize in the matter of breeds, but for this purpose we want to stick to the very best breeds, and give the dairy breeds of cattle a wide berth; bar out every trace of the blood of the special-purpose dairy breeds. Their presence, their introduction into the herds of the breeders of fat cattle in the Province of Ontario has been the greatest curse that has ever visited the export-cattle trade of Canada; and if we wish to save and preserve the trade, this gospel cannot be preached too often or emphasized too strongly. We want to encourage the rearing and handling of one breed of cattle which has the right kind of back, broad, smooth, and well covered; well sprung and deep in the rib; carrying their flesh in the right places, where it will fill the eye, and where it will command the highest prices; and we want them to give milk, too, and plenty of it; and our breeders can get them and raise them if they only try, and THEY MUST TRY. We want to breed our fat cattle from those cows which will give milk which, when given to their offspring, will produce flesh, and produce a bright, well-colored skin and soft, silky hair, and, as Mr. Miller says, will produce thriftiness, plumpness, beauty and strength, and which will give the young things such a start as will enable them, under proper care and feeding, to be hurried along, until they are ready for the block at an early age. Early maturity is the only safe system of profitable beef production, the only way in which we can produce beef of the proper quality, which, when put upon the block in the markets of Great Britain, will exhibit the finest quality of product, command the highest price, and in this way establish a name for the consignments that are to follow.

For eighteen years my father, brother and myself were engaged in the export-cattle trade to Britain. During that time we became acquainted with shippers stationed all the way between Seaford and Montreal. In those eighteen years we knew many at the business who lost their all, and few who survived for any length of time. We were only small shippers ourselves, never shipped more than 500 head in a season, and I attribute the measure of success we attained to the following reasons:

1. All the animals we fed ourselves were animals that had been well raised, fed in such a way that they were able to deposit fat in the lean tissues of the meat during the process of their

growth and finishing, thus producing, when slaughtered, the best quality of beef.

2. The animals we bought were the very best to be got in our section of the country. We made a practice of inspecting the best herds of fat cattle in the locality, and afterward only buying the picked cattle, thus ensuring the best carcasses when hung up.

3. We exercised every care in our treatment of the animals during shipment and transportation.

4. Interviewed the wholesale butchers personally before the animals were sold.

And what was the result? We sold the great bulk of our animals on the Glasgow market. We became well acquainted with the leading wholesale butchers, and with the salesmen as well, and they became so familiar with the quality of the animals we handled that, during the later years in which we were engaged in the trade, our animals were always sold under our own name, and, for the last five years, sold for the highest prices that had been obtained for Canadian cattle up to the time at which they were sold.

APPROVES EXPERIMENTAL WORK.

Editor "The Farmer's Advocate":

With your permission, I would like to say a few words in reply to a letter of Prof. Day, appearing in your issue of January 23rd, in his notice of mine of December 26th. Prof. Day also replies to a letter signed J. G., which endorses my position. As far as I am concerned (for J. G. is presumably able to take care of himself), I had no intention of being unfair to him or anyone else. I have no end to serve in this controversy, but to get at the truth, not, perhaps, as Prof. Day puts it, but as experienced by myself and other farmers in this section of the Province. It would, it seems to me, be only fair to treat an honest difference of opinion in an honest way. We are, I believe, both striving for the same end. The ultimate good of my fellow farmers and myself is the goal I wish to attain. I am an obscure farmer; Prof. Day stands in the light of the public gaze. Surely he need not take up the sledge hammer to kill fleas. He says that J. C. T. and J. G. apparently have no use for experimental work. Why does he say so? Is it because we take exception to some of his statements? As a matter of fact, I am greatly interested in experimental work. I visit the O. A. C. every year, and am much interested in what I see there; but to place implicit reliance on the statements sent out regarding my own business, is quite another thing. I believe the great end of all experimental work is not to teach me and fellow farmers our own business, but to keep it constantly before us. By thus keeping the mind of the agriculturist continually on the alert, he will find new paths for himself, suitable to his own conditions and circumstances. I neither believe nor disbelieve the bulletin as to the cost of feeding a hog; that must depend largely on conditions. I say, go on and experiment. Send us the bulletins; by your so doing, we may adopt other and better methods, and the farmer will gain by the result. Keep the minds of men close to their business, and, where all are watching, they will obtain a greater measure of success.

Prof. Day's long paragraph on the fullness or depletion of farmers' granaries, I will not discuss; the maximum or the minimum of grain in a farmer's barn has nothing to do with the amount of food it requires to make a pound of pork. Prof. Day further says: "Judging from the tone of these two letters, I should say these gentlemen would do well to get out of the hog business and stay out." As a matter of fact, I have been and am now a successful breeder and feeder of bacon hogs. On my farm (100 acres) I feed a large number of hogs each year. I have for some years fed the whole grain product of the farm. It is because I am interested in the work I take exception to the letter. I have, notwithstanding Prof. Day's surmises, experimented in feeding hogs. I have, by the usual methods of weighing the feed and weighing the hog, proved to my own satisfaction, at least, where the line of profit should be drawn. The fact that mine does not coincide with Prof. Day's, was the cause of my letter being written. As to the year 1908 indicating higher average prices than 1907, permit me to say that none of us can tell what the future may develop.

As to Prof. Day's inference that we are making a personal attack on him, I may say, speaking for myself, that it was nothing of the kind. I know nothing to Prof. Day's discredit, unless it be his letter which I have under review. I presume he has those qualities necessary to the successful prosecution of his work. Such being the case, I hope, for his own sake, and that of the farmers, that the best results will follow.

So far as I am concerned, this little episode on the hog question will cease, and, in compliance with the request of Prof. Day, I sign myself as your obedient servant.

THOMAS CARLYLE JOHNSTON,
Perth Co., Ont.

RETAIN THE PRESENT SYSTEM OF WINTER FAIRS.

Editor "The Farmer's Advocate": Several writers in recent numbers of "The Farmer's Advocate" have attempted to begin an agitation, having for its ultimate object the founding of a Canadian International Live-stock Exhibition, in lieu of several of the present fairs, such as the Guelph Fat-stock Show, the Eastern Ontario Winter Fair, the Spring Stallion Show, and the Toronto Horse Show. The intention, apparently, is to build at Toronto Junction one large show, similar in scope to the Chicago International, though, perhaps, embracing more, and much argument for the proposal is based upon the nature and success of the Chicago Show.

But the suggestion is one which Canadian stockmen should ponder well before adopting. Chicago is almost as central a point for Canadians from all parts of the Dominion as is Toronto, and is a much more central point for an International, both from the standpoint of location and of transportation. Canadian breeders of calibre and ambition come to Chicago, and by the excellence of their stock proclaim their animals' and their own worth to the live-stock men of America. These stockmen of International dimensions obtain all the advantages of such a show, and in a greater degree than if it were in Toronto Junction, for to such a location there will never come a large delegation of breeders from the American stock sections. There is now a centrally located and successful International: to attempt another at this time, in Canada or the United States, would be a needless and expensive duplication.

There is another and graver side to this suggestion. The plan proposes to do away with the several winter fairs as now held, combining them into one larger one. Has not the author of this idea lost sight of the prime purpose of all our agricultural and live-stock exhibitions? That first great object is not advertising, it is not to bring before the world the superiority of Canada and Canadian live stock; it is not to see how great a spread we can make. While these may be all worthy and secondary aims, the main purpose is to educate; we seek, by bringing the best together before the public, to stimulate honorable rivalry, and, above all, to so educate and inspire the great bulk of stock-raisers as to improve the general run of all classes of live stock throughout the entire nation. By holding numerous shows throughout the Provinces the times of these shows may be best adapted to the occupations of the particular districts interested. Moreover, the interests of the people differ greatly in the various parts of so expansive a country; thus, Eastern Ontario cares little for cattle aside from those of the dairy type, while Western Ontario runs largely to beef cattle. Knowing such differences, the shows as now conducted are adapted to the peculiarities of the communities served. Just as excellent stock is brought to these present shows as could be brought to a larger show, while the average stockman in attendance is not overcome with the magnitude of the exhibit. In a show that assumes the proportions of an International, there is entirely too much of everything for the average man to give it that careful study essential to being benefited. There is a confusion, and in his desire to see the whole show he fails to thoroughly see any of it; he takes away comparatively little of tangible benefit, and discovering this, as the days pass, he is not likely to return.

There is another important advantage in the numerous distributed shows over the larger central one. On a large proportion of Canadian farms it is a difficult thing for a man to leave his stock for more than two or three days. Within that time he may come from any point in Eastern Ontario to Ottawa and spend two days at the show, getting much of the best of it. But Toronto is farther away, and while he may be able to reach it in that time, it costs much more, he is going to a strange city, he is farther from his vital interests should the unexpected happen, and he is confronted with a show so vast and diverse that he cannot compass it in so short a time. Thus, many men will attend the smaller, less remote show. The men whom the shows should reach, should educate and should uplift cannot be reached by the larger show.

Canada is accomplishing, by her present system of winter shows, what is of most importance, and will increase their efficiency by multiplying them, rather than by combining them.

EX-CANADIAN.

PLEASED WITH THE HAND-BAG.

I beg to acknowledge receipt of premium hand bag, for one new subscriber sent in. I thank you very much, for it is a fine premium, and I will do my best in trying to get more new subscribers. Wishing you every success. A. H. Hastings Co., Ont.

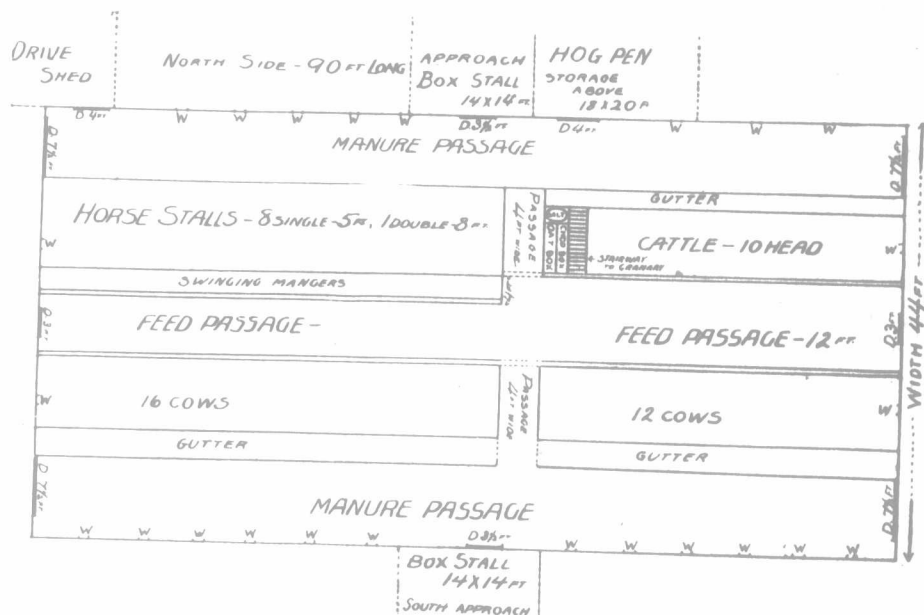
BELIEVES IN THE DUAL-PURPOSE COW.

Editor "The Farmer's Advocate": There is at present much discussion going on in your paper about dual-purpose cattle. They are certainly the right kind of cattle to keep, especially here, in the Maritime Provinces, which last year imported nearly half a million dollars' worth of beef from Upper Canada. A dual-purpose cow can, by good selection, breeding and care, make as good a showing at the milk pail as the average dairy cow, and her calf, that is not needed for breeding, need not be knocked in the head, either. In Germany (my native land) nothing else but dual-purpose cattle are kept; nothing is wasted there! Your paper mentions only the Shorthorns. What about the Brown Swiss? They are claimed by some to be the greatest dual-purpose cattle. How do they compare with the Shorthorn as beef-producers, and what are their milking qualities? I think it would be very timely if someone would tell us something about those cattle. T. HABERMANN. Northumberland Co., N. B.

THE FARM.

CEMENT CISTERN.

Editor "The Farmer's Advocate": Received knife, and am pleased with it indeed. Please accept thanks for same. Mr. — is well pleased also, and has treated some ailing pigs as per paper's advice, and received help already. As I am writing, I will describe a cement cistern which I built last fall, as the description might benefit someone. I built it in basement of barn. I laid a foundation about a foot high of cement, and got sheet-iron rings which are used for silo building. Used gravel and stones, being careful not to let any stones touch inside. I used one part cement to 8 or 9 of other. I got a mason who happened to be in the neighborhood at the time to plaster it inside 1/2-inch thick, and then cement-washed it. The walls are about 7 inches thick, and it has a tap at bottom, also a pipe leading outside—handy to use for the engine at threshing, etc. I also reinforced it with No. 9 wire. I am well pleased with it, as it gives good satisfaction so far, and has not leaked a bit. Simcoe Co., Ont. SUBSCRIBER.



Basement Plan of Wm. Anderson's Barn, 90 x 48 feet.

A MODERN BASEMENT BARN.

The accompanying plan illustrates the basement stabling of a fine new barn, erected last season on the farm of Wm. Anderson, Westminster Township, Middlesex Co., Ont. Because of its roominess, simplicity and economy of labor, it is a style growing in favor in some sections, and will meet the needs of others contemplating building. The dimensions are 90 x 44 feet, extending east and west; 18-foot posts in superstructure. The roof, which is covered with Toronto metallic, corrugated, galvanized roofing, being 4 feet under square pitch. Matched, dressed siding was used, and there are three ventilators on peak of roof, the water being carried off with galvanized eavestroughing. The barn floor, 14 feet wide, extends across center of barn, from north to south. There are two mows 18 feet wide, and two 20 feet wide. The granary, to the east side of floor, north side of barn, is 16 x 18 feet, and will open into additional granary space over hogpen. There are no boxed-in mangers in front of cattle. The basement is splendidly lighted with 24 large windows, 2 ft. 1/2 in. wide by 3 ft. 6 in. high; four lights in each window. There are four chutes from barn above to feed alley, which, with stair passage, windows and doors, constitute the means of ventilation. The cattle are fastened with the Loudon swinging stanchion, and all are daily let out for exercise

and water to windmill tank in yard. The whole basement is covered with cement floor. Graded down to solid earth, the material was laid under cattle and horses only two inches thick, in feed alley 1 inch, and manure passages 2 inches. The basement floor is perfectly level from end to end. Portland cement, one part to six of good sharp gravel, was used, and the winter's wear has proven the floor to be most satisfactory. The basement walls, 9 feet high, are of large hollow bricks, resting on a base of cement-concrete over one foot above ground. General farming is pursued, with dairying (supplying milk to cheese factory), hog-raising and sheep as specialties.

FERTILIZERS: THEIR NATURE AND USE.—II.

By B. Leslie Emslie.

In the previous article the writer endeavored to explain the fundamental principles of fertilizing, and in the present proposes to discuss the sources of the essential manurial ingredients, nitrogen, potash, phosphoric acid and lime.

FERTILIZERS EMPLOYED AS A SOURCE OF NITROGEN.

Nitrogen is the most expensive element in a fertilizer, and one of the most useful. The atmosphere contains about 78 per cent. of nitrogen, 21 per cent. of oxygen, a very small quantity of carbonic-acid gas (CO2), and traces of other gaseous substances.

We have already seen that plants derive their supply of carbon from the carbonic-acid gas of the atmosphere, but the power of assimilating the valuable nitrogen existing there in such abundant volume seems to be limited to one special class of plants, known as Leguminosae, including the clovers, peas, beans, alfalfa, etc.

It will be readily seen that a knowledge of this fact, viz., that there is at least one class of plant which can avail itself of the atmospheric nitrogen, is of paramount importance to the farmer. Its importance prohibits here the discussion which it merits, so we shall leave it till later on.

NITRATE OF SODA

(contains 15 1/2 to 16 per cent. nitrogen).

This is probably the best-known and most popular source of nitrogen amongst farmers in Canada.

Its origin is the extensive deposits of crude nitrate of soda discovered in the rainless districts on the west coast of South America.

Since all nitrogenous compounds must first be converted into nitrates before being assimilated by plants, nitrate of soda contains its nitrogen in an easily assimilable form, and is, therefore, quick in action.

Owing to this fact, it almost invariably gives best results when applied in two or more applications, the first being given at the commencement of growth, and the succeeding ones at intervals of from two to three weeks.

This method not only provides a regular supply of available nitrogen, but also prevents loss of this valuable substance by drainage, since nitrate nitrogen, unlike potash and phosphoric acid, is not firmly retained in the soil.

SULPHATE OF AMMONIA

(contains about 20 per cent. nitrogen).

The origin or source of this material is coal, which contains 1 1/2 to 2 per cent. of nitrogen. It is chiefly a by-product of gas works. It is slower in its action than nitrate of soda, since, in order to render the ammonia available to plants, it must first be converted into a nitrate, which process is performed by certain soil bacteria.

In a moist climate or in a wet season, sulphate of ammonia is often preferable to nitrate of soda.

LIME NITROGEN (Kalkstickstoff)

(contains about 22 per cent. nitrogen).

This new nitrogenous fertilizer is produced by combining the free nitrogen of the atmosphere with lime and carbon, by a process devised by Prof. Frank, Berlin, Germany.

The principle is this: Air is conducted over heated copper filings; the copper forms a compound with the oxygen of the air, and the nitrogen passes on into an electric furnace containing lime and carbonaceous matters, when, at the high temperature, the nitrogen is induced to combine

with the lime and carbon, to form the substance known in Germany as "Kalkstickstoff."

In view of the possible exhaustion of the nitrate of soda deposits (which some claim to foresee), and the very limited production of sulphate of ammonia, kalkstickstoff may yet become of great commercial importance. It has, however, certain undesirable qualities not possessed by either nitrate of soda or sulphate of ammonia; and here the writer can speak from experience, having conducted experiments in Germany to test the efficacy of the new nitrogenous manure in comparison with nitrate of soda and sulphate of ammonia:

1. Kalkstickstoff is an exceedingly fine black powder, which character renders it difficult of application.

2. If mixed with other fertilizers, such as acid phosphate, the mixture rapidly generates a great heat and gases are given off, some nitrogen being lost as ammonia and oxides of nitrogen.

3. In storing, it must be very carefully protected from moisture for above reason.

4. Being at first rather poisonous to plants, kalkstickstoff is totally unsuited for application to a growing crop, and should always be applied to the land at least two weeks before seeding.

If these precautions are observed, kalkstickstoff may give results equal to nitrate of soda and sulphate of ammonia on most crops and soils.

Some of the slower-acting sources of nitrogen are:

Red Dried Blood (containing 13 to 14 per cent. nitrogen).

Black Dried Blood (containing 6 to 12 per cent. nitrogen).

Hoof Meal (containing 12 per cent. nitrogen).

Tankage (containing 4 to 9 per cent. nitrogen).

Concentrated Tankage (containing 10 to 12 per cent. nitrogen).

The former are all produced from slaughter-house refuse. As will be seen, the lower grades of these substances, viz., Black Dried Blood and Tankage (ordinary) are very variable in composition. They also contain varying percentages of phosphoric acid.

There are numerous other sources of nitrogen, such as the various fish manures, some of which are valuable if they do not contain too much oil, which is detrimental to the soil, as it hinders decomposition.

Then there are others, such as leather meal, wool and hair waste, and horn meal. The nitrogen in these is, however, so slowly available that their value as fertilizers is small.

It is none the less necessary, however, that the farmer should know of these sources of nitrogen, as they are largely used in fertilizer mixtures, for, as already mentioned, nitrogen is the most expensive ingredient in a fertilizer, and it is a great temptation to the less scrupulous fertilizer manufacturer to get his nitrogen from the cheapest source, and in a mixture it is difficult for a farmer to detect the various substances of which that mixture is composed.

FERTILIZERS EMPLOYED AS A SOURCE OF POTASH.

Kainit (contains 12½ per cent. pure potash).
Potash Manure Salt (contains 20 per cent. pure potash).

Muriate of Potash (contains 50 per cent. pure potash).

Sulphate of Potash (contains 50 per cent. of pure potash).

Sulphate of Potash-Magnesia (contains 26 per cent. pure potash).

All these have their origin in the Stassfurt Potash Mines in Germany.

The kainit is a crude potash salt, very largely used as a fertilizer in Europe, but, on account of its low potash content and high cost of transport, is less extensively used in Canada, the concentrated salts, sulphate of potash and muriate of potash, being preferred. Muriate of potash finds the largest sale, being rather cheaper than the sulphate, but, for tobacco, potatoes and sugar beets, sulphate of potash ought to be used, the chlorine content of the muriate sometimes having a detrimental effect on the quality of these crops. Especially is this true in the case of the tobacco crop, since the best-burning leaf is associated with a large percentage of potash and small chlorine content.

Wood ashes are largely used in some parts of Canada as a source of potash, but the total potash content is so small (about 5 per cent. on an average) and so variable that it is difficult to tell what one is purchasing.

The form in which the potash of wood ashes exists, viz., carbonate of potash, is very suitable, as in this form it is readily available to the plant. Some claim that wood ashes are apt to produce "scab" on potatoes, but as to the reliability of this assertion the writer cannot vouch.

In extensive experiments conducted some years ago at Tokio, Japan, kainit, in every case, gave larger and more profitable returns than wood ashes.

BARN PLAN AND SILO EXPERIENCE.

Editor "The Farmer's Advocate":

Seeing inquiry in your columns for barn basement plans, and having one about the size of one of the inquirer's, I give you the plan of one we built in 1904, and find very convenient for about thirty head of cattle, with seven single and two box stalls in the horse department.

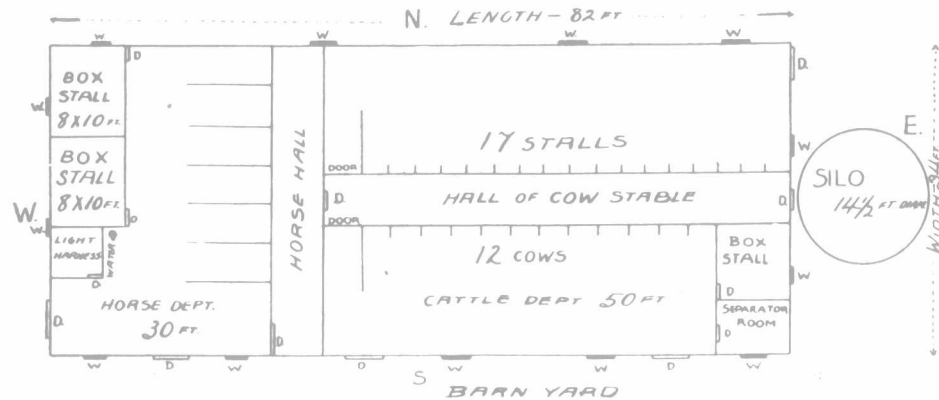
The basement is 34 x 82, and is divided, as the plan will show, using stanchions, with no partitions, gaining room for five head extra on a fifty-foot row over the old way of stalling. The stable is floored with cement, except box stalls, which are better for either horses or cattle, with a sand or gravel floor. The floor is sloped from the drop about 2½ feet to the walk behind the cows, instead of the trench, and we like it much better.

The walls are 10 inches thick by 9 feet high in the clear, with six doors and thirteen windows, and took about 60 barrels of Portland cement and 20 cords of gravel, with 5 cords of gravel and 25 barrels of cement for floors and bridge abutments. The basement, floors and stabling cost \$400, and was done by contractors.

For the benefit of those building or doubting the silo problem, we might give our experience on building and feeding.

Our silo is 14½ feet inside, by 30 feet high, and holds ten acres of good corn that will winter 30 head of cattle, with half a day's cut hay and straw to mix with ensilage, with one feed a day of dry feed.

We have wintered at this barn 30 head of cattle and 10 horses from 44 acres cropped, and the silo has never been emptied since it was first filled.



Basement Plan of Love Bros.' Barn, 82 x 34 feet.

This silo took 12 cords of gravel and 34 barrels of Portland cement. The foundation is 2 feet wide by 3 feet deep, while the walls are 12 inches at bottom, tapering to 6 inches on top. There are three doors in silo, 6 feet apart, first door 3 feet from bottom, leaving the top door 6 feet from top. The doors are 2½ x 3 feet, and the silo is bound with an all No. 9 wire fence, cut in pieces 46 feet long, and 3 wires in a strip about 2 feet apart, up the silo. When putting the last ring on, we put six bolts, equal distances apart, to bolt rafters to for six-sided roof, which is necessary to keep out the snow, frost and sparrows.

The cost of this silo was as follows: Twelve cords of gravel, \$6.00; 34 barrels Portland cement, \$68.00; hire of rings and builder, \$30.00; rent of horse mixer, \$2.00; three hod-carriers, 8 days, \$30.00; door frames and wire fence, \$5.00; total, \$141.00. LOVE BROS. Middlesex Co., Ont.

THE DAIRY.

CLEAN MILK TO EAT AND DRINK.

What is the present condition of the milk trade, as carried on in American cities, and how shall improvements be made? are the questions which Bulletin No. 120, from the Illinois Experiment Station, aims to answer, at least so far as they relate to Chicago and twenty-six other cities in the State of Illinois. These questions are also important ones in Canada at present. Little has been done, as yet, to gather reliable information as to the exact condition of the milk trade in our towns and cities. Any study of this question must consider the rights of three classes, the milk producers, the dealers (wholesale and retail), and the consumers. Any conclusions drawn, or legislation adopted, which do not fairly consider this threefold phase of the question will be more or less one-sided and unjust. The consumer naturally wishes to make as high a standard as possible, but at the same time does not, as a rule, care to pay for the extra quality required by the high standard. The American dealers, according to evidence in this bulletin, desire the standard to be as low as possible. The writer says on this point: "The milk, as it comes from the country, is almost universally up to grade. It

will average 3.5 to 4 per cent. of butter-fat. The small dealer buys one or more cans at the platform when the train is unloaded, takes the milk to his depot, and sets it in a tank of ice-water. The cream rises in the can, and, before beginning to sell the milk, the dealer removes one or two quarts of cream, which is sold in small quantities at a good price, and furnishes the larger part of the profit. The milk remaining in the can is stirred up and sold as whole milk at six cents per quart. Frequently, water is added to take the place of the cream removed."

If the foregoing practices are at all common among Canadian dealers, which we trust is not the case, there is all the more reason why a reasonably high standard of quality shall be required.

The producers of milk are also anxious that the standard of composition shall not be too high, as they are afraid the milk produced by their cows may be below standard. The producer may be "as honest as the day," and yet be in danger of selling milk below the standard. He may never have had the milk which he is selling tested by a disinterested party. He is naturally suspicious of the test, as made by the dealer or by the city authority, whom he considers are inclined to make his milk test as low as possible. There is a great need of work along this line, in order to ascertain what is the actual composition of milk, as produced by Canadian cows.

SHALL THERE BE A MILK STANDARD IN ONTARIO?

This question is frequently asked at present. By a standard we understand, a minimum composition below which milk shall not be sold. Many of the States in the neighboring Republic have milk standards. These standards are usually expressed in terms of "fat," and "solids not fat," or "fat" and "total solids." Both are practically the same, as "fat" and "solids not fat" equal "total solids."

In the District of Columbia the standard is 9 per cent. solids not fat and 3.5 per cent. fat, making a total of 12.5 per cent. total solids. This means that milk sold in the District of Columbia must contain not less than 12½ lbs. of solids in every 100

lbs. milk, 3½ of which must be fat, and the remainder (9) solids not fat. Massachusetts requires 13 per cent. solids, made up of 9.3 per cent. solids not fat and 3.7 per cent. fat. Minnesota requires 13 per cent. solids, 9½ per cent. solids not fat and 3.5 per cent. fat. Iowa requires 12.5 per cent. solids and 3 per cent. fat. Wisconsin has a 3-per-cent.-fat standard, only. Vermont, 12.5 per cent. solids, 9.25 of which may be solids not fat. New York State has a standard of 12 per cent. solids and 3 per cent. fat. Ohio, 12 per cent. solids and 3 per cent. fat, except in May and June, when the standard is 11.5 per cent. solids. Paris (France) standard is 13 per cent. solids and 4 per cent. fat. Several of the States have cream standards of 16 to 20 per cent. fat. Our judgment is that a standard of 3.5 per cent. fat and 12.5 per cent. solids would be fair to all concerned. We should also favor this "rider": Nothing shall be added to or taken from the milk as given by the cow, except in case the percentage of fat in the milk, as given by the cow, is below standard, then cream may be added to bring it up to the required standard.

The milk, as sold in Chicago, ranged from 0.9 per cent. fat to 6.7 per cent. Twenty of the samples, out of 413, were below 2 per cent. fat, and 68 samples were not above 2.5 per cent. fat. In one of the poorer districts, where the poorer working people live, 50 per cent. of the samples were below the legal standard for butter-fat.

But, more important than having the milk of proper chemical composition, is the question of having the milk clean. The writer of the bulletin says of Chicago milk: "Two-thirds of the samples tested contained dirt of some sort."

Out of 325 samples of milk collected in smaller cities of the State, 19 per cent. were below legal standard for fat, 63 per cent. were below standard for total solids, 88 per cent. contained visible sediment; and 7 per cent. contained formaldehyde.

The writer goes on to say: "Very little of the milk supplied to these cities was produced in improved or sanitary dairies. The cow barns and the condition of the cows themselves, as witnessed by the writer, were often a disgrace to civilized people. One man, with a herd of 50 cows, supplying milk to a town of 10,000 inhabitants, was asked if he would like to have his customers see how the milk was produced. He dropped his head, and admitted that the less he advertised his place, the better off he was."

The author, who, by the way, is a Canadian, "hits right out from the shoulder" when he says: "In this day, when spitting on the sidewalks is forbidden, when some of our best grocery firms examine their clerks every morning to see whether or not their clothes are clean, when thousands of dollars are spent to make dry-goods stores light and sanitary, we permit men to handle, in dusty, dirty, filthy and foul-smelling stables, the milk which we and our children are to drink. We permit men with colds and coughs to expectorate on the feed the cows are to eat, and on every part of the floor where the milk is handled. Men in dirty clothes that have done service for months, without washing, sit down by cows whose thighs and udders are covered with manure, and proceed to milk into a pail fourteen inches in diameter. The writer has repeatedly observed these conditions the past two years."

HOTEL MILK.

One is frequently reminded, as he sits down to the table of the average hotel, and observes the milk and cream (so called) which are served to guests, of a parody on a well-known poem:

Poor, blue, weak, and sour,
Cam'st from a well, a cow, or
Did'st thou meet aqua in an evil hour?

The writer of the bulletin says: "Of two samples obtained at the table in one of the largest and highest-priced hotels in Chicago, one contained 2.2 per cent. fat, and the other 2.8 per cent. And this milk was paid for at the rate of 10 cents per glass, or forty cents per quart."

WHY IMPROVEMENT COMES SLOWLY.

"It no doubt costs more money to produce clean milk than to supply the usual quality, and the dairyman thinks he cannot afford to improve his conditions. Consumers are desperately afraid of an increase in the cost of this food. The fear that the price of milk would be advanced has kept many a city council from passing an ordinance requiring adequate milk inspection, and it also has prevented health commissioners from enforcing inspection ordinances. Such an attitude is absurd. Milk is one of the cheapest foods on the table. The idea that great outlay for equipment is necessary to produce clean milk is also erroneous. Milk of the best quality may be produced in an ordinary barn, if the proper care be taken. The trouble has not been lack of expensive equipment, but lack of clean methods."

Under the requirements for clean milk, are named, healthy cows, healthful buildings, clean barnyards, clean cows, clean utensils, cooling the milk, proper transportation, clean bottling. A suggestion is made to the consumer that he ask the dairyman supplying milk to the household a few questions, such as, "Are your cows healthy? Do you keep them clean? Is your barn light and well ventilated? Are your bottles sterilized each time before filling?"

Under "Duty of the City," he says: "The city owes to its citizens such supervision as shall protect the lives of their children, as well as guarantee them the worth of their money spent for milk. In a city of 10,000 to 20,000 population, one inspector can gather all necessary samples of milk, inspect dairy conditions, meats, fish and water, besides testing milk. Good inspection means that a competent person must be always on the look-out to see that proper regulations are observed. The city does not need to go into court to get rid of dishonest dealers. All that is necessary is to publish the results of all analyses and inspections. The honest dealers will be glad to have the public know the kind of milk they are selling. The people will soon stop buying from the men who furnish a poor grade of milk, or who will not clean up their dairies or plants."

The use of a score-card for dairies is recommended. A sample score-card is given in the bulletin, which appears to cover the whole question of clean milk. A sample card for permit or license of the dairy is also given. This permit is signed by an inspector of the Public Health Department of the City.

The bulletin is a valuable contribution to the question of clean, wholesome milk for the people, especially for children. H. H. D.

A NORTHUMBERLAND COUNTY CREAMERY.

The secretary of the Harwood Creamery, in Northumberland County, Ont., sends us the annual report of that creamery, from which we extract the following interesting items of information. We shall be pleased to hear from others:

The creamery was opened the first week in March, and closed the third week in December. Total amount of cream received, 137,830 pounds; average test for butter-fat, 29.57 per cent.; total amount of butter-fat, 40,757.775 pounds; total amount of butter made, 48,876 pounds; total cash received for butter, \$11,485.66; total expenses, \$1,913.75; net cash paid to patrons, \$9,571.91; average price paid patrons for butter-fat, 25½ cents per pound; average per cent. over-run, 19 per cent.

DAIRY EXPERIENCE AND THE ROAD QUESTION

Editor "The Farmer's Advocate":

While asking for advice, I might give you a little experience with my dairy herd this last year. They are a long ways short of what a great many are who have given their records in your paper. My 70 cows averaged only about 5,900 lbs.; there were eight two-year-olds and four farrows. They made \$5,211.72, or \$74.44 each. They are the common native cows, with a fair sprinkling of Jersey blood. The factory pay for butter-fat; I got 10c. per hundred above standard price all summer. Have kept a record this last year; some few cows will go from eight to ten thousand pounds. I was surprised to find an old cow that I came near selling for \$7.00 for a canner, brought me \$75.00 this year. I have given her a life lease for another year. I have the most of my cows come in in March, then feed well until grass grows. I fed \$640.00 worth of bran, oats and shorts in the months of March, April, May and August. This is all the grain I fed during the year. Ensilage is my mainstay. I had a field of flint corn that I planted the second time about the middle of June. It was very green when put in one silo, just like pumace; fed it in October and November, nothing else, and my cows milked well; got \$1,002 for the two months' milk.

I have a wooden stave silo and one cement; recommend the cement every time. Cement plastered on inside, ½ quicklime, ½ cement, with plastering sand; excellent job. One silo is 16 ft. by 40 ft.; the other 20 ft. by 42 ft. I think I will have to build another silo and increase my herd to 100 cows, if what I hear about our County Council is correct. We have started the good-roads system in our county, something that is very badly needed. Good help is so plentiful and cheap, the farmer has nothing to do but hitch up a driver and ride around the county on macadamized roads; but he must keep out of the way of the members of the County Council who run automobiles. They have only spent \$90,000 (which includes about \$25,000 for machinery), and have got about ten miles built. They tell us they expect the Government to put up a third of the expense. We have not received a cent yet from the Government, and I hope we never will. I have just paid the last mortgage off my farm; now the County Council are putting on another. The money that they have already spent (\$90,000) would gravel 191 miles, allowing ¼ cord for eleven feet (which is quite sufficient for the present), 50c. per cord for gravel, \$3.50 for drawing. What would any sane farmer think—which would he take? If this is what our much-talked-of good-roads system has led to, we had better go back to our old toll roads, as the man who uses them helps keep them up. I live on what was once a toll road. London and St. Thomas have been teaming heavy loads of logs over our road for the last two years, wearing it out at our expense. It was kept shovelled out in winter and gravelled in summer; now sometimes it is impassable. But we need have neither toll roads nor macadamized, and still have roads that will be a credit to our county. S. A. FREEMAN.

Oxford Co., Ont.

LOOK FIRST TO THE QUALITY.

The following paragraph is taken from a letter recently received in reply to our interrogation re safeguarding the interests of factory patrons:

I do not think that the patrons' interests are suffering much, and cannot endorse all the assertions that are made in connection with the agitation in Eastern Ontario. There has been much misdirected energy expended. If it had been turned in the direction of securing better factories and making a finer quality of cheese, infinitely greater good would have been done. As it is, the thing of real importance is being overlooked—the question of quality. It is simply vicious to lead factorymen to believe that they are being robbed by cuts in the price at which cheese is bargained for, when the quality is actually inferior. In all the agitation which has been going on lately in Eastern Ontario there has not been a word about improving the quality, and yet we know that there are more inferior cheese passed at full prices than there are cheese rejected. That is why I say the patrons are not losing anything on the whole. No doubt there are individual cases where the buyer takes an unfair advantage of the factory. Some of the best factorymen in Eastern Ontario have taken this view of the matter, and they say they will have nothing to do with the present agitation, because they find that when they have first-class cheese to sell they never have any difficulty.

AN EXCELLENT PAPER FOR THE DAIRYMAN.

The other day I received a copy of "The Farmer's Advocate." I am a cheesemaker, and was impressed with the great amount of reading matter for cheesemakers and dairymen in general. I was also pleased with the full and complete notes taken at the Dairymen's Convention at Woodstock. Indeed, your paper is more of a dairymen's paper than many of the papers and journals so-called. CHAS. E. BINGLEMAN.

BUTTERMAKING INQUIRIES.

1. How much salt per pound should be put in butter for marketing?
2. How many times should the butter be worked up before putting into prints? How long should it stand after being salted before it is put in prints?
3. What kind of salt is best for market butter?
4. At what degree of temperature should the cream be kept while enough cream is being gathered to churn?
5. How often should winter butter be washed?

J. M. W.

Ans.—1. The amount of salt per pound of butter depends largely on the demands of the market. From three-quarters to one ounce is the usual salting. At the O. A. C. dairy, three-quarters ounce per pound is used.

2. It is not necessary to give the butter more than one good working, if conditions are right. It is good practice to salt in the churn. Have the butter in granular-form, sift on the required amount of salt, slowly revolve the churn until the butter forms into large lumps. If convenient, it is well to let the butter remain covered in the churn for from one to two hours, then take it out and work it, and make it into prints. This method insures a more even-colored butter.

3. Any reliable brand of fine dairy salt may be safely used.

4. The temperature at which cream is held while being gathered depends on the length of time it is kept before churning and the method followed in ripening. The cream may be held at a low temperature, below 55 degrees, till 24 hours before churning, then heated to 60 to 65 degrees, and a small quantity of culture (sour milk or cream) added to it. As soon as the cream begins to thicken, it should be cooled to churning temperature, or below, and held at that temperature until churning time. Another method is to add a small quantity (about a pint) of the sour cream on hand, providing it is of good flavor, to the first-gathered cream. Have the cream where it will keep from 50 to 60 degrees. Stir thoroughly each time fresh cream is added. Always keep the cream covered.

5. Unless the butter is very soft, or has some bad taint, one washing with as much or more water as there has been cream is all that is necessary summer or winter.

O. A. C., Guelph.

LAURA ROSE.

ANOTHER FIRM'S VIEW OF THE CHEESE BUSINESS.

The following letter, referring to the matter of safeguarding the interests of cheese-factory patrons, was, through mischance, not included in our article on this subject in the issue of Feb. 20th. We have pleasure in making use of it this week:

Editor "The Farmer's Advocate":

We understand that there were some factorymen who made losses in Eastern Ontario through the failure of one or two dealers in Montreal, and that a few factories about Ingersoll had some difficulty or delay in getting settled up for their cheese, but it is our understanding that settlement has been made in these cases in Western Ontario. In this connection, you should be clear in your understanding that methods followed in Eastern and Western Ontario are very different, and that the Eastern Ontario method is essentially a credit system, while that of Western Ontario is meant to be spot cash.

In Eastern Ontario and Quebec, cheese and butter is largely sold subject to Montreal inspection of both weights and quality, while it is the universal custom in Western Ontario that cheese and butter are inspected at the factory for quality, and at shipping point for weights. The rules of most of the cheese boards in Western Ontario also provide for the payment for cheese at the car at time of shipment, unless otherwise arranged between buyer and seller, which would seem to us to be ample protection, and about as far as it would seem discreet to go in the way of passing rules.

It would seem to us that the factorymen have it in their own hands, and in this case, as in all other business transactions, those having goods to sell need to exercise judgment in giving credit.

It would be difficult to furnish marked checks at all times at car in shipping cheese, for the following reasons: First, that banks object to marking checks where amount for which they are drawn is not known and filled in. These checks could not, therefore, be filled out before leaving the office of buyers. Second, there are no banks at many of the points of shipment. Third, it would imply checking of invoices and filling in of checks by men sent to ship, which would increase liability to mistakes. Fourth, that it is not at all times practicable or convenient to send shippers competent to check invoices and fill in checks. We are quite agreeable to furnishing marked checks where practicable, and we think we could

furnish our checks not marked, which we consider quite as good in all cases.

It would be very awkward, causing unnecessary delay and expense, to have salesmen making themselves shippers, and, in the case of some shipments, impossible.

Permit us to add that, considering the volume of business put through for the past forty years in Canada, it is the opinion of the writer that there has been less difficulty in matters of payment, breach of contract, etc., than in any other product.

SWIFT & COMPANY,
per I. W. Steinhoff.

MILKMEN'S PROBLEMS.

Editor "The Farmer's Advocate":

I enjoy and appreciate your paper very much, and am often tempted to write a letter on some of the subjects under strong discussion from time to time. I am in the dairy business, and would like to see the question of "Winter Feeding for Production of Milk" produced for city consumption, given a wider and more general discussion; also, "The Care of Milk for City Consumption" could well be discussed.

W. H. FORSTER.

Wentworth Co., Ont.

[Note.—Milkmen, here is an opportunity for mutual helpfulness. Our columns are open.—Editor.]

WEIGHT OF CALF AT BIRTH.

I would like to know the record weight of a new-born pure-bred Holstein calf. We had one born on February 6th weighing 117 pounds. Who can beat this?

A SUBSCRIBER.

POULTRY.

DEFECTIVE INCUBATION.

Editor "The Farmer's Advocate":

Having read your article in January 2nd number of your paper, on incubation, I feel as though I ought to send you what my experience has been. In March, 1905, we purchased a ——— incu-

bator. The first hatch we were very successful, raising forty-five chickens out of one hundred eggs. The second hatch we had seventy chickens, but inside of three weeks we lost them all with cholera. The next hatch we had sixty chickens. This batch took cholera also, but we tried feeding them boiled rice. We fed them twice every second day. This we found very satisfactory, as we lost no more chickens from cholera.

In 1906 we had very good success. In 1907 we raised 46 chickens in the first hatch. In the second hatch we put in one hundred and thirty eggs. When we tested them we took out twelve eggs, leaving one hundred and eighteen fertile eggs. When the chickens hatched we had fifty-five chickens; the others were all dead in the shell. I would like very much to know the reason for this; at least, what your opinion is regarding it. Although we find our incubator very successful, and as easily run as the majority, we think that unless you intend going in for poultry on the large scale that the old-fashioned way cannot be beaten, especially if you raise Plymouth Rock birds. This year we intend trying the damp sand. Thanking you for the many helpful hints we have gotten from your valuable paper, and that my experience may help someone.

GALBRAITH.

The experience related is not an uncommon one. If the chickens develop what we call white diarrhea, or what your correspondent calls cholera, I do not think the method of feeding would influence them, for the reason that the chickens get tumors in the lungs in 50% of the cases, and occasionally get the caeca or appendix clogged. With either of these troubles the cure would be almost impossible. So far as I can tell the common cause of this is defective incubation, possibly through not assimilating enough lime from the shell. We think by washing the machine with a 10% solution of Zenoleum after it is heated up and just before the eggs are put in helps this some, but does not stop it altogether. One must be careful to keep the temperature up to 103°, particularly during the first four or five days of the hatch. Why the chickens die in the shell is a difficult matter to say. It may be due to defective breeding stock, or a chemical change in the incubator. Your correspondent might get more chickens by using a wet cloth over the eggs after

the fifth day. I mean by this to take a piece of cotton cloth and dip it into lukewarm water and put it right in front over the eggs, say at noon, and leave it there for about fifteen minutes each day.

W. R. GRAHAM.

CHICKENS "OUT TO PASTURE."

Editor "The Farmer's Advocate":

As we have only been in the poultry business a short time, we are always on the lookout for new ideas, or anything that will aid us, consequently we noticed a plan in a paper which we tried to follow as nearly as possible, and were pleased with the experiment.

Last year we wished to raise more pulllets than our plant would carry; it was not large enough to let chicks have all the range they needed, so we decided on the "new plan" to put some out in pasture. We set some hens about the last week of June, or later, and had about 60 chicks hatched out. When the strawberry season was over we gave the chicks to three hens, and took them to the strawberry shack, kept the hens in coops for a few days to let them get accustomed to the situation, and then let them go.

Our son, in passing the field every day for the cows, kept them supplied with water, and often carried a little wheat and called them around, just to keep on friendly terms with them. As they grew older they wandered into an oat field, hay field, and several others as the crops were cut.

These birds remained there until the end of October (of course we lost a few, but not more than if at the poultry ranch), hunted their own living, and such a fine lot of yellow-legged, healthy and vigorous chicks, it did one good to see them. Hoping this may be of some benefit to others.

Wentworth Co., Ont.

EXPERIMENTER.

BEST YET.

I must compliment "The Farmer's Advocate" on its February 13th issue. I regard the number as the best and most practical issue of any farm paper I have ever seen.

O. A. C., Guelph.

GEO. B. CURRAN.

The Cream of the Best Poultry Experience in America.

The third annual poultry institute was held at the Ontario Agricultural College, February 10th to 13th. The heavy snowstorms of the previous few days had completely demoralized the train service, and prevented many from attending who would otherwise have done so; but, nevertheless, interested and appreciative audiences were present at all the sessions to absorb the best that the speakers could give. All that money and persuasion could do was used by Prof. W. R. Graham to gather together as speakers the foremost poultry experts of America. The list is a long and prominent one, and includes Prof. Jas. Rice, Cornell University, Ithaca, N. Y.; Franklin L. Schell, Buchanan, Mich.; W. R. Curtiss, Ransomville, N. Y.; J. T. Nix, Homer City, Pa.; W. T. Smith, Toronto; and Profs. W. R. Graham, W. H. Day and R. Harcourt, of the O. A. C. All these speakers were thoroughly practical, and are recognized experts along their own particular branches of poultry work. The poultrymen of Ontario should wake to the realization that in this Poultry Institute information is disseminated that is up-to-date, scientific, and thoroughly practical. A little judicious advertising would do much to interest many more poultrymen in the meetings, and teach them how to raise more poultry for the least expenditure of money and labor. Ontario is conceded to have the two most widely-recognized experts in artificial incubation in America, Profs. W. R. Graham and W. H. Day, of the O. A. C. The work they have done promises to revolutionize incubation methods in America.

SCIENTIFIC STUDIES CONFIRMED IN PRACTICAL INCUBATION.

Prof. W. H. Day, of the O. A. C., opened the session on Monday afternoon with a detailed description of their efforts this year to corroborate the scientific findings made the previous year. Incubators, under different treatments, were run under commercial conditions, and the results compared. No method of incubation was equal to the hen, and all attempts to raise the standard of incubator hatches must do so by imitating the hen as far as possible. Incubator chicks lacked vitality, but, by modern methods of treating the incubator, the vitality of the chicks was raised nearly equal to that of hen-hatched chicks. Dryness is the greatest enemy we have to contend with in the hatching of incubator chicks, as all dry chicks suffered to a considerable extent from white diarrhea. When the humidity of the air inside the incubator was raised, by inserting pans of water in the bottom of the machine, more chickens hatched from the same number of eggs, a less number were found dead in the shell, and

over twice as many chickens were obtained that lived. The moisture chicks were much larger, stronger, possessed more vitality, and were free from white diarrhea. When CO₂ was used with the water treatment, the death rate after hatching was lowered, and far more chickens in a hundred lived after hatching. Buttermilk was of equal value to water and CO₂. When Zenoleum was used to disinfect the machines, along with the other treatments, the best hatches were obtained. Zenoleum-hatched chicks were absolutely free from white diarrhea, and twice as many lived to be four weeks of age, giving twice the profit. Wash the machine thoroughly with a ten-per-cent. solution of Zenoleum, being sure to use lots of the mixture; put the eggs in immediately, and start the machine up. Moisture with Zenoleum increased the hatch one-third.

LIME AND VITALITY.

Prof. R. Harcourt next outlined some investigations made in the Chemical Department, as to the ash content of chickens hatched by the various methods of incubation. More lime was found in a hen-hatched chick than in a dry-hatched incubator chick, and the vitality of the chicks was directly proportionate to the amount of lime present. Chickens with less than 16 per cent. of lime did not possess vitality enough to get out of the shell. The amount of lime within the egg, however, had nothing to do with the vitality of the chicken resulting, as there was always five or six times as much lime in the chick as there was in the egg contents. The use of moisture in incubation enables the carbon dioxide in the eggs to dissolve and assimilate lime from the shell. Therefore, a moist incubator, along with the use of hard-shelled eggs, would likely give the best results. Hens must have good food, with plenty of lime in it, to produce eggs that hatch well.

THE USE AND ABUSE OF BROODERS.

On the evening of Feb. 10th, Mr. J. T. Nix, a recognized authority on the subject, and one of the largest manufacturers of poultry appliances in the United States, gave a practical address on "The Use and Abuse of Brooders." He pointed out that not all incubator chicks were normal chicks, some possessing less vitality, and being unable to properly distinguish food, water, grain, light and grit from harmful substances. Under such circumstances, it is useless to expect a brooder to raise chicks that a hen herself could not raise well, but a brooder will raise the strong chicks better than most hens. Strong chicks can be obtained only from strong breeding stock, which must be supplied with a dry house, plenty

of fresh air, and unlimited range, as far as possible throughout the year. Raising chicks on the same ground year after year is conducive to weak vitality, because of soil contamination through the accumulation of harmful bacteria in the soil.

The requisites in a brooder are a continuous, even heat, and as much ventilation as is possible without lowering the temperature of the machine. The strongest chicks are those receiving the most fresh air, and for this reason the hover should be made at least ten inches high. The best results are obtained from top heat, supplied by radiation. The highest grade of coal oil must be used, to prevent encrusting of the wick, and consequent fluctuating of the temperature. A brooder should be kept at such a temperature that the chickens do not have to huddle together to keep warm. If kept too warm, the chickens receive a chill when they go outside, and develop weakness. A regulator is essential in warm, sunny weather to prevent the brooders becoming overheated in the middle of the day. Carrying the little chicks out into the open air once or twice a day during sunshiny weather, and letting them remain just long enough so that they do not get chilled, is a great help in strengthening their vitality, and absolutely prevents leg-weakness. Paper is the best flooring material for chickens, as it prevents their eating dust and sand. The food should be simple, and should consist of a grain mixture, green food, animal food, and grit. The best grain mixture is cracked corn, wheat and oats, in equal parts. Lettuce and cut cabbage are the best green foods. Do not pamper the chicks. Give unlimited quantities of fresh air, and success is assured.

THE NEW POULTRY CULTURE.

Prof. James E. Rice next addressed the meeting on the modernization of the poultry industry. During the last ten years a gradual evolution has been brought about that has placed the poultry business on a high plane. All the changes have been for the fixed purpose of increasing the one-man efficiency, so that one man might feed more hens, raise more chickens, get more eggs, and, above all, make more money. This has been accomplished by marked changes in housing, feeding, hatching, brooding and rearing. Modern houses, even in the face of increased cost of lumber, do not cost one-third what the old-fashioned houses did. This economy was accomplished by building one-ply cool houses, of larger size, to accommodate flocks of from fifty to one hundred hens. By increasing the size of house, we can accommodate one-half as many more hens on the same floor space. Walls should be lowered to five feet. Cotton fronts were rapidly re-

placing, with better results, the more expensive glass windows. Cement floors are dry, rot-proof, easy to keep clean, and as cheap as board flooring.

SELECTION OF BIRDS OF STRONG VITALITY.

In the morning session, on Tuesday, February 11th, Prof. Rice gave an illustrated lecture on the selection of breeding birds of strong vitality. The failure to renew the flock with good specimens was due to the lack of appreciation of the importance of choosing fowls of strong constitution and vitality. Selection should begin with the eggs set. Select medium-sized eggs of normal shape and color, with strong shells. Never help chickens out of the shell, as they will, in all such cases, seldom have vitality enough to live. Indications of vitality in a batch of baby chicks are plump chests, strong beaks and legs, black, beady eyes, large size, firm and hard flesh, filling the hand well, abundance of fluff, and a general appearance of squirming with life and vigor. All runts in the flocks should be destroyed. In mature hens, the ability to get feathers quickly is a sign of vitality. In an experiment at Cornell, by selecting birds for strong and weak vitality, the difference in their relative profitableness was very marked, the strong birds producing one-third more profit the first season. As the experiment advances, by breeding from these birds, the differences are becoming more marked year by year.

If a hen, even though of large egg capacity, is of weak vitality at the time eggs are taken from her, such a hen is unsafe to breed from. Her large egg production is the direct cause of lowered vitality. We must select for constitution, as well as large egg production. Nerve force is essential to high production. Minds of strong mentality are the largest producers. Select breeding stock from large, blocky, deep-bodied, wide-breasted, physically-strong birds—birds that impress one at first sight by their stand, carriage, indications of sex, and lack of timidity. Low vitality is indicated by birds roosting during the day, moping around in corners, and can be definitely ascertained by feeling their shanks at night while roosting. All cold-shanked birds are of low vitality. Hens deficient in fat will not lay eggs in winter. Vigor, vitality and strength can be inbred with certainty, if this one feature alone is kept in view. Mr. Rice cited Prof. Graham's experiments along this line, and remarked that the College birds were the healthiest ones he had ever seen.

PROFITABLE PRODUCTION OF EGGS.

Mr. Curtiss, one of the most successful poultrymen on a large scale in America, next told the meeting how he raised eggs at a profit. By his method one man can care for 2,000 hens, kept in flocks of 250. Pullets are selected in September, selection being for size, type and vigor. Put pullets in cold, cotton-front houses, and feed quite heavily for eggs, using not more than ten per cent. meat meal, as more will cause pullets to moult. Mash is fed morning and night, with grain thrown in the straw during the day to give exercise. Wet mash is preferable to dry.

ADDRESS OF WELCOME TO POULTRYMEN.

In the evening, Pres. Creelman gave his delayed address of welcome to the Institute men. He was glad that so many had come, even if delayed by irregular train service. The poultry industry had now an assured place in the College work, and the College was doing all it could to solve the many problems that confront poultrymen. Three essentials must be followed in the poultry trade, if Canada was to succeed. Absolute honesty in business practice was the foundation rock of modern commerce. People must be able to rely upon what you sell them. Absolute knowledge is essential. Poultry-keeping is now a science, and must be run on a scientific basis. Absolute exactness must be followed, and the poultry department of the farm established on a business basis.

CO-OPERATION AS THE BEST MEANS OF SELLING POULTRY PRODUCTS.

Mr. W. L. Smith, of Toronto, next addressed the meeting on the benefits of co-operation. This is essential to the highest success of the poultry industry. One must rid his mind of the impression that poultry is a small industry. In England, we have an unlimited market, if we can only place our goods there in first-class condition. Quality is everything. Inferior quality is the greatest detriment to the rise of the dressed-poultry trade in Canada. This inferiority can be overcome by keeping better breeding birds, by better feeding and fattening, and by more attention to attractive preparation and packing for market. Co-operation has succeeded wonderfully well in Denmark, a little country which supplies Great Britain with one-eighth of her total supply of poultry products. Prof. Graham made a plea for the co-operation of dairymen and poultrymen in the gathering of eggs daily. The men who draw the milk to the factory could also collect the eggs from the farmers at the same time. The maker could oversee the packing and selling, and add quite a tidy sum to his yearly income. This plan has been a success in Alberta.

HOW 40,000 DUCKS ARE GROWN ANNUALLY AT A PROFIT.

One of the most interesting and instructive addresses of the series occupied the morning of Feb. 12th, and was delivered by Mr. Curtiss, of Ransomville, N. Y. Inbreeding must be carefully avoided with ducks. Good vitality is the foundation in duck-raising. The breeding ducks are picked out from the fattening ducks at eight weeks of age, and driven to pasture lands for the remainder of the season. Here they are supplied with plenty of shade, which is essential, then fed lightly for five months on a mixture of meal, clover and beef scrap. In late fall they are removed to a laying house, which is simply a shed, with a dark night pen at one end. Heavy feeding will induce the ducks to lay at any time, and hatching commences early in spring. The Moss method of moisture-hatching has made thousands of dollars to American duck-raisers. The treatment consists in setting pans of water in the incubator, and allowing liberal quantities of fresh air. In brooding ducks, the temperature should start at 90 degrees F., and rapidly decrease, and fresh air must be supplied constantly, or the ducklings will sicken and die. Water should be given the young ducks to drink before they get any food after hatching. To avoid leg-weakness, keep the ducks out in the open air constantly, and run the brooder at as low a temperature as will warm the ducks without discomfort. Do not change the food of ducks quickly, but feed the same mixture until fattening time.

BREEDS AND BREED TYPE.

In the afternoon, Mr. F. L. Sewell, the foremost poultry artist of the present day in America, gave an illustrated lecture on breed type in fowls. He traced the development of the original jungle fowl of India into the many breeds and strains of the present day. The peculiarities of size, form and feather were pointed out. To breeders of fancy poultry, the information was invaluable, and would have well repaid them for attendance. In the evening, the lecture was continued, the artist then exhibiting lantern slides of his recent trip to Europe, illustrating the methods of poultry-raising carried on in the Old World. The next morning, Mr. William McNeil gave a very instructive address on how to judge poultry. Methods of fitting poultry for the show-ring were illustrated before the audience, and weak points turned into strong points in the twinkling of an eye. The ease with which these changes can be made causes one to doubt the value of fancy points in exhibition fowl. This demonstration concluded the Institute proper, and all departed with the desire to return next year, as in no other way can so much condensed poultry information be so easily acquired in so short a space of time.

I received the lady's hand-bag as premium for one new subscriber to "The Farmer's Advocate," and was well pleased with it, and take this privilege of thanking you. GIFFORD CRICH,

I received the hand-bag as premium for one new subscriber, and was very much pleased with it. Wishing "The Farmer's Advocate" every success. A. BLANCHARD.

GARDEN & ORCHARD.

BUYING FRUIT TREES AND PLANTS.

Nothing is more perplexing to the novice in fruit farming than the selection of the varieties; nor is anything more essential to his success than the purchase of those which are at the same time productive in tree and salable in fruit. But in these days, when the catalogues present such extended lists, with novelties constantly added and boomed as superior to anything ever yet planted, even the experienced fruit-grower is often puzzled when he is giving his order for stock to plant a new orchard.

But "old friends are the best friends," and the old and well-tested varieties of fruits are the safest investment. It was to assist the planter in his choice of varieties adapted to his location that the Ontario Fruit Station Bulletin No. 147 was published in 1906, giving safe advice in this particular; and just now a new and revised edition is being prepared, to be published also as an appendix to the report for 1907. In the face of this, however, we are constantly asked concerning varieties newly introduced and not yet tested, and these are often more freely purchased by fruit-growers than the old and tried kinds. For those who can afford to spend time and money in experiment, this is well and good, but for the benefit of the man who wishes to plant only the safe varieties for his section, we will discuss the lists recommended as briefly as possible; and first let us give the list of

APPLES FOR MARKET.

Summer.

Astrachan: Adapted to all sections, except the extreme north.

Duchess: Adapted to all sections.

Fall.

Gravenstein: Adapted to all sections except the St. Lawrence River and other northerly portions of the Province.

Wealthy: Particularly valuable for northern sections.

Alexander: Especially for northern districts.

McIntosh: Adapted especially to the St. Lawrence River district, but can be grown over a much wider area.

Fameuse: Adapted especially to the St. Lawrence River district, but succeeds well over a much wider area.

Blenheim: Adapted to all sections except the St. Lawrence River district and other northerly portions of the Province.

Winter.

King: Adapted only to the best apple sections, and succeeds best when top-grafted on hardy stocks.

Hubbardston: Adapted to the best apple sections.

Greening: Adapted to the best apple sections. Baldwin: Succeeds best on clay land, and is adapted to the best apple districts.

Northern Spy: Adapted to the best apple districts, but can be grown with success farther north by top-grafting on hardy stocks. This is



Two Trios in Quebec Sugar Bush.

also a good method of bringing it into early bearing.

Ontario: An early and abundant bearer, but short lived. Recommended as a filler among long-lived trees. Adapted to same districts as Northern Spy, which it somewhat resembles.

Stark: Adapted to best apple districts.

Speaking from the standpoint of an apple-grower of forty years' experience in the Niagara district, shipping in some seasons many carloads direct to foreign markets, I may add some remarks concerning these varieties mentioned.

SUMMER APPLES.

In the southern portions of our Province, in localities where peach-growing for any reason is not advisable, summer apples are often remunerative. The early shipments to our own markets often bring 30 or 40 cents a basket, or about \$3 a barrel; and if in a given section car lots for export in cold storage can be made up, the main crop can be safely put upon the British market, after local prices drop. In more northerly sections, especially near to the Georgian Bay ports, easy sale for these varieties is found in the towns along the north shore. Of the two varieties named, the Duchesse is the more profitable, averaging larger and freer from spot. They are both very productive in alternate years, but to get the best results the trees need picking over at least once a week for about three weeks, beginning toward the end of July in the southern sections. This statement is especially true of the Astrachan.

FALL APPLES.

Of the fall apples, McIntosh Red and Fameuse are of little value in the southern sections, owing to the apple scab, a black fungus affecting both the leaves and the fruit. Of course careful spraying with Bordeaux will largely prevent this evil, and the planter who is ready to face the expense of thorough spraying every season, may plant the Fameuse with some confidence. It is the very acme of perfection as a fancy dessert apple, and put up in boxes, wrapped in tissue paper, it can be sold on order in any market—home or foreign—at top prices, if bright, clean, well colored and firm. It has been grown on my fruit farm for about one hundred years, the first trees having been planted about the year 1800, but these old trees are now so lofty as to be beyond the reach of spray, and the fruit, in consequence, is usually worthless from scab.

The McIntosh Red in the southern sections ripens too early, and drops badly before gathering time; this, united with its blemishes from scab, lead me to avoid planting it in my orchard.

Alexander is one of the best apples for export in cold storage, and may be planted freely in a locality where other growers will co-operate in planting it, so as to make up car lots in shipment; but in small lots it is difficult to handle to advantage. This remark is of general application as well. This apple is one that may be successfully grown well to the north, and its large size and fine color leave nothing to be desired in appearance. It is, however, scarcely firm enough for export in barrels in ordinary conditions.

Gravenstein and Wealthy are two excellent varieties, which are very little grown in the Province of Ontario, although of late years the latter has been extensively planted, owing to its great beauty and the extreme hardiness of the tree, which can be grown without protection in the latitude of Ottawa, enduring a temperature of 40° below zero with impunity. The former has made the Nova Scotia apples famous in the British markets, but an impression seems to have gone abroad that it is not adapted to the Province of Ontario. Judging from my own experience with trees forty years planted, I conclude that this impression is an entirely mistaken one. I venture to assert that there are no trees growing with more vigor in the Province, and no apple of finer quality for cooking of its season, or of greater value for market. I have exported it to Liverpool about the beginning of September, and received for it top price in the market.

Of the Blenheim I need scarcely speak. Its good qualities as a standard late fall or early winter apple are well known. It has no superior of the same season, and should not be omitted in an orchard where the owner wishes to keep up successive shipments. It is large, fairly uniform, little subject to blemishes, and takes on a beautiful orange as it ripens in the barrels. It is one of the few old English apples which takes a first place in the Canadian orchard.

LINUS WOOLVERTON.

Make up your mind this year to have an up-to-date garden—no little hand-spaded, rake-and-hoe patch at the kitchen doorstep, but a nice, long, well-manured strip in some convenient field, preferably one where the root crops are grown. Spade it with the plow, hoe and rake it with the disk harrow, cultivator and wheel-hoe, and sow it with a garden drill. The old back-breaking system of gardening produces good vegetables, but is too slow and laborious for this age. Aim to cultivate the garden chiefly with the horse.

GLEANINGS FROM THE O. A. C. SHORT COURSE IN FRUIT-GROWING.

Following is a budget of information, selected for readers of "The Farmer's Advocate" by a special reporter at the recent short course in fruit-growing at the O. A. C.:

NATIVITY AND ENVIRONMENT.

Prof. Macoun, of Ottawa, gave some valuable pointers upon methods. In one address, on locations and soils for planting, he brought out a principle to be observed in choosing the soil for various fruits. The soil in the climate in which the particular fruit grew naturally should be the ideal soil. For instance, peaches were originally in a climate warmer than ours, and so they need a soil similar to that in such a climate; i. e., a warm, rather dry soil. Some of our small fruits originated in a cold climate, and consequently they prefer a rather cold soil, and, as moisture in a soil makes it cold, they will grow well in a moist soil.

PRUNING POINTERS.

On pruning, some good points were brought out by H. S. Peart, of the Horticultural Exp. Station, Jordan Harbor. Pruning should be done in May, if possible. In cutting off branches, cuts should be made close to the main limb or trunk. By summer pruning, we obtain early bearing at the expense of the vigor of the tree. Pruning thins the fruit, and thus larger and better fruits are obtained. Pruning also lets the sunlight into the tree, and gives more highly-colored fruit.

TREE GROWTH AND FRUITING HABITS.

Prof. F. A. Waugh, of Massachusetts Agricultural College, gave several most interesting addresses on tree growth and fruiting habits, and, on smaller fruit trees, Prof. Waugh claims that we should have better and more thorough control of our fruit trees. To show what could be done with fruit trees, under almost absolute control, he exhibited a number of lantern views, showing fruit trees trained in many forms, and at the same time bearing an abundance of fruit. Prof. Waugh emphasizes the importance of low-headed trees as offering great advantages in spraying, picking of fruit, and pruning. He also advises pruning closely to have a compact tree. We don't want the new growth away up in the air. Especially is this the case with peach trees.

PICKING, PACKING AND SALE.

Mr. P. J. Carey, Dominion Fruit Inspector, spoke on the gathering and handling of fruit. Early summer and fall apples should not be picked when green. Such picking injures the trade seriously. It is the same with all other fruits. The fruit must show the character and type of the variety and a fair degree of finish when picked. It is suicidal to the business of the fruit-grower and of the apple dealer for apples to be picked green. This harm to the whole trade results from the mad rush of fruit-growers to capture the earliest markets. The picking of winter apples should not extend over three weeks, from October 1st to October 20th or 25th. Do not trifle with the frost. When the fruit is ready, turn in all hands and pick it as speedily as possible. Have the proper appliances in picking the fruit. Pick your own fruit, if possible. Sell your fruit f. o. b. car, by all means; this is the ideal way. Pack good apples only, and pack them well.

EDUCATION AND ORGANIZATION.

Alex. McNeill, Chief of the Fruit Division, Ottawa, spoke on the present status of fruit-growing in Ontario. He mentioned the various means of education for fruit-growers which were open now, and urged that these opportunities should not be neglected. The fruit-men need a broad outlook; education, and meeting with other men of their occupation, and with officials, gives this. Mr. McNeill strongly advised the formation of co-operative associations; in fact, their importance was emphasized by many of the speakers. Especially are these societies of advantage in obtaining transportation facilities which would otherwise be impossible. Without these societies we cannot command and hold good markets, such as the Northwest and Great Britain. The societies have the additional advantage that they send out a uniformly good product, which commands always the best prices. As Mr. Sherrington, of Walkerton, put it, "True co-operation aims at placing the producer and consumer in the closest possible relationship. By cutting down the expenses of handling, and by cutting out the too-frequent middleman's profits, co-operation returns to the people the profits they create."

DRAINAGE AND TILLAGE.

Prof. W. H. Day, of the College, dealt extensively with tillage and drainage from the physical standpoint. A sandy soil contains larger particles, and will hold moisture less than a clay; it is more easily worked and kept in good condition. In the cultivation of clay, the soil should never be worked when it is wet or muddy, but only when it is dry enough to crumble somewhat.

The addition of humus to a soil in the form of farmyard manure or green crop, tends to make a clay soil more porous and more easily worked; strange to say, it has the opposite effect on sand, allowing it to be compacted and to hold moisture better. A clay soil is more likely to need drainage than a sandy soil. In putting tile drains in a block of land, the aim should be to have the drains not more than seventy-five feet apart, or eighty-five feet at the very most; in sandy soil they can be somewhat farther. Drains should always be three feet deep, and should have a grade of at least two inches in one hundred feet. If a farmer intends to do some drainage, it will pay him to use the "homemade level" (a carpenter's level on an adjustable wooden T), and take the levels on his land, and make out complete plans and profiles of his drains. It costs only a little labor, and may save many dollars of useless expenditure; besides, he has the whole of his drainage system worked out on paper, and he knows how it is going to come out on the land. If a farmer wishes it, Prof. Day will send out a man, at a very slight expense to the farmer, who will take all levels, etc., with surveyors' instruments, and make for him complete plans.

FERTILIZERS AND SPRAY MIXTURES.

Prof. Harcourt, also of the College, dealt with the chemical side of fertilizers and spraying mixtures. In commercial fertilizers, the three constituents usually present (those which are exhausted soonest in the soil) are nitrogen, potash and phosphoric acid. Which of these constituents is most needed in a certain soil, can only be ascertained by experiment. It is a good plan for the farmer to conduct these experiments for himself. It is best to use a combination of two of the constituents on each plot of the experiment. In buying commercial fertilizers, the law allows a man to demand an analysis of the fertilizer from the dealer, and he should always do so. In many fertilizers, road-dust, sand, etc., are used as make-weights, and the farmer is paying freight, etc., on these. So it is really advantageous for him to make up his own fertilizer; then he can put into it just what his land needs, and can obtain the component parts pure and in the best form. In regard to spraying, Prof. Harcourt stated that many of the compounds of Paris green on the market were really high-priced; it is far cheaper to buy Paris green pure. Certain lead compounds of arsenic are taking the place of Paris green; they are cheaper, and more effective. In making up lime-sulphur wash, very finely-ground sulphur should be used; flowers of sulphur is probably the best form. Ft. Colborne lime is giving best results. According to Mr. Robt. Thompson, St. Catharines, spraying with lime-sulphur pays, even if one has no scale. English gooseberries can be grown, free from mildew, if sprayed with this mixture. The spraying mixture should always be put through a strainer with 50 mesh to the inch. Spraying should not be attempted against the wind.

SELECTION AND PROPAGATION.

In concluding an address on "Improvement of Fruit Plants," Mr. Crow, O. A. C., urged that each fruit-grower should carefully note the individuality of his trees, propagate judiciously, and keep exact records. If there is a "best" apple tree in each man's orchard, there must be a "best" one for all Ontario, which is probably many times better than the best average tree in all the orchards. If this care in selecting and propagating were taken, there would be an added income to the fruit industry of probably thousands of dollars.

CULTURE OF STRAWBERRIES.

Mr. Stevenson, of Guelph, gave some useful ideas on the cultivation of strawberries. A well-drained, fine, mellow soil should be used. It should have had hoe or corn crops for one or two years previous to planting. Sod land should never be used, on account of "white grub." The ground should be well fertilized. In planting, the ground should be marked both ways. Probably the best distance is to have the rows three feet apart, and allow them to become 18 to 20 inches wide. If it is desired to cultivate both ways, the plants might be put 3½ by 2½ feet. Plants with white roots only should be taken up, and should be kept constantly damp until they are put out in the new rows. After two inches or so is cut off the ends of the roots, they should be planted and the soil tramped firmly about them. From the time they are planted, a continuous dry mulch should be kept on the surface of the ground till the end of summer. In winter, a mulch, preferably of pea-straw, should be put on the plants—about 7 loads per acre. Part of this can be left on the rows in the summer to keep the berries off the ground. An application of wood ashes on top of the mulch in winter-time will heighten the color and improve the quality of the berries.

BUSH FRUITS.

Mr. A. E. Sherrington, of Walkerton, spoke on the cultivation of bush fruits. A fine soil, with plenty of humus, is needed. The rows should be

put north and south. Plant the bushes in the bottom of a trench. The last filling of this trench may be done with the cultivator, which should be set deep at first. Keep up steady cultivation until after the fruiting season is over. Prune in the spring, not in the summer.

The Entomological Department gave much assistance on insect and fungous diseases affecting fruits. Spraying, cutting out of useless and wild trees around orchards, and clean cultivation, are some of the precautions against these enemies which should be taken.

H. A. WOOLVERTON.

BUYING A FRUIT FARM.

The novice is almost sure to make mistakes if he buys a fruit farm without first advising with the fruit expert. Some common mistakes are as follows:

1. Locating too far away from shipping points or buying centers. At first thought, one would not realize the depreciation in value of land for fruit-growing which is inversely to the number of miles distant from such points. A young Canadian, a graduate of the Ontario Agricultural College, and otherwise well equipped for success, purchased a farm, some years ago, four miles from an express or post office. The carrying of his fruit several times each day, the carrying of his required, the loss of at least half his time each day, amounted, in the year, to a sum about equal to the interest, at 6 per cent., on the whole amount of his purchase. The soil was good; there was a first-class peach orchard on the place, and other profitable fruits, yet, after nine years, with this tax of distance, coupled with a badly-kept road, counting the odds against his yearly balance, the young man wisely sold his farm and sought a new location.

2. Buying too many acres. It is a common delusion to think that, if one acre in peaches or strawberries yield a net income of \$100, ten acres would yield \$1,000, and one hundred acres would yield \$10,000. Possibly it would if the man was able to manage one hundred acres as he could one, and had, at the same time, proportionate capital. But usually, the greater the acreage, the less the net profit per acre. Why? Because there is more waste, more poor cultivation, more neglect of pruning, manuring, thinning and spraying, and more loss of fruit in the harvesting. Ordinarily, it would be better to buy a twenty-five-acre fruit farm than a fifty; indeed, one-half the fruit farmers in the Province would make more money if they had less land, and would be wise to offer for sale one-half their farms at the very first opportunity.

3. Choosing a farm ill-adapted to the purpose. A neighbor recently purchased fifty acres that seemed to be favorable for fruit-growing. It was well located, good soil, and near other fruit-growers, but, after the purchase, he found that nearly the whole place must be drained before planting. This was difficult, because there was no good fall for the water, and, with the high price of expert labor, a thorough system of drainage almost equalled the whole first cost of the farm.

4. Buying a fruit farm without knowing whether the varieties already on it are profitable. A mistake of this kind is very natural and very frequent in the purchase of a fruit farm. The novice simply counts up the number of acres in orchard, as placed before him by the land agent; or, if inclined to be a little cautious, takes the number of trees of apples, of pears, of plums, or of grapes, etc., and bases his idea of value accordingly. Not being an expert with regard to the productiveness or the sale value of varieties, no wonder he is often sadly disappointed when he comes to the time of reckoning his annual profits.

All these factors should be taken into careful consideration before purchasing a fruit farm, and if the buyer is not sufficiently posted to judge for himself, he should consult with some expert whose advice would be reliable. It would also be judicious, before purchasing, to require from the previous owner a statement of previous years' expenses and receipts in detail, or, if possible, a five years' average, which would materially assist in making a fair valuation. Of course, in making an estimate of the profits, the money spent annually in such permanent improvements as tree-planting, draining, fencing, building or machinery, should be omitted, because they belong to capital account.

The condition of the land, especially with respect to fertility, is another important factor, because, if allowed to run down and become impoverished, it will take a year or two of expensive treatment to restore its fertility.

The condition of the trees themselves, too, is a very important consideration, for, if stunted, covered with bark-lice, barked in plowing, badly pruned, girdled by mice, left some years unpruned, or otherwise neglected, great depreciation in value must be allowed.

L. W.

TOP - GRAFTING YOUNG TREES.

I have some young Talman Sweet trees, set out three years ago, which I wish to graft. They branch out from four to five feet from the ground. Where should limbs be cut off to graft? How long does the grafting season last, and which is best, early or late?

H. B.

Ontario Co., Ont.

The simplest method of grafting young trees, such as those mentioned, is shown in the accompanying illustration, known as cleft grafting.



Instead of trying to graft the branches, which on trees three years planted would be quite small, we would advise taking a fine-toothed saw, cutting off the trunk at the height at which the top is desired, and inserting one or two scions, according to the diameter of the cut. For such small trees a grafting chisel would not be necessary; a large pruning-knife blade can be easily made to serve in opening the cleft. Care must be taken to level the scion with a single, smooth, regular drawing, cut by a very sharp knife, so that when put in place the inner barks of scion and stock will unite.

The cuts should then be carefully covered with grafting wax, to exclude the drying effect of the atmosphere. This is made of resin, beeswax, and either tallow or linseed oil, variously prepared. A good recipe is one pint of linseed oil, one pound of beeswax and four pounds of resin. The resin and beeswax should first be melted together, and the tallow or oil be added, when the whole should be well stirred up together. The mixture is then poured into cold water, and, when cooled, worked by hand until ready for use.

The scions should be cut before the least enlargement of the bud takes place, say some time in March, and kept in fresh sawdust or earth until needed. Grafting of the apple may be done in May, or even early in June; the best time being just as the buds are beginning to push.

L. W.

LOCALIZING THE FARMERS' INSTITUTE.

SUCCESSFUL FRUIT AND VEGETABLE INSTITUTE AT LEAMINGTON.

The short course for fruit and vegetable growers, which was held at Leamington, Ont., Feb. 10th, 11th and 12th, was a very marked success, due in a very great measure to the practical nature of the course, and that it was arranged to suit local conditions. It was conducted under the auspices of the Department of Agriculture of the Essex High School and the Ontario Farmers' Institutes. The Superintendent of Farmers' Institutes has been making an effort recently to adapt the work of the Institutes to local conditions. This work has been made possible in the County of Essex through the local representative of the Department of Agriculture. As an example, there is a certain section of marsh land on Pelee Point which is particularly adapted to the growth of onions, but, during unfavorable conditions, such as existed last year, the yield was very materially decreased, owing to the large number of thick-necked onions in the crop. One grower applied some fertilizer to a portion of his crop, and found that he increased his crop from 600 to 1,000 bushels per acre, and entirely eliminated thick-necks. Other growers hearing of it were naturally curious to find out more about fertilizers. As a result, an entire afternoon at the Fruit Institute was devoted to the fertilizer question, and the members of the class listened to Prof. Harcourt with rapt attention while he outlined the use and value of fertilizers, and the proper way to buy and use them. As a result of Prof. Harcourt's talk, many farmers came to Mr. McKenney, of the Department of Agriculture, Essex, who is planning some co-operative experiments with fertilizers, and asked to be allowed to conduct experiments, in order that they might find out exactly what their soil required.

Mr. McMeans, of Guelph, dealt very thoroughly with the proper methods of growing onions, as well as other vegetables. Considerable interest was also evidenced in the discussion on the San Jose scale, an insect pest which is spreading very rapidly over the country. Mr. Robert Thompson, St. Catharines; J. W. Crow, Guelph, and A. McKenney, Essex, discussed this question quite thoroughly. Many samples of twigs were brought in by the members of the class, with the object of finding out if they were affected. In nearly every case scale was found.

The afternoon of the 12th was devoted almost entirely to the subject of co-operation. Mr. Robt. Thompson gave the local men some very valuable advice along the lines of buying and selling co-operatively. The class broke up, expressing themselves very well satisfied with this localizing of the Farmers' Institute.

SOME NOTES ON THE APPLE TRADE.

By A. McNeill, Chief Fruit Division, Ottawa.

The difficulties in the way of the apple business this past year were numerous. The buyers, and perhaps the general public, did not discriminate between the fruit crop reports that were published from the United States and from Europe. There was, undoubtedly, a very great shortage of apples on the American continent last year, but this shortage was mostly in the apple crop that goes into consumption before Christmas. That part of the apple belt which furnishes the greater portion of the stock for winter storing had a good average crop. The Canadian crop was not excessive, but it was widely distributed, and the aggregate was large. New York and the New England States had a medium crop.

COMPETITION OF BANANAS AND ORANGES.

The result was that though prices were high for the early and fall apples, the market was immediately overloaded when the winter apples came into competition. To make matters worse, there was a very large importation of bananas, and the orange crop never promised better than this year. The general public, including the buyers of apples, apparently have not appreciated the fact that bananas and oranges come into direct competition with apples, and that for market purposes and in calculating prices the orange crop and the banana crop must be taken into consideration quite as seriously as the apple crop.

MARKET DEPRESSED BY INFERIOR GRADES.

Another feature of the case was that this misconception induced many apple buyers to store and also place upon the market much of this second and third rate quality of fruit. The inevitable result followed; the markets were overloaded with fruit, at the price that the early and fall fruit commanded. The amount of fruit was not excessive; yet even when the price lowered the consumption did not increase to the proper limit. As a matter of fact, the public had been led to expect high prices, and individually and collectively they made up their minds to do without apples; and having made up their minds, it required more than ordinary inducements in the way of low prices to get them to accept apples.

PROSPECTIVE HIGH PRICES RESTRICTED CONSUMPTION.

A single instance, in the local market, will illustrate this. A merchant in Ottawa, doing a large retail business, offered \$3.00 per barrel for a nice line of Spies and other first-class winter varieties. The holder of the apples refused this, and put his apples in store. A week ago the holder of the apples offered them, in first-class condition, to the same merchant at \$2.75 per barrel, but the merchant refused, and could not be persuaded to take them at \$2.50. The merchant had reconciled himself to doing without the apples, and was unwilling to change his plans; and it is needless to say that his patrons will probably use less fruit as the result, certainly fewer apples, this winter; and the holder of the apples will be obliged at last to dispose of his fruit at very great reduction.

In the August fruit crop report of the Fruit Division, under the head of "Market Conditions," attention was directed to the fact that the normal production of apples in the United States is about 50,000,000 barrels, and that this year it would be between 35,000,000 and 40,000,000 barrels, this reduction being very largely in the early and fall fruit. The States producing winter apples, it was stated, have nearly a medium crop. The indications are that a moderately high price for apples will distinctly curtail the consumption.

In the same report it was stated that the most serious competitor of the apple is the banana. In the September report prominence was given to the large increase in the imports of bananas into the United Kingdom, showing that in 1901 the imports to Great Britain were two and one-quarter million bunches; in 1906 the imports were nearly six and a half million bunches; and the estimated consumption in the United States last year was thirty-five million bunches.

There is no doubt that the stringency in the money market will account for some of the heavier exports from the United States. The conclusion is that we have in this year's experience one more reminder that high prices will inevitably reduce consumption, and will lead to the substitution of something else for the high-priced article. The safety of the apple business lies not in high prices, but in moderate prices; or, indeed, in even low prices, that will induce consumption and successful competition with foreign fruits, particularly oranges and bananas.

PACKING.

It may be in place here to note the effect which these abnormal conditions of crop and price had upon the grading and packing of the apples. The Fruit Marks Act requires that a No. 1 apple shall be clean and not less than medium in size. In normal years there will be a fair proportion of large and very large apples packed with the apples of medium size. This year, owing to the climatic conditions, there were very few large or very large

apples. Nearly all the No. 1 apples were medium size only. This created a surplus of that particular grade, and, as a consequence, prices lowered to such an extent that many dealers were inclined to speak of these medium-sized No. 1's as No. 2 apples, although they were quite properly graded No. 1.

Another disturbing element was the fact that many large packers, perceiving the difficulty of securing any large percentage of No. 1 apples, found it paid them better to simply reject the culls and pack their No. 1 and No. 2 apples together, grading them No. 2. The result was that this class of No. 2's often gave better value in the markets than some samples of straight, medium-sized No. 1 apples.

FRAUD AND ERROR IN PACKING.

There was, of course, too, the usual, and, perhaps, more than the usual amount of deliberate falsification, particularly after the season advanced. Many packers, who had paid high prices for their fruit, realized that they could not sell at a profit, and many yielded to the temptation to mark their inferior fruit a grade higher than it deserved.

In this connection it may be noted that there was a larger amount of money advanced by the wholesale dealers in Great Britain than usual, and perhaps there was more than the usual amount of legitimate f. o. b. buying. In both cases there was not sufficient precaution taken to put the money in the right hands. The apples having been sold, the packers did not have an incentive to maintain the grade. There was a perceptible falling off from the practice of straight packing in many cases that could be traced directly to the fact that the packers had their money before the fruit was shipped.

INEXPERIENCED PACKERS.

The picking season this year opened up particularly late. The whole crop of fall and winter apples had to be gathered within a period of not over six weeks. In order to accomplish this the services of anyone who offered had to be accepted. As a consequence, it is needless to say that much incompetent labor was engaged in the orchards. Many men attempted to pack apples, who had scarcely ever been in an orchard before. Some of the factories had laid off men, and the factory hands were pressed into service. They regarded the work as only temporary; in fact, as a kind of frolic. More than one instance of bad packing has been traced directly to this class of help. The apple packers, i. e., buyers, in a great many instances were certainly quite as anxious as anyone could be that the packing should be done properly. It was a case, however, of accepting such help, or of not having the apples harvested at all.

CO-OPERATIVE PACKING AND MARKETING THE REMEDY.

Of course, it goes without saying that the peculiar conditions of the year emphasized a weakness in the present method of harvesting the apple crop. It is not complimentary to the growers of apples that the harvesting should be so poorly provided for. The onus of this unfortunate condition rests with the growers; they have not taken themselves seriously as apple-growers. Many of them congratulate themselves when they succeed in selling with the condition that the buyer does the picking and packing. The undoubted effect of this is to perpetuate this evil condition of things. The remedy lies in the apple-grower doing his own picking and packing, and when he does this he will find it far more advantageous to unite with his neighbors in a co-operative association, the manager of which will control the sale of the united output. Picking and packing require skill, and skilled men cannot be had for a few weeks in the year only. Therefore, the apple-grower should provide in his regular staff of help for hands enough to take care of his crop. No increase in the staff of the Fruit Division will ever be able to prevent bad packing, and hence fraudulent marking, with the class of labor which is now employed. It is impossible for apple operators themselves to guarantee their own product.

This point should be given special emphasis, because there remain still not a few who fancy that the improvement in picking and packing must come about by an increase in the staff of fruit inspectors, when, as a matter of fact, real and permanent improvement can only be effected by such educational methods as will organize the farmers into co-operative associations, where either individually or as an association they may pick and pack their own fruit.

"Aye be planting a tree," is an oft-quoted piece of most excellent advice. Much more planting of trees is needful if we are to make this splendid country the fair land it should and undoubtedly will be. For the most part, our rural sections are unfinished and crude. We need a wood-lot on every farm, groves and rows of trees on every holding, and an orchard or fruit plantation of some kind in connection with every home. Start now.

THE FARM BULLETIN

MEETING OF THE ONTARIO BRANCH OF A. P. A.

On afternoon of Thursday, Feb. 13, the annual meeting of the members of the Ontario branch of the American Poultry Association was held at the Poultry Department of the Ontario Agricultural College. Very few members were able to be present, but, nevertheless, the meeting was a very spirited one. The ticket of officials nominated by the American branch was adopted. Prof. W. R. Graham, of the O. A. C., was appointed to confer with the American representatives regarding the bringing of the standard up to date. There is at present great dissatisfaction with the standard for waterfowl, it being very ambiguous in many points, and especially with reference to the keel of certain varieties of ducks.



John Bright, Myrtle, Ont.

President Canadian Clydesdale Horse-breeders' Association.

HOLSTEIN COW AND CALF.

The accompanying halftone cut represents one of the Holstein cows in the stables of the Nova Scotia Agricultural College, at Truro, "Flora Wayne of Riverside," which gave last year 18,000 pounds of 3.6-per-cent. milk. At her side is her four-days-old heifer calf, born Feb. 12th, 1908. This calf weighed, at birth, one hundred and thirty-six (136) pounds. Prof. Cumming writes that he believes this is almost a record, and would like to ascertain through our paper if any heavier ones are on record. In Henry's "Feeds and Feeding," the largest calf reported weighed 128 pounds. Authenticated information is invited from Holstein and other breeders.



Flora Wayne of Riverside and Calf.

DIRECT STEAMSHIP LINE TO FRANCE.

A sequel to the Franco-Canadian treaty is contained in a notice of motion by the Minister of Marine in the Dominion Parliament. It indicates that the Government will give a bonus of a hundred thousand a year for a line of steamers between Canadian and French ports, to run for a period of ten years. It is understood that a line of fortnightly or weekly steamers will be put on by the Allans.

FORTHCOMING EVENTS.

Feb. 26th to 28th—Ontario Horse-breeders' Show, Toronto.
May 4th to 9th—Canadian National Horse Show, Toronto.
June 29th to July 9th—Dominion Exhibition, Calgary, Alta.
July 11th to 17th—Winnipeg Industrial Exhibition.

QUEBEC STOCK-BREEDERS CONVENED.

PROVINCIAL ASSOCIATION HELD ANNUAL SESSION IN MONTREAL.

A meeting of the General Stock-breeders' Association of the Province of Quebec was held in the Queen's Hotel, Montreal, on February 18th. The annual report of the Association was presented, and the election of officers took place.

The following officers were appointed for the ensuing year: Patron, the Hon. Sydney Fisher, Minister of Agriculture; Honorary President, Mr. Robt. Ness, Howick; President, the Hon. N. Garneau, Quebec; First Vice-President, Thos. Drysdale, Allan's Corners; Second Vice-President, Arsene Denis, St. Norbert; Secretary, Dr. J. A. Couture, Quebec. Directors—Messrs. T. B. Macaulay, Montreal, representing the French-Canadian Cattle-breeders' Association; Nap. Lachapelle, St. Paul l'Ermite, representing the Sheep-breeders' Association; Louis Lavallee, St. Guillaume, representing the Swine-breeders' Association; and Jos. Delande, L'Acadia, representing the French-Canadian Horse-breeders' Association.

The event of the day was a speech by the Hon. Sydney Fisher, Minister of Agriculture. It was, he said, a source of gratification to him to see so many members present. He felt proud to note the success which had attended the Stock-breeders' Association since its formation thirteen years ago. In 1895 the Association only numbered 50 members, whereas at the present time there were nearly 400.

The Minister congratulated the stock-breeders of the Province, and stated that they were doing as well in their efforts to promote animal industry in Canada as any other Province in the Dominion. He was glad to observe that the Province was well represented at the Live-stock Convention in Ottawa. The nationalization of live-stock records, which occurred two years ago, had undoubtedly proved beneficial to the general interests of the breeders, and, although some of them had sustained heavy loss, he felt proud to say that the breeders of Quebec Province stood their loss without grumbling, and prepared themselves to face the new situation, this being particularly the case with the sheep-breeders. He was glad to know that the financial aspect of the several associations was favorable, and he advised them to be very careful in the way they devoted their surpluses.

The speaker stated that, as a Province devoting itself to the dairy interests, it should also promote the raising of the bacon hog, and he confidently expected Quebec to lead in that line of business. Quebec should become noted throughout Canada for the superior quality of its dairy breeds. Moreover, it should become the center of distribution of pure-bred cattle for the whole Dominion. The Minister strongly advocated the rearing of Ayrshire and French-Canadian breeds, which he considered would prove the most advantageous in this part of the country. As regards horses, he advised the members present to be very careful in the selection of their breeding stock. Every one might follow his own inclinations as to the class of horses he would keep, but, having once made up his mind, let him stick to that breed and keep the best.

Dr. Rutherford, the Live-stock Commissioner of the Dominion, congratulated the several breeders' associations on their success. He emphasized the necessity of the breeders specializing in the breed, and at all times seeing that they procured the best class. Ontario, the Doctor continued, had been reaping big profits by sending more pure-bred stock all over the country than any other Province, and he did not see why Quebec could not become a strong competitor, especially in the lines of milk cows and horses. He was delighted to observe the unanimity of feeling which prevailed at the meeting, and felt sure that the members of the Stock-breeders' Association would meet with great success in their efforts to promote the live-stock industry.

The report of the General Breeders' Association, with which is affiliated the French-Canadian Cattle-breeders' Association, the French-Canadian Horse-breeders' Association, the Swine-breeders' Association, and the Sheep-breeders' Association, was presented.

All the members of the General Association of the Province of Quebec are also members of one or other of the associations, and the report has been so drawn up to cover the operations of each organization.

The French-Canadian Cattle-breeders' Association has a hundred and seven members; the French-Canadian Horse-breeders' Association, thirty; the Swine-breeders' Association, a hundred and twenty-five, and the Sheep-breeders' Association a hundred and twenty-five, showing that the General Stock-breeders' Association of Quebec Province has a total membership of three hundred and eighty-seven.

The French-Canadian Cattle-breeders' Association report shows that a balance remained to their credit last year of \$247.88, but in their estimate of receipts and expenditure for 1908 this Association will have to provide for a deficit of \$201.90. The report continues that two breeders availed themselves of the means placed at their disposal by the Minister of Agriculture, to ascertain the value of their herds through the Record of Performance test for pure-bred cows. Included in the estimates for this year is a sum of \$200, which the Association proposes to expend in prizes at various exhibition to be held.

The presentation of the Horse-breeders' Association showed that the past year had been, financially, a good one. This Association is in a position to claim

a balance on hand of \$365.60. The receipts and expenditure for 1908 are expected to show a surplus of \$234.85, but, as this amount is made up of registration fees of foundation stock, which will amount to about \$600 for 1907-1908, and as the receipts from this source will cease at the end of the present year, some fear is entertained that the resources of the Association will not warrant provision for all its needs. The report continues to deal in detail with the commission appointed to examine French-Canadian horses, and this states that the commissioners went to 72 places in 42 counties, 1,818 horses were examined, of which 419, or 22 per cent., were already recorded, it accepted 637, of which 96 were already recorded. Of the 637 horses, 82 are males, and 555 are females. The French-Canadian Horse-breeders' Association report concludes by appealing to the Board of Directors to take certain steps that will insure the permanent success of the regeneration of the breed of French-Canadian horses.

The statement of account of the Sheep-breeders' Association shows that the Association is in a flourishing condition, although they only managed to just balance their receipts with the expenditure of last year's working. However, according to the estimates for the ensuing year, they anticipate a surplus of \$238.45.

The report of the Swine-breeders' Association reveals the fact that, after wiping off a deficit of \$16.41 on 1906 accounts, they have at present a balance to their credit of \$434.37. It is anticipated that over \$600 will be available at the end of the present year, and the report concluded by saying that the era of deficits is over, and the Association counts upon hereafter a sufficient round sum at its disposal every year.

Over 100 members assembled at the meeting during the day, farmers from all parts of the Province being in attendance. The Hon. Mr. Garneau, President of the Association, occupied the chair. It is considered this is one of the most interesting and profitable meetings yet held by the Stock-breeders' Association of Quebec.

THE O. A. C. SELF-VINDICATED BY RESULTS.

These be truly halcyon days for the Ontario Agricultural College. Times have changed vastly since the early years, when every dollar of appropriation towards it was jealously watched and often unfairly criticised. Now, both parties in the Provincial Legislature are vying with each other to see which can be most liberal. [We have cautioned the printers to spell this word with a small l.] On Wednesday of last week, a party of M. P. P.'s visited the O. A. C. and Macdonald Institute en masse by special arrangement of the Minister of Agriculture, Hon. Nelson Monteith. They were shown all about the institutions, heard explanations of the work of the various departments, and were regaled at a sumptuous luncheon served by the girl students of the Macdonald Institute, at a cost, as President Creelman explained, of twenty and eight-tenths cents per head, which must have made some of them wish Macdonald Hall were nearer the Parliament Buildings in Queen's Park.

In reply to the toast of the Legislature, proposed by the Minister of Agriculture, the Leader of the Opposition, Hon. A. G. Mackay, expressed the opinion that agricultural education should receive greater help at the hands of the Government. The result of the visit will certainly be to loosen the purse-strings of the Provincial Treasurer, and, if public money can do it, the Agricultural College is on the threshold of an era of great development. Indeed, having in view the experience of some American educational institutions, where virility declined as endowments grew, we are almost constrained to pray that the O. A. C. may be delivered from the generosity of its friends. However, in view of the urgent needs of the College, the prayer may be discreetly withheld yet awhile.

RECOMMENDATIONS AS TO MILK SUPPLY.

To fix a standard for the supply of milk for the Province of Ontario, and also to insure a purer supply, the Provincial Board of Health has made several important recommendations, to be sent to the Provincial Secretary and laid before the Legislature. The recommendations cover a wide range, and, summarized, are as follows:

All milk containing less than 13 per cent. of total solids, of which 3 1/4 per cent. must be chemically-dry butter-fat, must be deemed below the standard required when intended for human consumption.

All buildings for stabling cows must have good drainage, and no building used for dairy purposes must be within 100 yards of any marshy or stagnant water.

The surroundings of all dairy buildings must be kept clean, and even the stable-yard must be drained. Stables for cows must be used for no other purpose, not even as storage places. Each cow must be allowed 600 cubic feet of air-space, and cows are to be kept clean.

The cattle from which milk is sold must not include any diseased animals, especially none showing signs of tuberculosis or any similar trouble. The employment of the tuberculin test is recommended. Fodder, grain and water must be free from contamination, and nothing must be fed the cows which would affect the taste or character of the milk.

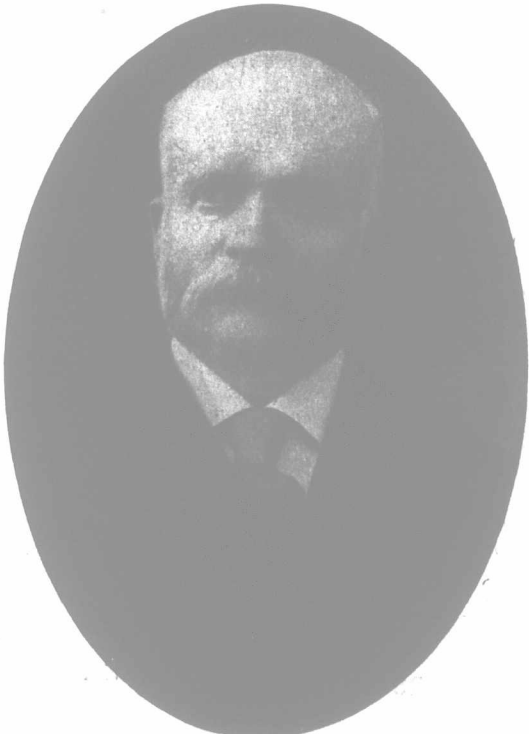
Employees must be clean in habits and free from contagious disease. The milkers' hands must not come in contact with the milk, and only one pail is allowed each milker.

After each cow is milked, the milk must be taken

to a milk-house and cooled to a temperature of 55 degrees within two hours. No preservatives or other substance shall be added to the milk, and no part of the milk shall be removed.

The collection of empty bottles used in the delivery of milk, or milk tickets from any house where contagious disease exists, must be made only after the house has been fumigated and such bottles sterilized.

If we read these recommendations aright, they are somewhat overexact as to percentage of fat required for standard milk. Expert opinion favors milk of mod-



Edwin J. Elliott, Clarence, N. S.
President Nova Scotia Farmers' Association.

erate percentage of butter-fat as being preferable for infants and persons of delicate stomachs. Milk containing 3.5 per cent. fat is good enough for all ordinary purposes, and insistence upon a higher percentage can only have the effect of increasing the cost of production per quart, and also making it precarious for a man with an ordinary herd to supply milk to local trade for fear of occasionally dropping below standard. The tendency would be to virtually strengthen the monopoly of milk supply by firms provided with separators and facilities for standardizing their output. This proposed regulation will bear watching, but regulations re sanitary production and handling are unquestionably demanded.



The late James Benson.
Prince Edward Co., Ont.

A SUBSCRIBER FOR THIRTY YEARS.

Capt. James Benson, J. P., Ameliasburgh, Prince Edward County, Ont., who died on January 6th, was born in Elgin County. He afterwards settled in Prince Edward County, where he began to make his own way in life as a schoolmaster. After teaching many years, he began farming, at which he was successful, his farm being one of the many fine homesteads of Ameliasburgh. Mr. Benson believed in the farmer's paper, and that paper to be "The Farmer's Advocate," of which he was a continuous subscriber for over thirty years, and had filed every number of the paper during that period. He was municipal clerk for thirty-two years, and was considered one of the best municipal officers in Ontario. For several years he served in the militia. He leaves a widow and two sons, J. E. Benson, at home, and ex-Warden Henry P. Benson, Wellington.

CONVENTION OF FAIRS AND EXHIBITIONS OF ONTARIO.

"Progress" was the keynote at the eighth annual convention of the Fairs and Exhibitions Association of the Province of Ontario, held in the City Hall, Toronto, on February 19th and 20th. It was the best-attended convention ever yet held, and there was not a dull moment from beginning to end. The President touched on progress. Superintendent J. Lockie Wilson quoted interesting figures to show the important standing and the educational value of exhibitions to the Province, while the Minister of Agriculture reminded the meeting of the humble start made with a small agricultural society, over one hundred years ago, in the historical town of Niagara, then known as Newark, and compared this with the 361 agricultural societies now covering the Province.

From Mr. Monteith's address we glean the following interesting facts: The total expenditure of all Societies during 1906 was \$700,107.25, and the total expenditure for agricultural purposes, \$250,261.15. The total expenditure at spring fairs was \$5,102.97, and, out of this, \$3,880.70 was donated in prizes. Grants to spring fairs in 1907 were \$2,206; to stock societies which hold no exhibition, \$1,210, and to fall fairs other than those held in Toronto, London and Ottawa, \$66,584. The total value of land owned by societies was \$195,915, and of buildings, \$325,418, making a total of \$521,333. The total number who attended fall fairs in 1906 was 1,385,263, of which 700,000 visited rural shows. Mr. Monteith thought it would be advisable to reintroduce the social side of societies, such as holding a dinner, which did so much to bring people together. This is a feature much employed by agricultural societies in Scotland. He was much pleased with the success that had attended the field-crop competitions last year, and hoped that an increased grant would be available for this purpose during 1908.

The president, Mr. Laidlaw, in his address, thought that the grants to the societies should be based permanently as a third of the expenditure of each society for agricultural purposes. He also favored asking the Government for an increase of the grant from \$70,000 to \$100,000.

Superintendent Lockie Wilson gave a concise report for the year. After praising the public spirit and patriotism of the officers of the societies, who give their time and work to the society without remuneration, and have thus made a success where otherwise there would have been a failure, he gave a resume of the proceedings of the past year. The Act, as far as could be seen, had worked satisfactorily. About 40 weak societies had become merged into stronger ones, or had ceased to exist. The total number of active societies was 361, of which seven were stock societies, and held no exhibitions; 191 societies had employed Departmental judges for fall fairs in 1907; 26 judges were sent to spring, and 152 to fall fairs last year. There were 61 stallion, bull and seed fairs held last spring. With five exceptions, there were no complaints against judges sent out by the Department. The field-crop competition, instituted last year, had proved a great success. No less than 325 entries were made, and 3,000 acres were judged. This competition had proved to be interesting, instructive and remunerative. Where possible, the judges had given lectures on cultivating crops, treatment of seed for smut, and on destruction of weeds, being able to impress the points on their hearers, inasmuch as they had object-lessons before them. The financial side was evidenced by the fact that the winners of prizes sold their grain to leading seedsmen at prices from 25 per cent. to 50 per cent. above the regular prices, and that, too, without having to leave their homes. One delegate at the meeting stated that he had sold his prize oats at \$2.50 a bushel, to go to Scotland.

Mr. Boughner, Simcoe, made an earnest plea for considering the cost of grounds and buildings in awarding Government grants, but no decision was come to on this point, and there was a strong feeling against this.

Mr. Jno. Brockbank, Paris, would like to see a better classification of horses in prize-lists, making general-purpose horses run from 1,150 to 1,300 pounds, agricultural from 1,300 to 1,600, and heavy drafts from 1,600 pounds upwards. This subject will be considered at the next convention.

Mr. C. C. James, Deputy Minister of Agriculture, gave, as usual, a good practical address. He advocated a more frequent revision of the prize-lists, many of which had not been changed since the society had first organized, whereas, oftentimes, the conditions in those sections had. If a Provincial auditor were appointed, it would be his business to collect from the more advanced societies the best ideas as to bookkeeping and conducting of shows.

Mr. H. J. Gould, Uxbridge, contributed a paper, suggesting a Provincial auditor, who, he thought, might, oftentimes, be useful to some of the smaller societies in helping them improve their books. He would utilize someone from the Department who understood the work.

Mr. John Farrell, Forest, instanced ways of improving the educational features of societies, by interesting the school children, and thus getting in touch with their parents.

Dr. Simmons, Frankford, would like to see agricultural societies employ Departmental judges as much as possible. In doing this, he was voicing the sentiment of the meeting, which, on the previous day, had carried unanimously a motion endorsing the system.

On Friday morning a large deputation of members waited on Hon. Nelson Monteith, Minister of Agriculture, and Col. Matheson, Provincial Treasurer, at the Parliament Buildings, and asked for an increase in grants to fairs to \$100,000. While acknowledging the justice of the demand, the Ministers promised the matter their best consideration.

The election of officers resulted as follows: President, Wm. Laidlaw, Guelph, re-elected; First Vice-President, H. J. Gould, Uxbridge; Second Vice-President, Dr. Simmons, Frankford. Executive Committee—R. E. Cowan, Galt; Johnson Ellis, Lindsay; R. H. Leary, Peterboro; Geo. E. Lee, Highgate; J. Thos. Murphy, Simcoe; Jno. D. Orr, Meadowvale; J. W. Sheppard, Cayuga. Secretary-Treasurer, Alex. McFarlane, Otterville; Corresponding Secretary and Editor, J. Lockie Wilson, Toronto.

NOTES FROM THE ORKNEY ISLANDS.

Editor "The Farmer's Advocate": Please renew my subscription for "The Farmer's Advocate." I enjoy reading it very much, and, although it is not meant for this part of the world, I get many useful suggestions. Our climate is very much different from yours. Since Jan. 1st the weather has been like spring—a very great change from last January. We had very cold and unseasonable weather all through the spring and summer. The crops were very heavy, chiefly oats and turnips, but the summer was too cold to mature grain. In fact, it is not expected there will be enough for local use, although the people here now live principally on Manitoba flour. The turnips are growing as fresh in the fields as they were in October, and the daisies are blooming in the field, yet we are a thousand miles farther north than you. It is the summer we come short of, as you will see from the temperature column in the enclosed table:

Months.	Temperature.	Maximum Temp.	Minimum Temp.	Rainfall.
January	39.3	49.7	22.8	4.225
February	37.3	47.8	25.0	3.505
March	40.15	51.6	25.4	2.65
April	42.5	50.8	29.8	1.785
May	46.35	60.4	36.2	1.16
June	48.9	57.0	39.0	3.695
July	50.9	68.6	42.2	1.165
August	50.3	67.8	41.8	4.14
September	50.9	67.8	37.2	1.245
October	47.85	57.4	37.5	3.18
November	43.75	52.2	33.8	2.445
December	41.0	48.5	33.8	3.01
Means	44.93			32.205

Orkney.

JOHN HEPBURN.

SEED FAIRS.

There have been recently held three seed fairs in Ontario, one at Richmond Hill, at Listowel, and at Markham. From the standpoint of attendance, they have all been very successful. From the amount of seed exhibited, they might have been better in the case of the two former, but in the case of the latter there were about 30 samples, which represented nearly 6,000 bushels of grain, of which probably more than 2,000 bushels exchanged hands at the fair. One lot of 600 bushels of oats were sold at a rather remarkable price of 62 cents per bushel. Another 400-bushel lot could have been sold for 61 cents, but 62 cents was being asked.

The Seed Fairs are bound to be productive of much good, as it brings buyer and seller together in a very easy and inexpensive way.

Markham has held its Seed Fair now for a number of years in connection with East York's Farmers' Institute, and what its enthusiastic secretary, Mr. J. B. Reynolds, undertakes has to go. The other two Seed Fairs are hardly established yet, but they will swing into line, no doubt, as experience is gained in the work.

The Seed Branch, Dominion Department of Agriculture, was represented by T. G. Raynor, who gave an address on each occasion along the line of crop improvement, and did the judging where necessary.

CANADIAN OR NONE.

Editor "The Farmer's Advocate":

I have been quite interested in the discussion which is going on in your journal in regard to the Englishman, I do not altogether agree with the man who signs himself "Subscriber," in Jan. 9th issue, although I think it is an imposition on our fair Canada to have so many of the poorer classes dumped on us. However, I know of a good many Englishmen who are a credit to the country, and who make excellent citizens. Nor do I agree with Mr. Humphrey when he says he was convinced in thirty days that he had a first-class hand. I think that, in the majority of cases it takes nearer thirty months than thirty days to find out what kind of men you have to deal with. I have had a good deal of experience with Old Countrymen, and I have made up my mind that, if I can't get a good Canadian, I will do without. Wishing "The Farmer's Advocate" every success.

Oxford Co., Ont.

JOHN HIMOND.

HACKNEY BREEDERS' ANNUAL MEETING.

The annual meeting of the Canadian Hackney Horse Society was held in the King Edward Hotel, Toronto, on Wednesday, February 12th. The attendance was larger than usual. The meeting was very enthusiastic, and got through a good deal of work.

The retiring President, Mr. E. C. H. Tisdale, Beaverton, Ont., addressed the meeting in a few very well chosen words, and said the efforts of the Hackney men of the past are now being crowned with success in all the show-yards of the continent, and he wished success to the breed and the breeders.

The Secretary-Treasurer's report showed the Society to be in a flourishing condition, with a considerably-increased membership.

The Directors elected were: E. C. H. Tisdale; W. C. Renfrew; O. Sorby; R. E. Gunn; T. A. Graham; F. Richardson; E. C. Hallman; A. E. Major; J. Graham.

The officers elected are: President, W. C. Renfrew, Bedford Park; 1st Vice-President, O. Sorby, Guelph; 2nd Vice-President, J. Graham, Carberry, Man.; Secretary-Treasurer, H. M. Robinson, Toronto.

Executive Committee: The President and T. A. Graham.

Auditor, R. Williamson.

Representatives to Live-stock Association: The President and Mr. O. Sorby.

To the National Record Board: The President and Mr. T. A. Graham.

Representatives to fairs: Toronto National Exhibition—E. C. H. Tisdale. Western Fair, London—O. Sorby; Jas. Dalgety. Brandon—J. Wishart. Dominion Fair, Calgary—J. A. Turner. New Westminster—G. Sangster, Sydney, B. C. Halifax and St. John—W. W. Black, Amherst. Prince Edward Island—J. D. Roper. Markham—T. A. Graham. Winnipeg—J. Wishart. Ottawa—B. Rothwell. Regina—P. M. Brett. Montreal—F. E. Came. Sherbrooke—T. B. McCauley, Montreal.

FORTY YEARS A READER OF "THE FARMER'S ADVOCATE."

Mr. J. W. McMullen, whose portrait appears on this page, was born September 4th, 1833, in Hastings County, Ont., where he lived the greater part of his



Mr. J. W. McMullen and Wife, Halton Co., Ont.

Forty-two years readers of "The Farmer's Advocate."

life. Accepting the advice of Henry Ward Beecher, "Go west, young man," he removed to Halton County, and settled on the well-known Zimmerman farm of 200 acres, where he lived fifteen years. With only one son for help, and concluding they had too much land, they exchanged for 100 acres about two miles further west, where they are very comfortably situated, and have a nice herd of well-bred Jersey cattle, which would do credit to any farmer. He has been a reader of "The Farmer's Advocate" since its first inception, in 1866.

HUNTINGDON, QUE., DAIRY BOARD ANNUAL MEETING.

The annual meeting of the Huntingdon Dairy Board took place on Feb. 18th. A goodly number of factories were represented. The president, Andrew Phillips, presided. The financial statement showed a balance on hand of \$27.10. A discussion arose as to whether the factories in the district should sell on the Board this season, or sell in Montreal, but it was the unanimous opinion that, at present, on the Board was the place to sell, but the time may come when all cheese and butter would be shipped to Montreal, and placed in cold-storage until the salesman was ready to sell. Directors were elected for the ensuing year, and, at a subsequent meeting of the directors, Mr. Andrew Phillips was elected president; Mr. R. N. Walsh, M. P., Vice-President; Mr. Chas. Dewick, Secretary-Treasurer, and Mr. W. S. Maclaren, Auditor. Messrs. Andrew Phillips, R. N. Walsh, M. P., and M. T. Robb were appointed a Committee of Arbitration to adjust any differences that may arise between the buyers and sellers.

The first meeting of the butter and cheese board for 1908 will take place on Friday, May 15th, at one o'clock.

W. F. S.

GERMAN DUTY ON CANADIAN APPLES.

The following resolution was introduced at the meeting of the Nova Scotia Farmers' Association, at Antigonishe, by Capt. C. O. Allen, of Kentville, and passed unanimously:

Whereas, in the year 1906, Germany imposed a duty on apples going into their country, amounting to 10 marks per 100 kilos, equivalent to \$1.63 per barrel of 150 pounds, on all apples from Canada, and 3 marks 20 pennings per 100 kilos, equal to 52¢ per barrel, on apples from the United States, thus enabling our competitive fruit-growers across the border to get their apples into Germany at a preference of \$1.11 less than our own country, which has practically shut out all Canadian apples from the German markets;

And whereas, before the duty went into effect, frequently large quantities of Canadian apples found ready market in being either shipped direct to Hamburg or by German buyers purchasing in the London and Liverpool markets, both of which are now entirely lost, greatly to the detriment of the Canadian fruit industry;

Therefore resolved that the fruit-growers of Nova Scotia earnestly entreat the Department of Finance, at Ottawa, to secure trade relations with Germany which will admit Canadian apples in the German market under as favorable a tariff as is granted to our competitors from the United States;

And further resolved, that copies of this resolution be forwarded to every fruit-growers' association in Canada, asking their hearty co-operation against the unreasonable discrimination against one of Canada's important industries, amounting to \$1.11 per barrel, exceeding the first cost of production.

Speaking in support of the resolution, Capt. Allen presented the case in this way:

The object of submitting this resolution is to get the fruit-growers of Nova Scotia, and of our broad Dominion, to band themselves together, and, if possible, to get our Finance Department at Ottawa to place our apples going into Germany as advantageously as those of our competitors from the United States.

There might have been a time in the history of our country when this question would have been a difficult one for the Finance Department at Ottawa to grapple with. If we review what the department has accomplished by negotiating the recent treaty with France, which has given to Canada a minimum tariff on about all her products of field, farm, forest, coast waters and manufactured articles, I submit this is evidence for the supporting of this resolution.

It has been said by some, the preference American apples get into Germany under, does not so materially affect the fruit industry of Canada. For the United States sends her apples to Germany while those from our own Provinces go to the markets of Great Britain. I can tell you, gentlemen, it has a far more damaging effect. You know there are times when the British markets receive too many apples. During one week London can safely handle 25,000 or 30,000 bbls., but when she gets double that quantity the price is bound to drop unless relieved from other sources.

The German buyers are only twelve hours distant from London. Before this duty went into effect, buyers from Hamburg came into the British markets, thus preventing prices getting down ruinously low. When once down, it is difficult to recover. During present season, first week in December, 60,000 bbls. of apples went into London in one week, while Germany was yet short, they could not pay the 10 marks per 100 kilos; consequently down went the prices, until apples valued in Canada at \$3, scarcely netted \$1, causing a loss to three counties in Nova Scotia of \$200,000 to \$300,000, of which the farmers have to bear the brunt, no matter whether bought by speculators or not.

A large proportion of this loss can reasonably be charged up to the discriminating duty of \$1.11 per bbl. preference, under which American apples enter Germany.

HIGH STANDARD OF EFFICIENCY.

Enclosed find \$1.50, subscription for the current year. I must congratulate you on the high standard of efficiency to which your valuable paper has been brought. The various letters from correspondents on subjects of controversy are both interesting and at times amusing, especially those relating to that useful animal, the hog. Your paper is always a welcome visitor, and the information and knowledge derived by a close study of the various subjects set forth in its columns every week, cannot help but be of great assistance to the most progressive farmer in our land.

Grenville Co., Ont.

MAJOR, D. W. BECKETT.

BLACK TEA FOR CALF SCOURS.

I keep just one registered cow, and last June her calf died with white scours. I enquired of some of the large breeders, and one of them told me to give a cup of black tea, the same as I would drink it myself. I have had two similar cases since, and cured them with the tea. I am writing this to help others, who may not know of this remedy, as I know of dozens of calves that died of the same trouble.

Grey Co., Ont.

WM. McKENZIE.

5 advantages of opening a Savings Account with

THE TRADERS BANK OF CANADA

Incorporated 1885.

- 1 dollar opens an account. 2 persons may open a joint account and either may draw cheques. 3 % interest paid on deposits, which is added 4 times a year. 5 million dollars capital and rest, and assets \$34,000,000.

One of the 75 branches of this bank is convenient to you. Your account is invited.

MARKETS.

TORONTO.

LIVE STOCK.

The total receipts of live stock at the City and Junction markets last week were 176 carloads, composed of 2,754 cattle, 1,596 hogs, 909 sheep, 164 calves, and 175 horses.

Receipts of stock at the Junction on Monday, 24th, were 65 carloads, including 1,027 cattle, 223 hogs, 247 sheep, 33 calves, 73 horses.

Exporters.—Trade was dull last week, owing to scarcity of shipping space on ocean steamers.

Butchers.—Prime picked lots sold last week at \$4.75 to \$5.10; loads of good, \$4.40 to \$4.65; medium, \$4.10 to \$4.30; common, \$3.60 to \$3.90; cows, \$3 to \$3.85; canners, \$1 to \$1.50.

Stockers and Feeders.—There were none on sale. Milkers and Springers.—About 60 milkers and springers sold at \$30 to \$50, with one or two of extra quality at \$60.00.

Veal Calves.—Prices ranged from \$4 to \$7 per cwt. Choice-quality calves are scarce and wanted.

Sheep and Lambs.—All offerings of good quality sheep and lambs met a strong market. Export ewes sold at \$4 to \$4.50 per cwt.; rams and culls, \$3.50 to \$4 per cwt.; yearling ewes and wethers, \$5 to \$5.50 per cwt. for butchers' purposes, on the local market; lambs sold from \$5.50 to \$6.75 per cwt.

Hogs.—Packers reported prices unchanged at \$5.15 for selects, fed and watered, and \$4.90 to drovers, at country points, f. o. b. cars.

Horses.—The receipts of horses at the Junction horse market last week were large, over 175 from all sources, many being brought in by farmers and city delivery firms.

BREADSTUFFS.

Wheat.—No. 2 white, 98c.; No. 2 red, 99c.; No. 2, mixed, 96c., all sellers' quotations; spring wheat, No. 2 Ontario, 90c.; No. 2 Goose, sellers, 92c. Manitoba, No. 1 Northern, \$1.17; No. 2 Northern, buyers offer \$1.15 at Port Huron.

Barley.—No. 2, sellers, 75c.; buyers are offering 71c. to 73c.

Oats.—No. 2 white, sellers, 52c.; No. 2, mixed, 49c. to 50c., outside.

Rye.—No. 2, 84c. to 85c.

Peas.—No. 2, 85c. to 86c.

Corn.—No. 3 yellow, sellers, at 65c., at Toronto.

Buckwheat.—No. 2, 65c. to 66c.

Bran.—Sellers, at \$23.75 for car lots.

Shorts.—In buyers' bags, \$24 per ton.

Flour.—90 per cent. Ontario patent, \$3.60 bid, for export. Manitoba patent, special brands, \$6; second patents, \$5.40; strong bakers', \$5.30.

COUNTRY PRODUCE.

Butter.—Receipts limited; Market firm at unchanged quotations. Creamery, pound rolls, 30c. to 31c.; creamery, boxes, 28c. to 29c.; dairy, pound rolls, 25c. to 26c.; tubs, 23c. to 24c.

Eggs.—New-laid, market easy at 30c. per doz., by the case. Cold-storage eggs, 21c. to 22c. On the farmers' market, strictly new-laid eggs sold at 30c. to 35c.

Cheese.—Market firm. Large, 13c.; twins, 14c.

Honey.—Extracted, 11c. to 12c.; combs, \$2.75 to \$3 per doz., for choice clover honey; lower grades, \$2 per doz.

Potatoes.—Market firmer at 95c. to \$1 per bag, for car lots, on track at Toronto.

Poultry.—Market quiet. Receipts light, but equal to demand. Turkeys, dressed, 16c. per lb.; geese, 10c.; ducks, 11c. to 12c.; chickens, 12c. to 14c.; old fowl, 8c. to 9c.

Beans.—Market firm. Primes, \$1.70 to \$1.75; hand-picked, \$1.80 to \$1.85.

Hay.—No. 1 timothy, \$16 to \$17, in car lots of baled, on track at Toronto.

Straw.—Market easy, at \$9 to \$10 for car lots, baled, on track at Toronto.

TORONTO FRUIT MARKET.

Inferior-quality apples are plentiful, and slow sale, at low prices, at \$1.50 to \$2.50 per bbl. Choice No. 1 winter apples are scarce at \$3.50 to \$4; the latter price being demanded from dealers, who have them in cold storage, and who prefer leaving them there in preference to taking less money for them.

Farmers' loads of No. 2 Winter apples, such as Spies, sell at \$2.50 per bbl., by the load, and \$3 for single barrels, delivered.

Onions.—Market firmer at \$1.25 to \$1.40 per bag from gardeners.

TORONTO SEED MARKET.

At present there is an improvement in the seed market, with prices firmer. The Wm. Rennie Co. report prices as follows: Alsike, fancy, \$9 to \$9.25; No. 1 alsike, \$8.25 to \$8.75; No. 2 alsike, \$6.75 to \$7.25; fancy samples of red, \$11; No. 1 red, \$10 to \$10.50.

HIDES AND TALLOW.

The E. T. Carter & Co., 85 Front St., East, Toronto, are paying the following prices: Inspected hides, No. 1 cows and steers, 6c.; inspected hides,

No. 2 cows and steers, 5c.; country hides, cured, 4c. to 4c.; calf skins, 8c. to 9c.; kips, 6c. to 7c.; horse hides, No. 1, each, \$2.50; horse hides, No. 2, each, \$1.50; horse hair, 25c.; tallow, 4c. to 5c.; lamb skins, 80c. to 90c.

MONTREAL.

Live Stock.—Shipments of live stock from the ports of St. John, N. B., and Portland, Me., during the week ending Feb. 15, amounted to 1,956 head of cattle, and 1,397 sheep, against 1,422 cattle and 1,000 sheep the previous week. Roads have become once more passable. Traffic has about reached normal proportions, and the supply of live stock on the local market has increased to about its former volume.

Horses.—Some dealers report an unexpectedly good demand last week. It was generally thought that lumbermen had finished purchasing some time since, yet the demand last week was from that source.

Potatoes.—There has been a slump in prices from the high level of two weeks ago, owing to the fact that the roads have become passable and shippers have been rushing the stock into the city in order to get advantage of the high figures.

Eggs.—Last week the market for eggs experienced a break, owing to an unexpected increase in receipts of new-laid.

Butter.—Market for butter has been very firm, with prices advancing from time to time. Several large holders were completely sold out last week.

Cheese.—Market anything but active, though it is said that interest in the situation is being again roused in England.

Flour and Feed.—Market active on all lines, although there is no export demand. Dealers are holding off more than they otherwise would, owing to the

declining wheat markets. Prices of flour, however, have remained firm, at \$5.50 for Manitoba strong bakers', and \$6.10 for patents. Manitoba bran, in bags, is \$28 per ton, and shorts, \$24.

Hay.—The market is steady, but very firm, No. 1 timothy being quoted at \$15.50 to \$16.50 per ton, No. 2 being \$13.50 to \$14.50; clover-mixture, \$12.50 to \$13, and clover, \$11.50 to \$12 per ton.

Hayseed.—Demand from different sections very active, and market firm. Red clover, slightly higher, at \$22.50 to \$24.50 per 100 lbs. in bag lots, here, alsike being \$17 to \$20, and timothy, \$6 to \$7.50.

Hides.—The market last week showed no change. Demand light.

BUFFALO.

Cattle.—Prime steers, \$5.75 to \$6. Veals.—\$5 to \$8.50.

Hogs.—Heavy, \$4.55 to \$4.65; mixed and Yorkers, \$4.60 to \$4.70; pigs, \$4 to \$4.60; roughs \$3.80 to \$4.10; stags, \$3 to \$3.25; dairies, \$4.50 to \$4.60.

Sheep and Lambs.—Lambs, \$5 to \$7.35; yearlings, \$6.25 to \$6.50; wethers, \$5.50 to \$6; ewes, \$5.25 to \$5.65; mixed, \$2 to \$5.75.

CHICAGO.

Cattle.—Beeves, \$3.50 to \$6.10; cows and heifers, \$1.85 to \$4.75; Westerners, \$3.90 to \$4.75; stockers and feeders, \$2.75 to \$4.80.

Hogs.—light, \$4 to \$4.22; mixed, \$4.05 to \$4.30; heavy, \$4.05 to \$4.30; pigs, \$3.50 to \$4.15; bulk of sales, \$4.20 to \$4.25.

Sheep and Lambs.—Native, \$3 to \$5.80; Western, \$3.20 to \$5.25; yearlings, \$5.40 to \$6.25; lambs, \$5 to \$6.90; Western, \$5 to \$6.90.

BRITISH CATTLE MARKET.

Liverpool.—States steers, 12c. to 12c.; Canadians, 11c. to 12c.; cows, 11c.; bulls, 10c. Better demand, and trade brisk.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1 must be enclosed.

Miscellaneous.

ABORTION IN COWS.

1. Would you kindly tell me what is the cause of cows losing their calves? I have had three lose their calves this winter after they had gone about seven months.

2. Can I do anything to prevent them, and what?

3. Are they liable to do this another year?

4. Will the cows standing next to them take it from them?

NEW SUBSCRIBER.

Ans.—See answer to similar question in this paper.

TANNING WOODCHUCK SKINS.

Could you give a good, simple recipe for curing woodchuck hides? We are very much pleased with "The Farmer's Advocate."

G. H.

Ans.—It is better to send the skins to a tannery. If, however, you wish to do the work yourself, proceed as follows: Soak in soft water for two or three days, or until soft; then scrape off all the flesh and fat.

Next put the skin into a tan composed of equal parts of alum and salt dissolved in hot water, in the proportion of 7 lbs. alum and salt to 12 lbs. water.

Leave in this two or three days, then hang up and scrape, or shave, to soften it. Put back in the brine again for a day or two, then scrape and rub again.

Now apply a coat of oil, roll up in damp sawdust, and lay away till dry. Apply a coat of soft soap, and lay away again in sawdust. It is very necessary that scraping and shaving be well done. Dragging the skin back and forth over a round pole will help to make the skin soft and pliable.



Life, Literature and Education.

[Contributions on all subjects of popular interest are always welcome in this Department.]

CANADA BEAUTIFUL.

[Begin this spring a campaign for the beautification of your own home. So will you serve yourself and your country, for when all the homes have been so improved the Dominion may well lay claim to the title which should be hers, "Canada Beautiful."]

LAYING OUT HOME GROUNDS.

Without doubt, the cheapest method of having attractive home surroundings is by the use of grass, trees and shrubs. A well-kept grass-plot, with a natural-looking mass of evergreens faced by shrubbery here, a few fine hardwood trees to throw a broad shade there, and some shrubs banked about the house to make it appear a part of the scene, may afford all the elements of dignity, simplicity and homelikeness, yet will require very little care. Not one of the three—trees, grass, shrubs—can be dispensed with. If, however, to these can be added a few vines about the house, a flower-garden at the side or back, a summer house at some point of vantage commanding a fine view, and a pergola leading to some spot towards which a shaded walk is a thing to be desired, surroundings which were merely attractive before may become a dream of beauty.

You can't, however, plant hit-or-miss and evolve anything much better than a nightmare, so far as landscape gardening is concerned. In this, as in everything else worth doing, infinite care is necessary, and much thought.

In the first place, it is necessary, in order to have a harmonious whole, to have the grounds in proportion to the size and character of the house. Large, park-like grounds, no matter how well kept, would look ridiculous with a "dinky" little house only suited to a cottage garden as their center. Equally ridiculous would be an immense house in the middle of a paddock. . . Carry your imagination further and picture a plain, prosaic domicile, without one mark of individuality about it, standing sentry over a formal Italian garden fit only for a section of palace grounds; or a really artistic abode, with sloping roof, picturesque chimneys, small-paned windows, and all—which would fairly revel in big, gnarled trees and clambering vines—posted at the head of a grass-plot adorned by two geranium beds and four rows of evergreens trimmed like haycocks. . . Now, you see, do you not, what is meant by saying that the grounds should harmonize with the size and character of the house?

Having decided upon the size and general idea of the grounds, the next step is to draw a map—no, ten or a dozen maps—of possible arrangements for them. Place the house first, then imagine different

placings of walks, tree masses, single trees, driveways, etc., indicating each feature as you think of it. Finally, compare the maps, and choose the one that appeals to you as most artistic.

For the lawn, you will, of course, leave a goodly space free of trees—except, perhaps, a big tree or two at the end of the veranda or directly in front of the house. There is reason in this. Your rooms need light and the free circulation of air; besides, the effect of an open lawn space is attractive.

There are, you know, bluish trees; trees with green, bronze, silver, or even almost black foliage. Don't "spot" these; mass them somehow so that the effect will be agreeable.

Don't forget, either, to provide for shrubbery near the house, and, if there is to be a flower garden, place it at the side or back. Some flowers along the driveway may possibly be advisable, also, if you have time to attend to so many. A pergola should never occupy a conspicuous place on the front lawn. It also

children, or a place to which the housewife may take bits of work which she would not care to carry to the front lawn. It is very essential that the back yard be quite as pretty as the front lawn—only different, more cosy and homey. There should not be an ugly thing in it. Even the clothes-posts may be made things of beauty if covered with vines, or if made of cement and topped with an open-work cement Japanese lantern.

Walks should be few in number. One path from gate to house is usually enough, and it, as a rule, should run at the side of the lawn (unless the latter is quite large), and should reach the house as directly as possible. The same may be said in regard to the driveway. In both, a graceful curve here and there may be an improvement, but it should only come where necessary, or where rendered apparently necessary by clumps of trees or shrubbery; otherwise, a sinuous winding in and out, without rhyme or reason, seems only foolish—exasperating, even—giving one a desire to leave the beaten way and cut across the grass-plots. The driveway should, of course, come close enough to the house to be convenient to both front and back doors, but it should never, under any consideration, go quite around it, or even describe a flourishing circle on the front lawn, such as is sometimes seen. The walks about the house should, for the sake of cleanliness, be of flat stone, brick or cement. If of cement, it is well to add a little of some coloring pigment to the mixture, to deaden the white glare which is usually so trying on the eyes. Lampblack is a cheap coloring matter, which may be used to produce an agreeable slate shade.

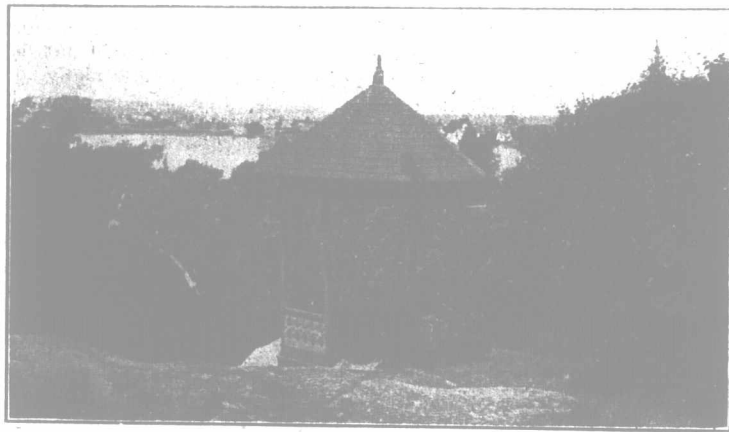
For back-yard fences, nothing is much prettier than wire-netting, up which light annual vines, such as morning glory, scarlet runner, tall nasturtiums, canary vine, or Alleghany vine, may be trained. In stony regions, well-built stone fences may be built, and will be found substantial and picturesque, forming a fine background for sturdy vines or wild-rose or briar bushes. In this country we have not yet learned the decorative value of such fences, although in the Old Country, and in parts of the United States, they are much used, and are steadily growing in favor.

Now for a few Don'ts:

Be chary about hedges which require exact trimming. They may look well enough in some situations, but must be kept perfect, else they are likely to be an eyesore. So-called "natural" hedges, made up of shrubbery which may be left to grow as it will—barberry, honeysuckle, Philadelphus, lilacs, etc.—are much better for a farm, especially in positions in which the hedge should serve as a screen.

Don't strive to attain unique or odd effects anywhere. You will soon tire of them, and they are pretty nearly sure to make your home appear like an excrescence on the landscape, instead of a spot of beauty which appears to have grown up in it.

Don't have terraces. They are hard to keep clipped, dry out quickly, and get full of ants. Anyway,



A Summer House at Some Point of Vantage Commanding a Fine View.

In planning for the trees, you will, if you are wise, place no small confidence in massed effects. Study nature in this. She loves to mass—trees, shrubs, flowers—and her arrangements are never inharmonious. If there is a bleak northern exposure, mass evergreens along at some little distance from the house; they will be protective, as well as ornamental. In other parts you may find it advisable to mix evergreens and hardwood trees, or to use hardwood trees alone; this must be a matter for your own taste to decide. But, whatever you do, provide that the coloring of your trees is harmonious.

should be at the side or back, and should lead to "somewhere," to a point from which a fine view may be had, to a flower garden, or even to a vegetable garden—anything to give a reason for its being. Its greatest use will, of course, be as a pleasant place in which to saunter or lounge on a hot day. Pergolas are often used, also, as a screen for some objectionable feature in the landscape.

Whether you have a pergola or not, be sure to have one or two trees in the back yard, broad-branched kinds that will throw a good shade and afford a convenient play-spot for the



An Attractive Back Yard.

(The pergola might be made much less expensive than this.)

they are out of place anywhere but in a formal garden, which is entirely unsuited to the farm.

Don't trim trees into stiff shapes. As usually seen, grounds adorned with such trees remind one of nothing so much as cemeteries "in green."

Don't plaster rows of whitewashed stones along walks or flower-borders, and don't make rockeries. They never look natural, and are seldom beautiful.

Don't indulge in "rustic" seats, with bumps on them which rub your temper as well as your flesh into ridges. See to it that the lawn seats are at least comfortable.

Don't touch with a forty-foot pole such lawn horrors as iron dogs and deer, cemetery-like urns and flower vases, old boats filled with flowers, or "camp-fires" made of a tripod, from which an old teakettle filled with blue lobelia to represent smoke, hangs over a bed of red geraniums and nasturtiums to represent fire. People who look at gardens shouldn't be expected to have Munchausen imaginations.

Above all things, in landscape gardening, study nature. You may be sure that in this matter, at least, she will teach you "more than the sages can."

MAKING A LAWN.

The best soil for a lawn is a rich, moist, well-dressed loam, but, as ideal conditions seldom exist naturally, some sort of doctoring is usually necessary. For instance, soil which is too wet must be underdrained; if too sandy, it requires the addition of clay; if too heavy, sand must be added, etc. In any case, it must be thoroughly worked up with old, well-rotted stable manure, then rolled to form a fine, even seed-bed.

The form will depend upon the way in which it is to be laid out. As a rule, a small lawn should be either level or sloping upward somewhat towards the house. In certain situations, however, it may be slightly convex, a device which is sometimes resorted to to give an effect of greater distance. Large grounds, on the other hand, may roll, or even ascend, in places, into hills or bluffs, but all disfiguring knolls and ridges must be cut away, and all undesirable hollows filled.

Lawn seed may be bought ready mixed in the right proportions. It is necessary, however, to purchase it from reliable seedsmen who will guarantee it well cleaned. Most people prefer a mixture which consists in part of white clover, whose leaves tend to form a close mat of pleasing green.

Seeding should be done in early spring, or in fall, about the latter part of August, and the seed should be applied quite heavily, say from three to five bushels per acre, in order to form a close cover and keep down weeds. When the latter appear, they should be dug out, root and branch, as cutting them off only tends, often, to aggravate the evil.

The practice of spreading stable manure over a lawn, either in fall or spring, is most reprehensible. It is quite as necessary to have home surroundings attractive in winter as in summer, and snow cannot always be depended upon to cover up such disfigurement. When the grass needs fertilizing, a sprinkling of sheep manure or hardwood ashes in spring, during the April rains, will be found efficient.

RE RURALITE'S SUGGESTION.

I was much pleased to read the suggestion made by "Ruralite" in the issue of Jan. 2nd, but I would like to add a little to it. His idea is a good one, but not quite comprehensive enough.

There are already people who are quite willing to improve and beautify the front lawn, but they stop there; the less said of their back yards, the better. Surely, if we can afford but one small garden, one group of shrubs or trees, the proper place for

it is where those who live in the house can get most good of it. For, after all, it is not for the passer-by we should plant our trees and flowers, but that we who work over them may see and enjoy them as we go to and from our work.

Do you know that you can read a man's character in the condition of his lawns and yards? If you know a man who plows as close as pos-

He is two-faced—a friend to your face, and a foe when your back is turned. But find a man whose spacious lawn are adorned by tastefully-arranged groups of trees and shrubs, growing as nature intended they should grow (not those hideous "buns" some people think are "perfectly lovely"), his back yards nicely sodded and bordered with shrubs and flowers, his lanes and back fences

But let us all learn well the lesson that when we attempt to beautify our homes we must have a harmonious whole in our minds, not a grand front and a hideous back. If we cannot afford a single tree or shrub, we can all have clean sod, which in itself is a thing of beauty. BERTOLET.

HOW FARMERS MAY LEARN TO SPEAK IN PUBLIC.

Editor "The Farmer's Advocate":

I was greatly interested while reading an article in your Jan. 30th issue, by Walter Simpson, regarding the "Farmers' Literary Society." He states that this society has been organized for twenty years. In that time it certainly should have done a great deal of good. We have had a society organized in our section for four years, and, with the hope that some encouragement may be given to some of your readers to do likewise, I am going to give you a short account of how we manage.

First, it was necessary to organize. To do this, we called a meeting of the residents of the section, and had a committee appointed to draft a constitution. This committee reported at a subsequent meeting, and the constitution was adopted. This constitution, including by-laws and rules of order, is based upon Parliamentary usage.

We were now ready to transact business. Our executive committee, consisting of honorary president, president, vice-president, financial secretary and treasurer, are elected at the beginning of each year. These officers look after the business of the society, and are responsible for the weekly programmes. Besides these officers, we elect a chairman and a recording-secretary every two weeks. These are the presiding officers. The reason for changing them so often is to give each member an opportunity to learn how to perform these very important duties. The president only presides at the annual and any special meeting.

What about the financial side? Each member pays an annual fee of ten cents. This small fee encourages every person interested to join. With the funds thus obtained we pay for our oil, fuel and other running expenses. We also secure funds by preparing an up-to-date concert each year. With the money secured in this way we have supplied the school with a good organ, a writing-table, a school clock, and have also given the School Board handsome donations of cash, to be used in making further purchases of books for the school library.

The weekly programmes are always very interesting. We have a good old-fashioned debate each meeting, about eight members speaking. Each speaker is limited to ten minutes. The debate is seasoned with instrumental selections, songs and readings, with an occasional address. For debates, we consider such subjects as will develop the political, industrial, social and moral knowledge of the members. Examples of such subjects are: Resolved that—"India is of More Importance to the British Empire than Canada"; "Reciprocity with the United States Would be Advisable"; "Emigration into Canada Should be Limited by Law"; "Country Life is Preferable to City Life"; "Ontario Offers More Advantages to a Young Man than the Western Provinces"; "Bonuses to Manufacturers Should be Discontinued." Scores of such topics as these, where strong points can be made on both sides, may be proposed.

The old saying that "silence is golden" has not worked out to be true as far as the public utterances of farmers are concerned. Let each rural district organize its debating society, where farmers may be taught to feel at home on the public platform. It is time that farmers were more truly represented in our Governments. We have been represented long enough by manufacturers, law-



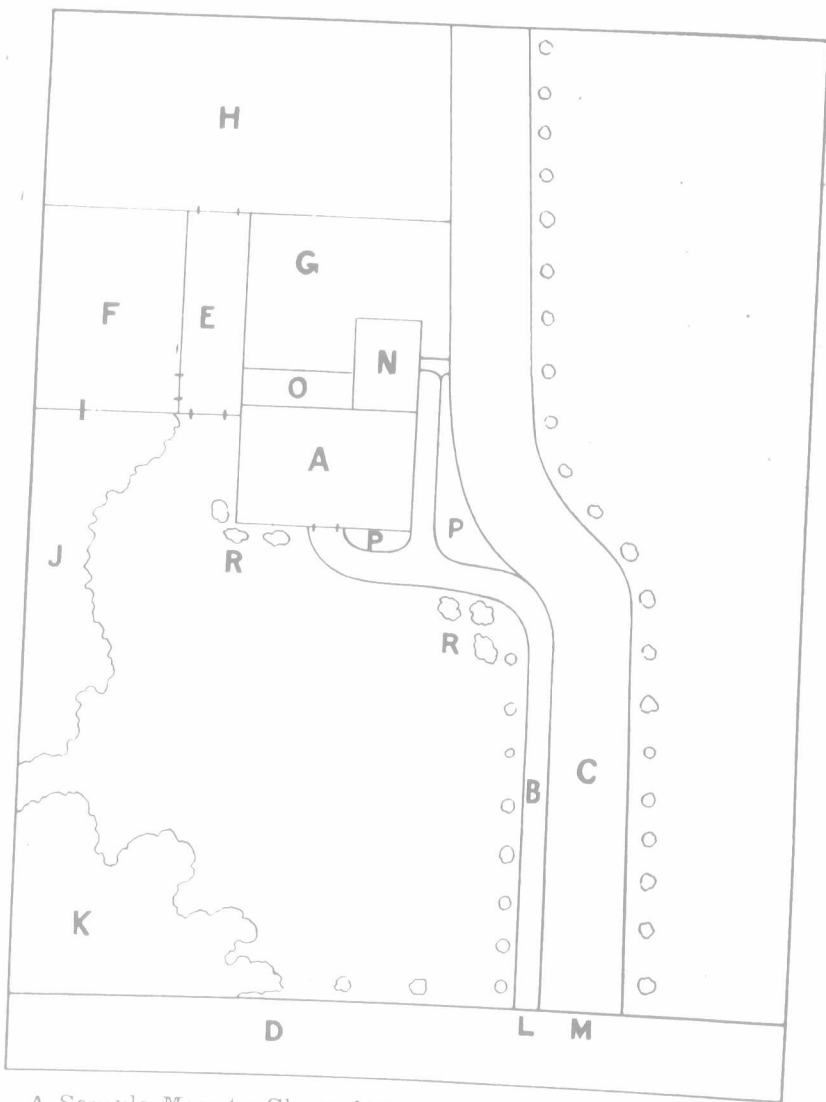
The Possibilities of a Well-built Stone Fence.

(From Killaway's "How to Lay Out Suburban Grounds.")

sible to the house or the shade trees, lest a foot of ground be lying idle, watch him carefully in business or he will take the advantage of you if he can get it. Does he leave his implements wherever he stops working, his gate on one hinge, and half the pickets off his fence? He will borrow ten dollars some day, and forget he owes you a cent. Is his front lawn and fence a model of neatness, and his back yard a pandemonium of boots, bones and bottles?

straight and businesslike, and free of burrs and brush—then you have found an honest man, who will look you in the face, deal honorably with his neighbors, and who loves his home and family better than he does the hotel and corner grocery.

So, if we are to have plans of lawns, let them be plans of farm grounds in their entirety—front and back lawns, gardens, and location of buildings. If varieties of trees and shrubs are given, so much the better.



A Sample Map to Show Arrangement of Home Grounds.

A, house; N, shed; O, back veranda; J, K, clumps of trees to north of front lawn; B, shrubbery; P, flowers; C, path; D, driveway; L, M, small and large gates; I, high fence; F, laundry-yard or tennis court; E, pergola; G, flower garden; H, vegetable garden; D, highway.

yers and doctors, who, by making witty, bombastic, flattering campaign speeches, have led us too often to believe they were working for our benefit, while they were filling their own and their friends' pockets. How else, by a single stroke of the pen, and without levying a tax upon its shareholders, could a manufacturing concern in a certain Canadian city, by watering its stock, recently raise its capital stock from \$1,500,000 to \$5,000,000? Farmers have been feeding the manufacturers long enough. Let the shining lights in the rural districts raise up their voices against the indirect taxation imposed upon them by duties being levied upon farming commodities, and by bonuses and rebates given to manufacturers. By so doing, the farmers will become a power to be reckoned with in this land—a power that will influence our Governments to such an extent that, instead of fattening manufacturers, we will pay off our mortgages, and thus be raised to a higher plane, where we may really and truly be called the "backbone of this country."

B. J. WATERS.
Middlesex Co., Ont.

The Quiet Hour.

COMMIT THY WAY UNTO THE LORD

"Delight thyself also on the Lord; and He shall give thee the desires of thine heart. Commit thy way unto the Lord; trust also in Him; and He shall bring it to pass."—Ps. xxxviii, 4, 5.

"Let those who have failed take courage, Though the enemy seem to have won; Though his ranks be strong—if he's in the wrong
The battle is not yet done;
For, sure as the morning follows
The darkest hour of the night,
No question is ever settled
Until it is settled right."

I think it is Tolstoi who says that the chief aim of everyone is happiness. Whether he is right in that assertion or not, at least it would be a great satisfaction to anyone to know that he would certainly obtain his heart's desire. Even Christ was nerved to endure, because He knew He should obtain His heart's desire—the salvation of the human race. The promise could not be broken: "He shall see of the travail of His soul, and shall be satisfied." Because of the "joy that was set before Him," He was strong to endure the cross, despising the shame. We too have a sure promise that God will give us our heart's desire, on condition that we delight in the Lord and commit our way unto Him, trusting in Him and waiting patiently His time for giving it to us. If our hearts are set on wickedness, or if our desires are only for earthly blessings, then we can hardly be said to "delight in the Lord," and so have no right to claim the promise. But if we do delight in Him, then, no matter how tangled life appears to be, we may safely trust Him to settle our affairs in a way which will be perfectly satisfactory to us. It is a fatal mistake to try to gain what we want by wrong means. Pilate found that out, when he condemned the innocent in order to secure himself against the danger of being accused to Cæsar. He did not dare to do the right thing, leaving the consequences in God's hands; and, just because he chose his own path instead of committing it unto the Lord, the very danger he was trying to escape came upon him. Judas also, because he set his heart on riches, lost his heart's desire by the very means he took to win it. The 30 pieces of silver he obtained by such awful wickedness were of no use to him, for he at once flung away the money which burned his soul with agonizing remorse; and he died by his own act, even before the Master he had betrayed. Satan gave him his heart's desire—the money he wanted—and, if we don't want the granting of our wishes to bring us misery and make us loathe as he did, the very things we coveted, we must take care to delight in the Lord and commit our way to Him. I once read a very fanciful sketch, by Edward Everett Hale, which is intended

to show the harm men can do by trying to interfere with God's plans. The writer imagines himself to be taking an outside view of the world; and is standing, accompanied by a mysterious companion, watching the drama of Joseph sold by his brethren. He sees the captive steal away from the camp that night, and is distressed because two dogs bark at him. Joseph takes a stone and kills one dog, but failed to hit the other. The looker-on is eager to help, and reaches out his hand to kill the dog, but is forbidden by his companion to touch it. He is told that God will allow no one to interfere with His management of the world, but that he may try any experiments he likes on a shadow world to which his attention is directed, and which looks exactly like the real one. So he kills the dog in the shadow world, and, in consequence, Joseph's escape is not detected, so he finds his way home, and goes into the tent where his father is weeping over his bloodstained coat. Jacob's tears are changed to smiles; and the brothers, who have already repented, are greatly relieved to see that the consequences of their sin are averted. The looker-on congratulates himself on the good he has done, and everything seems happy and comfortable.

Time rolls on, and the seven years of plenty come, but there is no Joseph in Egypt to store up the grain. The people waste it, even burning some to make room for the next harvest.

Then follow the seven years of famine, and there is no corn in Egypt, so Jacob and his family die of starvation, and the knowledge of the true God dies with them. The few men who survive the long-continued famine are fierce and lawless, so they soon destroy one another. Then the man who had interfered with the management of the world understands how much mischief he has done with his meddling, and is filled with grief, because he sees that he is responsible for the destruction of the whole human race. With the best intentions, he has made a muddle of everything, because he could not see ahead. Then his companion reminds him that the people he thinks he has destroyed are only shadows, and that the real world is all right: God has allowed no one to interfere with His wise management of it. Of course, the story is an absurd one, but no one can fail to see the point of it. If Joseph had been allowed to choose his own lot, he would certainly not have chosen to be sold as a slave. He may have thought that he could have ordered his own life much more satisfactorily, if he had been given his own way. But in God's stern school, he grew noble, both in character and in social position; while, if he had chosen for himself, he would probably have been spoiled by his indulgent father, and would have lost the opportunity of becoming a saviour of men and a type of the Great Saviour, who also went down to the lowest depths that He might save His brethren.

If we really commit our way unto the Lord, we can hardly know the meaning of disappointment or anxiety. The troubles which come—or which we think are coming—are in God's hands; so we know that whatever happens must be best for us. Then, if we delight in the Lord, and trust the desire of our heart to Him, we have the sure promise that "He shall bring it to pass."

"I cannot always see the way that leads
To heights above;
I sometimes quite forget He leads me on
With hand of love;
But yet I know the path must lead me to
Immanuel's land,
And when I reach life's summit I shall know
And understand."

A THOUGHT FOR THE COMING WEEK.

"All things work together for good to them that love God."—Rom. viii., 28.

Could anything be more satisfactory than that promise? Even though things may seem to be working together for evil—as they certainly appeared to be doing in Joseph's case—we may be quite sure that if God is our Guide, our road must lead straight on to the light.

When our Leader walked steadily on towards the Cross, He knew that joy lay beyond it. Sorrow and death are not the end, and all must be well with the world, for God is its King.

Joseph told his brethren that they could not injure him, for when they thought evil against him, God meant it unto good, to save much people alive. In the same way, when wicked men conspired against Christ, they were only able to do "whatsoever God's hand and counsel determined before to be done." Let us then commit our way unto the Lord willingly, for we have no power to alter His plans. As it has been beautifully said:

"Nothing done out of our daily path of love and duty, no fretting nor chafing, will turn over the next page in the story for us, because a larger, stronger Hand than ours holds the leaves together, and simply in clinging to that Hand must we walk straight on, and never mind our longings to see the end, however intense they may be. Some day we shall read the story from first to last, and see clearly the Divine meaning of the whole; see it with smiling, not streaming eyes, with folded, not struggling hand."

"Man's life is laid in the loom of time
To a pattern he does not see.
While the weaver works and the shuttles fly
Till the dawn of eternity.
Some shuttles are filled with silver thread,
And some with threads of gold;
While often but the darker hue
Is all that they may hold.

"But the weaver watches with skillful eye
Each shuttle fly to and fro,
And sees the pattern so deftly wrought
As the loom moves sure and slow.
God surely planned the pattern—
Each thread, the dark and fair
Is chosen by his master skill
And placed in the web with care.

"He only knows its beauty,
And guides the shuttles which hold
The threads so unattractive,
As well as the threads of gold.
Not till each loom is silent
And the shuttles cease to fly,
Shall God unroll the pattern
And explain the reason why
The dark threads were as needful
In the weaver's skillful hand,
As the threads of gold and silver,
For the pattern which he planned."
HOPE.

Current Events.

General Stoessel has been condemned to death by a military court for the surrender of Port Arthur.

The G. T. P. Railway Co. will put sixty-two town sites west of Winnipeg on sale in the spring.

The Electrical Development Co., which operates a plant at Niagara Falls, has been reorganized, and is now under control of Mr. William MacKenzie.

A meeting of the directors of the Quebec Bridge Company was held in Quebec on Feb. 15th, to consider the reconstruction of the bridge at as early a date as possible.

Hon. Mr. Fielding has given notice of a resolution providing for the establishing of a system of Government annuities, whereby the people of Canada may provide for old age.

There are more than 80,000 workmen idle in Berlin, Germany, and distress increases daily. The Socialists are making a determined effort to induce the Government to afford relief.

Relations between Russia and Sweden have become strained, owing to the fact that Russia, in defiance of her agreement to place no naval station on the Finnish shores adjacent to Sweden, is making arrange-

ments for the establishment of one at Aland Island.

There are at least 90,000 unemployed in New York. The slackness in building and manufactures due to the financial stringency, consequent on the refusal of the banks to give assistance, is the cause of the unprecedented number who cannot find work.

Children's Corner.

[All letters intended for the Children's Corner must be addressed to Cousin Dorothy, 52 Victor Ave., Toronto.]

JACK'S VALENTINE.

Jack, he bought a valentine
As fine as it could be;
That was for his teacher dear,
As anyone might see.

Next he bought a dainty one
All made of paper lace;
That was for the little girl
Who had the sweetest face.

Then, he bought a funny one,
As funny as you'd find;
When he bought this, you could see,
He had his chum in mind.

The teacher and the little maid
Were happy, but alack!
The "chum" not knowing whence it came
Mailed his, right off, to—Jack!
—Blanche E. Wade, in St. Nicholas.

A GOOD LESSON.

A gentleman who was fond of flowers had a lovely garden. But the children who lived near by would often steal in and pick the flowers, if the gate was left open. One day a little fellow was picking away busily, when the gentleman's dog spied him. He trotted out, turned the boy over on his face, seized him by his clothes, and went out of the gate. Down the road was a pool of water, not deep enough to drown him; and into the pool the dog dropped the little thief. No more children came into the garden after that.

ANOTHER DOG STORY.

A shepherd, going over the Grampian Hills in Scotland to collect his flock, took his little boy of four with him. After a while he had to go up a hill, and thought he would leave the boy at the bottom. But when he got to the top, a mist—a common thing in that country—came on, and he could not see a yard before him. He hunted everywhere, but could neither find the boy nor the dog. Next morning he tried again, but again came home without the boy. But the dog had come back, and when he was given a piece of bread, immediately went off with it. After the poor shepherd had hunted for two or three days, he made up his mind, as a last hope, to follow the dog, who came daily for food, and always carried it away. Away went the dog, and after him, the shepherd, along a rough path leading to a sort of cave. In the cave lay the boy, thin and weak to be sure, but alive, and munching the piece of bread the good dog had just brought.

THE LETTER BOX.

Dear Cousin Dorothy,—I saw in the Ingle Nook a picture of the old bleached house on Bois Blanc Island, and it made me think of writing to the Corner, as some of the timber in it came off our farm many years ago, when my great-grandfather lived on it. I go to Bois Blanc Island every summer, and have a ride on the merry-go-round, which I like very much. I go to school every day, and I am in the Part II. Book. I live on a farm of eighty-four acres. My papa keeps a dairy and sells the milk to the town of Amherstburg, which is only two miles away. Mike, the milk horse, knows the milk customers well. He could go alone if he could dip the milk. For a pet I have a Shetland pony; his name is Nip. If this doesn't find the

waste basket, I will write again and tell you of my trip to Nova Scotia.

DAVID P. BOTSFORD (age 8).
Amherstburg, Ont.
Be sure you do, David. C. D.

Dear Cousin Dorothy,—I go to school, and am in the Senior Third class. I have about one mile and a quarter to go. I like having snow on the ground, because then I have more chances of a ride. I got a new pair of skates for a Christmas present, and I am learning to skate. We had some fun on the ice this winter at recess and noons. I will close with a few riddles:

What word sounds like the letter B?
Ans.—Bee.

Why is a pig in the parlor like a house on fire?
Ans.—The sooner put out, the better.

Why is a kiss over a telephone like a silk hat?
Ans.—Because neither is felt.

Why is a dog with a lame leg like a boy at arithmetic?
Ans.—Because he puts down three and carries one.

What four letters make a thief run?
Ans.—O, I, C, U.

MAY PARSONS (age 12).
Crampton, Ont.

Dear Cousin Dorothy,—It is not very good sleigh-riding down hill, because there is a good deal too much snow, but we are having lots of fun. We have eight cows, when they are not dried up. We are only milking one cow now. We have two horses and two two-year-old colts, coming three in the summer. We have twenty-five hogs. We take "The Farmer's Advocate," and like it. I will close with a riddle: As I looked over my grandfather's wall I heard something give a hoot and a call: Its head was leather, its nose was horn, and never was such a thing as that born. Ans.—A rooster.

WALTER KNOTT (age 9).

Mildred Seabrook (age 13), Fraser-ville, Ont., would like some girl of her own age to write to her.

Dear Cousin Dorothy,—My grandfather has taken "The Farmer's Advocate" ever since it started. I live on a farm. We keep Jersey cattle. I was nine years old last New Year's Day. We have two Manx cats; they have no tails. I think I will close now.

JOSEPHINE McMULLEN.
Zimmerman, Ont.

Dear Cousin Dorothy,—I am a little girl, seven years old. I read the letters in the Children's Corner, and I thought I would write one too. We live on a farm, beside the Otonabee River, about four miles from the City of Peterboro. It is a beautiful place in summer; there are so many boats on the river. I have a pet cat, which I call Muggins. I have one brother Jack. He has a dog he calls Tip. We have a little sister; we call her Rosanna. She is the nicest pet we have.

MARY BELLE TULLY.
River View Farm, Otonabee.

RIDDLES.

What God never sees,
What the king seldom sees,
What we see every day;
Read my riddle, I pray?

Ans.—An equal.

What is the most valuable fish to a newly-married lady?
Ans.—Herring (her ring).

What has four legs, and only one foot?
Ans.—A bed.

What goes over the water, and under the water, and always with its head down?
Ans.—A nail in the bottom of a ship.

What side of a pitcher is the handle on?
Ans.—The outside.

Why do the men in Africa build their pigpens on the west side of their barns?
Ans.—To keep their pigs in.

JESSIE MAYFIELD (age 11).

Dear Cousin Dorothy,—Here are some riddles for the Children's Corner:

1. What is the hardest soap?
Ans.—Castile (cast steel).

2. What has only one foot?
Ans.—A stocking.

3. Why is a dog's tail a curiosity?
Ans.—Because it was never seen before.

4. Which would pay the least to see a show, a duck, a frog, a lamb or a skunk?
Ans.—A duck has a bill; the frog has a greenback; the lamb has four quarters, and the skunk has only a bad scent (cent).

5. What crow is most useful to man?
Ans.—A crowbar.

6. Of what trade is the sun?
Ans.—A tanner.

7. Who is the oldest dandy in America?
Ans.—Yankee Doodle dandy.

8. Where did Queen Isabelle take her pills?
Ans.—In cider (inside her).

9. What is the most popular paper at the summer resort?
Ans.—Fly paper.

Middlesex Co., Ont. W. E. WEEKES.

Dear Cousin Dorothy,—We live about two miles from Meaford. There are a lot of stores, and three hotels, and there are five factories and one being built. I am in the Fourth Book at school. The average attendance at our school is about thirty-five. Our school is red brick, and it has a large number of pictures and maps, two cupboards, a library and an organ.

LUELLA VICKERS (age 12).
Meaford, Ont.

The Ingle Nook.

One day a long time ago, when feeling unusually weary and discouraged, I said to a friend, "Do you ever feel as if life is almost too much for you?" "No," she said, "because I always feel that I can get through the present hour anyway."

The words were a sufficient reproof for me, and for any of us who are worrying when, perhaps, there is no great reason for it. It is always possible to live through the hour; yet how often we go on, piling to-morrow's burdens onto to-day, and not to-morrow's only, but those of next year, and of a lifetime. The foolishness of doing so is apparent when we reflect that not one-tenth of the dreadful things we have feared ever happen. We have conjured up dreadful spectres, and, behold, when we get to the terrible bridge whereon we should meet them, another way is opened, and the spectres are nowhere to be seen.

It is well to prepare for to-morrow, for old age—even the squirrels and bees lay up stores for the winter; but it is not well to worry. Worrying accomplishes

Molasses Tarts.

I am a constant reader of the many valuable recipes in "The Farmer's Advocate." Kindly give the recipe for molasses tarts. A SUBSCRIBER.
Perth Co., Ont.

A filling for molasses tarts, or pie, is made as follows: Two cups molasses, 1 cup sugar, 3 eggs, 1 tablespoon melted butter, 1 lemon, juice and grated rind, and a little nutmeg. Mix together. Pour into paste-lined pie or tart tins, and bake.

Another Ex-School Teacher.

Will you allow a stranger to drop into the Ingle Nook and have a friendly chat over that "imaginary cup of tea"? Although this is my first call I do not feel at all strange among the Chatterers, and I do indeed envy you, "Forget-me-not," because you have personally met our bright Dame Durden. I suppose it would have been rather embarrassing to her if you had given the pen-picture you spoke of, but it would have been very interesting to us.

I would like so much to thank you all for the help you have given me in my housekeeping. I was one of the "school-marm" class who gave up teaching to keep house for a farmer, and you know people seem to have an idea that teachers are very green about housework. I did not know much about it either, but how hard I tried to do everything, and to do it just right. Experience is a good teacher, but many a bright idea has come to me through the Ingle Nook chats, and the recipes have been a veritable boon to me; indeed, every time I prepare a fresh dish for the table, my husband asks: "Well, is this another out of 'The Farmer's Advocate'?" And usually I answer, "Yes." I am afraid I am making a long call, but the tea was good, and I enjoy a cosy chat. MARION.
Peterboro Co., Ont.

Hair on Face and Arms.

A Chatterer wishes to know what will remove hair from the face and arms. The only permanent method is by electricity, an operation which is somewhat painful and rather expensive. It can be performed by almost any dermatologist or masseuse. For lightening the color of the hair, and so rendering it less conspicuous, peroxide of hydrogen may be rubbed on.

A Budget of Questions.

Dear Dame Durden,—After receiving many helpful hints from "The Farmer's Advocate," I have gathered enough courage to ask for some more help. Last fall I intended to get a new dress and jacket of navy blue cloth, but, as we do our own sewing, we did not get around to get it, and I decided to wait till spring for it. Would you advise me to get blue, or is it not going to be worn? Could you, Dame Durden, suggest some way to make both suit and waist to match, or would you like a waist of a different color. I like a heavy waist for winter wear.

I am sixteen years old; quite tall, and not very stout. What is the proper length for the skirt?

Could you name some books of good recitations or readings which would be suitable for socials or parties, and, also, the price, and where I can procure them?

My hair has recently got very stiff, and will not curl at all. I tried washing it, but it did not do any good. Can you tell me anything that would help to soften it?
THELMA.
Essex Co., Ont.

Blue will be worn again this spring. Navy blue is one of the most serviceable colors, but if you are fair, you might prefer "Alice" or "Copenhagen" blue, both pretty shades. I should, if I were you, have a short coat and pleated skirt, and wear white waists; or, for cold days, a plaid waist in harmonizing tints. Make the skirt to your boot tops.

In regard to recitation books, write to the Penn Publishing Co., Philadelphia, for information.

Washing should make your hair soft and fluffy. Use clear soft water, and rub the soap into it, not on the hair. Wash the hair thoroughly, and rinse through two or three waters—clear, soft and tepid; rub with a towel, then shake until nearly dry by taking the lower ends of the hair in your fingers, and jerking in and out to separate the hairs.



The Young Bugler.

Try this for a drawing lesson.

ANOTHER DEBATE.

Dear Cousin Dorothy,—I live on a farm of seventy-five acres, about three-quarters of a mile from the village of Winchester. I think a good debate would be on "Which is the most interesting subject in a public school?" I think history for it deals with men and their doings. I think grammar is a very useful study, but is hard to learn.

HAROLD TIMMINS (age 14).
Winchester, Ont.

There is a certain lad who, it would appear, assents to the old proposition that it is well to have more than one string to one's bow.

The boy was being catechised one day by a well-meaning visitor to the house. "Well, Harry," said the lady, "don't you think you have a chance to be Premier some day?" "Oh, I don't know," answered Harry, "maybe I'll try for it after I get too old to be a pitcher."

President Roosevelt, receiving a delegation of farmers from Central Pennsylvania, said: "Common honesty and common sense are my policies."

nothing, and only dissipates the energy we should have for our daily tasks. We should learn to do our best, then hope for the best.

It is a good thing to have a wholesome amount of faith in the future. The worst isn't bound to happen to us; the best way. "Sufficient unto the day is the evil thereof." If we find something to occupy our attention moment by moment, and resolutely shut out all apprehensions for the future, the day will pass more pleasantly and more profitably than we have imagined it could; and so may it be with to-morrow, and to-morrow.
D. D.

OUR SCRAP BAG.

To keep the hands from being stained, never cut fruit or vegetables dry. Cover them with water, and cut with a wet knife and wet hands.

Keep a small blackboard on the kitchen wall on which to make lists of groceries to be bought. In this way, nothing need be overlooked.

If you want to have early parsley in your garden, start it as soon as possible in boxes in the house. The seed is exceedingly slow to germinate.

Lots of preachers are more stylish, keep themselves so spic-and-span
 You could spot 'em out for preachers if you met 'em walkin' round
 Over on the Fejee Islands, silk hat, long coat, I'll be bound.
 Our man's different, but, I tell you, when it comes to doing good
 There's not one can beat him at it, an' I want this understood.
 Ask the sad folks and the sinful, ask the fallen ones he's raised,
 Ask the sick folks and the poor folks, if you want to hear him praised.
 Orator? Well, maybe not, friends, but in caring for men's souls
 There stand few men half so faithful as the preacher down at Coles."

Carmichael.

BY ANISON NORTH.

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CHAPTER XV.—Continued.

There was, to be sure, one at Ildering, but the round of ten miles about the cliffs, over the very worst roads imaginable, was much less practicable than the fifteen miles to Saintsbury, and, as a rule, at this time of the year, no one ever thought of going by the river. The trip down might possibly be accomplished, but few, especially in cold weather, would be likely to face the return trip.

As evening came on, however, our patient seemed so much worse that we resolved that something must be done, and I determined to run down and have a look at the river, anyway. The fall rains had not been very heavy, and, if the river were not too much swollen, it would be no great task for one of our neighbor boys to run down the stream, and possibly the doctor might be persuaded to come back with him. Could this be done, much less time would be lost than in making the thirty-mile drive to Saintsbury and back.

After putting on my rubbers, a long dark raincoat, and a small, close cap that would not impede my way through the woods, I set off among familiar paths that I could have treaded with certainty, almost, at dead of night.

A brisk walk of half an hour, and a burst through a thicket where the bare twigs formed a hedge, impenetrable, almost, to the sight as the leafy bowers of May, brought me to the river. It was flowing swiftly and darkly, and in good volume, yet I had seen it much worse at this season, and I judged that a pull up it would be but a piece of fun for Jim Hall or Tom Billings.

As I turned to go home again, a glint of something bright among the willows that overhung the stream caught my eye. I looked, strained my eyes in the gathering darkness, then determined to investigate.

A few minutes' hard pushing through the thicket, whose sharp twigs would persist in hitting me in the face, brought me to the spot, and I was astonished to find Tom Billings' new punt lying there, bobbing up and down on the water under the willows, and all supplied with cushions and a rug.

How came it there? Above all things, why should two cushions and a rug be in Tom Billings' boat, all as though tricked out for some fair lady, when big, awkward Tom Billings, with his shock head and watery eyes, would run, almost, at the sight of a girl?

Mystified, and, perhaps, stupidly, I could think of the solution to the problem, and was only glad that the craft was there all ready, it seemed, for the occasion. I would go to Tom Billings and see if he would set out at once.

After some ten minutes, however, the mystery was cleared. At a rift in the wood, where just enough light was gathered to show the whiteness of her face, I met Gay Torrance,

walking rapidly and firmly, as though intent on some business.

Unaccustomed to the lights and shadows, and the multifarious objects of the deep wood, she did not at first see me, especially as I stopped still in astonishment, and might very well have passed in the gloom and my long gray raincoat for one of the weather-beaten trunks that stood round about, but seemed staring ahead, as though thinking on serious matters.

In an instant the meaning of it all flashed upon me, and I stepped before her.

"Gay," I said, hoping not to startle her; but she started back with a low cry, as though I had been some uncouth monster, suddenly appeared from the wood.

"Gay," I said, "where are you going?"

That brought her to herself, and she turned on me like an animal brought to bay.

"What business is it of yours," she said, "where I am going? You are good enough at walking in the woods yourself!"

"And for that very reason," I said, "is there no marvel for my being here. But you, Gay, you never walk in the woods alone."

By this time her eyes had shifted, but she still held her head very erectly.

"Peggie," she said, "I am on an affair of my own. It isn't like you to pry into people's doings, and I am sure you'll not into mine when I tell you that I am just on a bit of private business which will not wait. Now, I must be going."

There was only one thing to be done.

"Gay," I said, stepping close to her, and putting my hand on her arm, "you are going to the river to run away with Dr. Jamieson. Oh, Gay, Gay, you don't know what you are doing!"

As I spoke, she cringed farther and farther from me, but her face, turned toward me, was full of desperate anger.

"Yes," she said, "you have spied it all out well! I am going to run away with Dr. Jamieson, but what is that to you? You are nothing to me, nor I to you. Go home to your farm, where everyone is under your thumb, and leave me to rise or fall as I choose!"

She made as if to go on, but I tightened my hold on her.

"Gay," I said, "in this I am afraid I am my brother's keeper. Oh, Gay, after all that has happened to-day! And you know it all!"

"She lied!" she burst forth, "That woman lied! Don't speak to me about her! Let me go, Peg Mallory! I tell you let me go! You have no right to keep me here!"

"I will not let you go," I said, very firmly. "You must come back with me and go home to your mother. Gay, how can you think of bringing such trouble on her? For her sake come back, and if the woman has lied, the truth will come out, and everything will be all right, you may depend upon it."

She stood looking at the ground for a moment, then, to my surprise, turned quickly round.

"Come," she said, herself setting the pace through the wood.

Not a word was spoken until we had emerged from the thickets and come to the end of the wood-lane.

"Now," she said, "you need come no farther, Peggie, it is light enough here, and I shall not be afraid."

But I was suspicious of her docility.

"I will go home with you, Gay!" I said; and there must have been that in my voice which proclaimed an unalterable decision, for she stopped and faced me, with all the pent-up anger flaming again.

"Yes," she said, "you know it all. You know I will never go home. That I will go back through the wood as soon as I am rid of you. Oh, you are very crafty! You will keep me—us—late for the Ildering train, will you? I tell you, Peg Mallory, you may keep me a

day, or a week, or a month, but it will be all the same in the end, for I will go to him, and nobody can hinder me! So you may as well let me go now, and save a second scene."

"But your mother!"

"My mother hasn't to live my life, and"—with a little sob—"my life is worth nothing without him. . . . I tell you I will go to him, and you must let me go!"—stamping her foot on the ground—"How dare you put between us, you who never had a lover in your life, and, with your face, never likely to!"

She had begun in a frenzy, and was scarcely responsible for what she was saying; but presently she began to sob, and threw her arms about my neck.

"Oh, Peggie," she said, "forgive me!"—I—I didn't mean that about your—your face! But really, Peggie, you don't know what it means to have your whole life bound up in someone who—who loves you; and to have his arms around you, and his lips telling you, oh, I can't tell you how, that he never loved anyone but you, and that he will care for you so tenderly forever! And you—you don't know what it is to hate the dullness of it all at home, the work, and the children's noise and quarrelling, and the same old routine, with nothing to hope for, unless with him. . . . Oh, Peggie, if you knew all, if you could only understand, you would not be so hard! You would let me go! Peggie, I can't—I can't go back to it! And that woman lied! He said she did, and he would not deceive me!"

Poor child, poor child! As she lay there in my arms, my tears mingled with hers. Did I not know enough to understand what temptation might be hers? Had not my own mental struggles shown me wherein human nature might be weak enough, and what almost superhuman strength—such strength as Gay Torrance did not possess—it might take to steer one safely through such a perilous way as that through which she was now passing? For once I was thankful for my temptations, my struggles, since these, and these alone, had made me one with this poor child, capable of feeling for her, with her, as one untried could not have done. It is an easy matter to pronounce upon any situation in which one has not been tried, but the practice is not one well fitted to the development of tenderness or charity.

Yet, whatever might come, Gay Torrance must not be permitted to reach Ildering with Hudson Jamieson this night.

But one course remained untried, and I shrank from the humiliation it must bring her; yet her faith in Hudson Jamieson must be shattered, or all would be yet undone.

"Gay, he isn't worthy of you," I began, drawing her very close to me, but she would not listen to that, telling me that I did not know him, indeed, and that if I did, as she did during the whole summer's intercourse, I should be quite sure that the woman had not spoken the truth, and had only come after him out of pure spite and malice.

There was no help for it. I must tell her; so, drawing her closer, and as tenderly as I could, I told of how Hudson Jamieson had made just such professions of love to me, and of how he had, not one short month before, asked me to marry him.

As I spoke, she became still as marble. Then, when I had finished she stood up very erectly, and looked straight at me, as though her eyes would set the darkness between afire to see my face. I knew then that her pride had been touched, and that the cloak of Hudson Jamieson's double-dealing had been rent before her. When she spoke at last, her tones were so hard and bitter that one could scarcely recognize them as Gay's.

"I ask your pardon, Peggie," she said. "May Heaven have mercy on his false, perjured soul!"

And then she sank in a little shivering heap on the edge of the snow-rimmed road.

I tried to lift her, but could not, so I sat beside her, chafing her hands until she should have recovered somewhat.

"Now my dear, my dear," I said, "you must try to go home. They will be missing you, and—"

"Oh, Peggie," she faltered, clinging to me, "I can't go home! I can't! . . . I didn't want mother to be afraid of anything happening to me—anything worse, I mean—for I thought she'd be glad I was to marry Hudson, she was so fond of him. And I left a note for Toddy to give her after seven, and—and I lied in it, Peggie. I said before they could catch us we'd be at Saintsbury with the doctor's fast horse, and off on the train to Barnsbury, where we were to be married. Instead of that, we were to take the train at Ildering, and be married in Oldswood. I—I thought they'd never think of the river, and—and—I thought they'd believe me, and father'd go to Saintsbury. It was very wrong. Oh, Peggie, I can't go home, they'll have the note before I could get there, and—and—oh, you don't know how angry father'll be! He was in a great rage at Hudson this morning. I can't meet him! I simply can't! Anyway, I believe he'd turn me out if I went home now."

I knew Dave Torrance, one of those men who are hard to arouse to especial interest in, or indignation against anyone or anything, but who, when once aroused, are accurate as granite, neither to be appealed to nor reasoned with, and as Gay faltered out the story of her lame little plan I realized how impossible it was that she should go home at this juncture. If only she hadn't left the foolish, guilty little note with Toddy—but since she had—

"You must come home with me, then," I said,

But she clung to me like a terrified kitten.

"No, no," she said, shivering again, "not where that woman is! Don't ask me to, Peggie! Don't ask me to, please!"

"But we must go somewhere, Gay. We can't sit here all night."

"Mightn't I stay in your barn to-night, Peggie? Nobody would know, and to-morrow, maybe, I could go off through the woods, and get away where no one knows me. If I could only go to-night, Peggie, but oh, Peggie, I'm so afraid of the dark!"

Poor child, poor child! Already her retribution lay heavy upon her, and what could I say but hold her closer to me, with her face cuddled into my cheek, and her arms about my neck! Yet something must be done, and done quickly, for the night was setting in bitterly raw and cold. Already my own fingers were tingling, and Gay's face and hands were like ice. Besides, the doctor had not yet been sent for Mrs. Jamieson, and my long absence might be causing anxiety at home.

Plan after plan went tumbling about in my mind, each only to be discarded ere it had well taken form; and among them all only Amanda Might's face arose, strong, steady, and practical.

"No, Gay," I expostulated, "things aren't so bad as that. You can't stay in the barn. . . . Gay—"

"Yes?"

"Will you come with me to Mrs. Might's? She really has the kindest heart in spite of—"

"No, no, she doesn't like me, Peggie! She never did! She was always hard with me, and now she will be ten times worse."

"But when people are in trouble—"

"No, no! She'll not care for me. Not there, Peggie! Oh,—" with a low moan—"if only I had fallen into the river! Would it be so very wicked, Peggie—would to live so much harder than to die?" and the icy face was turned upward to me, white as a snowflake in the gathering darkness.

"Gay Torrance," I said, "you are magnifying everything foolishly. After all, as things turned out there's no great harm done, and you mustn't even think of so dreadful a thing! Gay, take my advice for once and come with me to Mrs. Might's. There's one thing about her, she knows how to keep her mouth shut. And I can go in and tell your mother you're all right. To-morrow, perhaps, we can fix things up so you'll not be the talk of the neighborhood. Anyway, we can't sit here. You are nearly frozen, and so am I."

She sat up suddenly, then rose to her feet, perhaps because the rattle of an approaching wagon was sounding nearer.

"Come," she said, and set off down the road with a sort of despairing doggedness, just clinging to my arm with one little cold hand, so cold that I could feel the iciness of it through my sleeve.

"But I must let them know at home," I said.

She put her hand to her head in a dazed way, and clung to me, shivering again, as though she could never let go of me.

"Perhaps," she said, "you can send word back with whoever is in the wagon."

And so we walked on slowly, until the wagon came up with Tom Billings in it, and I was able to send my message home.

After that, on again silently, Gay now hurrying me on feverishly, with the stars coming out thick and bright above us, and oh, so coldly. Just once she spoke, looking up at them.

(To be continued.)

About the House.

FOOD VALUE OF MILK AND ITS PRODUCTS.

(Address of Prof. Harcourt, before Western Ontario Dairymen's Convention, January, 1908.)

If the true value of milk as a food were more fully appreciated, it would be used much more freely. Chemical analyses and experience prove that among our food materials there is none more wholesome than good, pure milk. It is cheap, palatable, easily digested, and highly nutritious. Its value as an article of diet for children and invalids is fully recognized; but for adults in good health it is too frequently regarded as a luxury to be used as a condiment with tea, coffee, fruit, and as an adjunct in cooking. Milk is, however, not only a condiment and beverage, but a food, and a very valuable one.

On the other hand, the very qualities which make milk such a desirable food also render it undesirable from another standpoint. It is a particularly fine medium for the growth of bacteria; and, as a result of the manner of its production and the way it is commonly handled, it is subject to contamination with bad flavors, dirt, and all the myriads of germs usually associated with the dust that accumulates in the stable.

The consumer has a right to demand that milk furnished him shall be clean; that it will keep at least twenty-four hours after it is received, if kept at a temperature of 60 degrees F., or below; that the flavor be not injured by improper feeding, careless methods of handling, or by the development of bacteria which cause bad flavors; that it contain no disease germs, or any form of preservative; and that the milk have a certain known composition which is uniform from day to day.

Milk contains all the ingredients required to nourish the body; that is, furnishes the materials which build up the body, and keep it in repair, and also those which supply it with fuel to keep it warm, and to furnish the animal machine with the energy to do its work.

The best foods are those which perform these various functions in the most

thorough and complete manner. We usually judge of the value of a food by several different standards. Thus, it must contain the constituents which are required by the body in proper amounts; it must be digestible and palatable, and it must be reasonably cheap.

Some foods contain all the ingredients required by the body; that is, protein, fat, carbohydrates, and mineral matters. The protein is used to form the tissues and fluids of the body, such as muscle, blood, bone, and brain; to repair their waste; and, if eaten in excess of the daily requirements, may be stored in the body as fat, and drawn on as required for future consumption. Familiar examples of protein are lean meat, white of egg, casein of milk and cheese, and gluten of flour. The fats of foods, such as lard, fat of milk and butter, and the fat or oils of vegetable foods, are used as a source of energy, and if used in excess may form fat on the body. The starch, sugar, and cellulose are examples of carbohydrate bodies, and are, generally speaking, the cheapest source of heat and energy in the body. They may also be transformed into body fat. The mineral matter of a food is absolutely essential for the formation of bone, and is also present in the tissues and fluids of the body.

The protein, fat, and carbohydrates may be oxidized or burned in the body, and the heat which they will produce is

bulky, and at a moderate cost, is a complete food. Unfortunately we have very few foods which will answer all these requirements, and if we had, it is quite probable that the monotony of the diet would soon render them so distasteful as to destroy their usefulness.

Milk is frequently spoken of as a complete food. It is to the infant, but for the adult it does not contain enough carbohydrates, and is too bulky. Wheat bread more nearly fulfills the requirements for a full-grown person, but it is a little deficient in protein. Possibly oatmeal comes the nearest to being a complete food for the adult. It certainly has the advantage of being cheap.

But, as is well known, the food of man must please the palate as well as satisfy the demands of the body, and to secure this we resort to a very varied and mixed diet. It is not the intention to deal at this time with a great variety of foods, but to show which of our common foods furnish the most protein, fat, and carbohydrates for the least money, and to show where milk and its products stand as compared with some of the meat and vegetable foods.

For purposes of comparison, the number of pounds of protein, fat, and carbohydrates, and the number of calories of heat which one dollar's worth of some of the more common foods will furnish has been calculated, and are presented in the following table:

PROTEIN, FAT, CARBOHYDRATES, AND FUEL VALUE OF \$1.00 WORTH OF EACH FOOD.

	Price per lb.	Refuse, %	Protein, lbs.	Fat, lbs.	Carbohy- drates, lbs.	Fuel value, lbs.
Milk	6c. quart	.....	1.88	1.69	2.21	13,609
Milk	8c. quart	.....	1.04	1.27	1.66	10,402
Skimmed milk	10c. gallon	.....	3.4	.80	5.1	17,070
Buttermilk	10c. gallon	.....	3.0	.50	4.8	17,362
Butter	25c. pound	.....	0.04	3.4	.....	14,422
Cheese	17c. pound	.....	1.63	2.16	.24	12,593
Beef, fore quarter	6c. pound	.....	18.7	2.41	2.91	16,762
Beef, hind quarter	8c. pound	.....	15.7	1.92	2.29	13,235
Beef, flank	8c. pound	.....	10.2	2.12	2.37	13,944
Beef, sirloin	18c. pound	.....	12.8	.92	.90	5,509
Veal, cutlets	15c. pound	.....	3.4	1.34	.50	4,612
Mutton, chops	16c. pound	.....	16.0	.84	1.80	9,158
Lamb, hind quarter	18c. pound	.....	15.7	.92	.90	5,509
Ham, smoked	18c. pound	.....	13.6	.79	1.85	9,276
Ham, smoked and cooked	30c. pound	.....	.....	.67	.75	4,405
Eggs	25c. dozen	.....	11.2	.71	.56	3,853
White bread	2½ lbs., 10c.	.....	2.10	.5	12.2	28,710
Rollled oats	7 lbs., 25c.	.....	3.5	1.9	20.0	51,780
Farinas	6 lbs., 25c.	.....	2.3	.24	18.7	40,070
Potatoes	90c. bag	.....	20.0	2.18	.10	38,492

frequently used as a basis for comparison of the value of foods. Unfortunately this does not give us an entirely satisfactory basis for comparing the nutritive value of foods, for the protein is absolutely essential for the formation of flesh, and yet has a low fuel value. It is equally true that it would not be just to make the comparison on the basis of the protein content alone, as the fat and carbohydrates are valuable nutrients. Taking all things into consideration, possibly a statement of the amount of energy a food is capable of producing is the best basis upon which to compare the nutritive value of foods, especially when they are arranged in a properly-balanced dietary.

In order that we may have some measure for expressing the amount of heat that a given substance is capable of producing, the calorie is taken as the unit. Roughly speaking, a calorie is the amount of heat required to raise the temperature of one pound of water 4 degrees Fahrenheit. If one pound of starch or sugar is burned, and all the heat utilized, it will furnish enough heat to raise 1,860 pounds of water 4 degrees in temperature. The fuel value of protein, as it is ordinarily burned in the body, is nearly the same as that of carbohydrates, but fat will give about 2.25 times as much heat as protein or carbohydrates, or 4,220 calories per pound.

It has been found that a man required a certain amount of protein, fat, and carbohydrates in his daily food, and that these ingredients combined should furnish approximately a certain number of calories of heat. The quantity of these several nutrients required will, of necessity, vary with the amount of energy exerted in the performance of work. Any food which will furnish all the nutrients in the right proportion to supply the needs of the body, and in a digestible and palatable form, that is, not too

No attempt has been made to calculate the amount of digestible constituents, but it is probable that over 95 per cent. of the protein of the milk and meats, and about 80 per cent. of that of the cereals would be digested. The fat of the cereals would be less digestible than that of the milk and meats, and sugar of the milk would be almost entirely absorbed, while a considerable proportion of the carbohydrates of the bread and oatmeal would resist the action of the digestive juices. It is also quite probable that more energy would be required to digest the vegetable foods.

Taking the figures as they stand, it is evident that milk does not furnish protein and fat as cheaply as beef bought by the quarter, but it does supply more of these constituents than the various cuts of the meats. Skimmed milk and buttermilk are particularly cheap sources of protein, and are probably the cheapest source of this constituent among all our foods. Butter is valuable almost entirely for the fat it contains, and as an energy-producer is as cheap as any of the meats. The food value of well-ripened cheese is too often overlooked. We have frequently found that nearly 50 per cent. of the protein of cheese is soluble in water when the cheese is ten and eleven months old. This would mean that it would be comparatively easily digested, and, in this respect, it would be quite different to the green or unripened article. It should be further noticed that there is no refuse with the milk and its products.

It is not necessary to dwell more fully on the data presented in the table. It is evident that milk at 6c. or 8c. a quart is a cheaper source of the nutrients than meat as ordinarily retailed, and, if we allow for the refuse, nearly as cheap as when meat is bought by the quarter. Furthermore, it is certain that milk and its products used along with

the cereals are a cheap source of the nutrients and energy, and that when the two are used together a sufficient supply of all the essential constituents for growth and repair of the tissues of the body and for work can be obtained without the use of the more expensive meats.

HOUSEHOLD HINTS.

Choking.—It happens quite frequently that children in "bolting" their food have attempted to swallow too large a piece, and consequently the particle won't pass down the gullet, but lodges in the back of the throat, and so interferes with breathing. The child then "chokes," and struggles for air, its face becomes red and finally blue. The simple treatment is to turn the child upside down, and slap quite sharply upon the back. If this does not dislodge the particle, insert the forefinger far back into child's throat and downward.

Broom Covers.—Take a piece of flannel-ette, 26 inches long and twice the width of the broom. Sew together lengthwise, leaving both ends open. Make a hem at each end, and insert a draw-string in each. Draw the cover over your broom; draw the strings at each end, and use for rubbing the dust off walls or painted floors. Change the cover end for end when soiled.

A Novel Stove Blacking.—The following has been recommended for kitchen stoves. Put equal parts of vinegar and linseed oil in a bottle; shake well, and apply with a soft cloth. This is said to both clean and blacken.

To Remove Ink.—To remove ink when freshly spilled, sop up with cotton batting, wet with milk, and change for fresh cotton, repeating the operation until all is removed. Last of all, wash and rinse the spot with water, and rub dry.

For Corns.—Mix equal parts of carbolic acid and glycerine, and apply to the corn every night with a fine brush; first bathing and carefully drying the feet.

RECIPES.

Chicken and Rice Curry.—Melt 1 tablespoon butter, taking care that it does not brown; add 1 tablespoon flour, and when smooth stir in 1 cup milk. When it thickens, add two-thirds teaspoon curry powder, three-fourths cup chopped cold chicken, and as much boiled rice as desired. When thoroughly heated, serve.

Creamed Veal.—Mince finely 1 lb. each of cooked veal and ham. Add 2 tablespoons butter, 2 well-beaten eggs, 1 cup whipped cream, a little salt, cayenne and mace. Mix well, and steam half an hour in a mould. Serve with white sauce.

Scrambled Eggs.—Beat four eggs well. Take 3 tablespoons milk or cream, a little grated tongue, if at hand, 3 dessertspoons butter, salt and pepper to taste, and heat all together. Last of all, add the beaten eggs, stirring constantly, and serve hot on buttered toast. A little chopped onion or onion juice, or a teaspoon of finely-minced parsley may be added, if liked.

HINTS ON FURNISHING.

Avoid cheap reprints or poor pictures of any sort.

To have a pretty home, avoid glaring contrasts of color.

If the wall papers are figured, choose plain carpets or draperies.

See that bookcases have glass doors or curtains to preserve the books.

Avoid cheap sash curtains with handsome inside curtains, and vice versa.

Do not despise any old pieces of furniture. If they cannot be used now, they may come into fashion again in the future.

Purchase a few good articles of furniture rather than a host of cheap things, which will neither look well nor wear well after the first month.

Do not put several varieties of styles in one apartment; that is, do not inflict Victorian chairs upon Louis XVI. wall paper and combine empire sofas and mission clocks.—(St. Louis Post-Dispatch.)

HIS TRIAL TRIP.

Tommy Harrington was in a girl's parlor. The lines about his handsome mouth broke as he wondered, suddenly, what the men he knew would say if they could see him now. Tommy Harrington! He, the cynic, the woman hater, the witty scoffer, whose corner at his club was the resort of all the recently embittered, was sitting flushed and rigid, listening for the sound of skirts upon the stairs.

During the long minutes that he waited he had time, like the drowning, to review the past that had given him so fierce a reputation for woman hating.

His first attack had occurred at college, simultaneously with one of grip just after the Prom., when continuous feminine society and wet patent leathers produced their natural results. The grip he threw off, but the other he cherished and even vaunted, so that by Commencement he was avoided by such as believed in settling down early.

The next three years were given up to Law School and the Club, with summers abroad or in the backwoods with Newell Blake. This year it had been all Club, while he waited for the spirit to move him into something that he liked better than Law or his father's business. And all this time he hardened his heart yet more and more.

The manner of his final taking down was utterly commonplace. It was spring—an out-of-town wedding with house-party attachment—he, an usher—she, the prettiest bridesmaid. Before the first shower of rice he was a doomed man.

The worst was that he felt himself slipping. He blushed scarlet when a question at the end of a long monologue by his host awoke him to the fact that he had been studying the way her hair waved off her forehead, and when they sent him for a golf-club that was under discussion and he returned with an umbrella he knew the nature of his complaint. He watched himself be good to her younger brother and hint about calling, and engage two Pullman seats together, and he was so far gone that he didn't care. By the time they reached New York and he had seen her home, he was ready to proclaim his sad state upon the housetops.

At least he thought he was, but when he sat down to dinner with his father and older sister he found it difficult to approach the subject or even to answer coherently their questions about the wedding. At the Club it was no better. He got as far as saying, apropos of some discussion in his circle, "Women certainly have remarkable intuitions," but every sore head was raised, and Blake, his own, familiar friend, asked, "Who is it, Tommy?" And he held his peace. The solace of confidence was not for such as he, and after a week of silent struggle he found himself at her door.

At last there was a sound of light feet coming down the stairs by little rushes, and there she was, prettier than ever, under a hat with forget-me-nots. Before he could recognize the depths to which a man has sunk who notices forget-me-nots, she began:

"I'm so sorry to keep you waiting, Mr. Harrington, especially as I have to go right out; but I did want to see you, if it was only five minutes, and talk about the wedding."

Harrington's heart sank. Had he waited a whole week for five minutes about the wedding?

"And I want you to meet my mother," she said, as a pretty, comfortable little lady came in. After compliments passed and a little talk of their common friends, the girl went on:

"I wouldn't go if it was anything else; but Miss Knowlton has views tonight, and she makes such a point of everyone's coming, and almost nobody else does."

Harrington looked bewildered. "It's an old school-friend of mine," explained the mother, "who supports herself and sister by giving lectures on Europe, at this late day. Alice goes to help out, and, this being the last of the course, Miss Knowlton has it in the evening with a stereopticon, and asks the members of the class to bring their friends—and she can't understand why they don't."

"So, you see, I have to say good-bye, unless," with a mischievous lift of her eyelashes, "you would like to go as a friend."

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"I should be delighted," he answered boldly.

"Alice," exclaimed her mother, "how perfectly ridiculous! Mr. Harrington would be bored to death. Alice was only joking; you mustn't really feel obliged to go."

"Not at all," replied the hardened youth. "I should enjoy it very much."

In two minutes he found himself on the steps with her, breathing the warm spring wind from the park. A savage longing seized him to wander there instead of in the more conventional ways of the stereopticon, but he mastered it and measured his untrammelled step to hers. Presently he was roused from the music of her voice by its ending in an interrogation point.

"Yes, yes indeed," he answered at random.

"Well, so do I," she went on. "I think you ought to help people that don't have quite as many things as you do, just as much as those that live in the slums. Now, some girls that I know will spend any amount of time on a class of Bowery boys, and they wouldn't call on an old maid in a boarding-house for anything."

"Dreadful!" murmured Harrington. "Not that it's a charity to know the Knowltons. Miss Knowlton is a little trying, but Miss Lily is a dear—She used to teach me, but people want modern methods now, and she has hardly any pupils this year."

"Do you represent the old order?" he ventured.

"Well, I represent Miss Lily, and you must try and like her."

"I will," he promised; and then the talk drifted to the wedding, till they reached the boarding-house where foreign travel was to be set forth.

A colored girl opened the door into a hall full of ghostly odors, and piloted them through the narrow passage to the back parlor, where a musty company gazed at them with the eyes of those who have waited past hope. A little gray-haired lady greeted them airily.

"Good evening, Alice! Mr. Harrington, very happy to meet you. We shall be delighted to have Mr. Harrington join us in our rambles this evening. I think, as it is somewhat past the hour, we will begin without waiting for other members of the class, who must have been unavoidably detained. Lily, this is Mr. Harrington, and you may turn the lights down at once."

Harrington had only time to see that Miss Lily must once have been pretty, in a blue-eyed way, when Miss Knowlton's command was executed. In the gloomy pause that followed, Harrington decided that the rest of the audience were fellow boarders, invited in order to secure the parlor, and that he might congratulate himself on being placed where he could get a silhouette of Alice. Finally Miss Lily's experiments with the lantern were rewarded by the appearance of Westminster, Abbey on the sheet. Miss Knowlton cleared her throat and began:

"Ladies and gentlemen,"—Harrington glanced at the other man, a drummer, in the furthest corner—"Ladies and gentlemen, Shakespeare has observed that 'Home-keeping youth have ever homely wits.' Let us not merit the reproach of the immortal bard. It is my purpose this evening, by the aid of the stereopticon, to give you a brief glimpse of Northern Europe. Limited as our time must be, we shall not even glance at its history, religion, or politics, but shall confine ourselves to the visible monuments of its mighty past.

"Beginning, then, with the shrine of England's greatness"—here Harrington's mind strayed to the question whether you would really call the silhouetted nose reticent, and, by the time he had decided not, Miss Knowlton was—"crossing the channel with no experience of its celebrated mal de mer, we find ourselves in the gay capital of France."

The hour wore on, and, in spite of the architecture flashed before him, Harrington's castle-building had projected a wide piazza and a slender girl in blue, when it vanished—with Antwerp Cathedral—at the turning on of the lights.

The audience began slowly to detach itself from the upholstery. Miss Knowlton brought up the other gentleman and introduced him, then fitted away.

"Great, wasn't it?" said the drummer, with a wink. "Sort of thing that keeps a young man off the streets."

Harrington turned to Alice for help, and in a moment was making his parting speech to Miss Knowlton: "Delightful evening; so glad to see the Piazza with the Campanile still standing. Have you been there since it fell?"

"No, Mr. Harrington. I have never been abroad except in spirit."

"Oh, I beg your pardon," he exclaimed, hopelessly banal. "I shouldn't have mentioned it"; and before he could do more he found himself on the street apologizing to Alice.

"Oh, don't mind," she said. "It's my fault. I ought to have told you, but it won't really hurt her feelings. She doesn't see anything out of the way in lecturing on Europe without having been there. Oh, I wish they could go! Isn't it hard they can't when you think of the people who go every year just for clothes?"

Harrington, with a vision of the auto tour he and Newell had planned in France because the roads were good, agreed emphatically.

"Yes," said Alice, "I knew you would understand. And no one can help respecting a person who works hard at something."

"No, indeed," murmured Harrington, glad that she had put it that way; and then they drifted back to the wedding.

When Harrington reached home he found his father still at his desk. Seeing things as they would appeal to Her, he was struck with how gray his father was, and how little he had known or cared what his father did in the evening. The older man's disappointment that his only son should not want to carry on "Harrington's" had ruled out business talk between them. They were of New England stock, and neither quarrelled nor made up openly.

Tommy merely dropped into a chair beside the desk and said, a little un-naturally, "Father, have you still a place for a promising young man of good antecedents?"

Mr. Harrington raised his head quickly.

"Willing or obliging?" he asked.

"Willing," answered Tommy, and when they separated at the end of an hour's talk his father simply said, "Good night, my son." But Tommy had a warm feeling in his heart, and before he fell asleep he had composed the anonymous note that was to make over what his summer trip would have cost him to the Misses Knowlton.

Two months later Tommy Harrington came out of a London office pale with rage. He had been sent over to do a rather important piece of business with an English correspondent, who, as he wrote his father, was slower than primitive man. Again and again he had failed to clinch the affair, his sporting blood was up, and this last postponement "over the week end" disgusted him. He hailed a passing hansom—the only thing in London with any "go," as he said to himself—and ordered Hyde Park Corner.

The time was out of joint with Tommy. He had been getting on famously with Alice, being called in consultation to plan the itinerary for the trip that some mysterious person "who had enjoyed her classes" had given to Miss Knowlton. Over Bradshaw and Baedeker he felt that he was making some headway, when his father sent him abroad on a day's notice. In that day he sent her a note, and she answered that she was just starting for Boston to visit the Trenks over Class-day. He remembered Rodney Trenk at the wedding as a Harvard Senior of more than usual stiffness. He sailed feeling injured, and for three weeks had been besieging that Englishman, taking occasional holiday spins with Blake, who hung about, as he said, harassing the rear of Commerce.

To-day Harrington dismissed his cab at the Park and sauntered along to watch the driving. He was taking a cynical joy in the scantiness of the spectacle compared to the abundance of the American audience, when his eyes fell on two little old ladies in the front row. Yes, it was the Knowltons. They would be in London about this time. They might have heard from her. In a moment he was standing beside them, blushing violently.

"Miss Knowlton, you will hardly remember me, but I came to your last lecture with Miss Olyphant."

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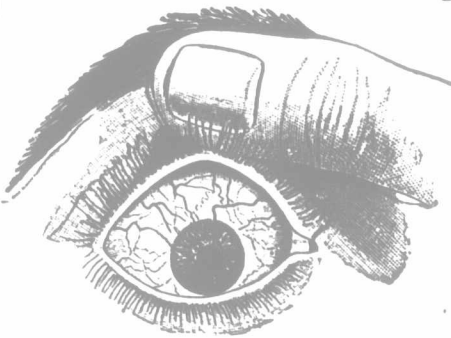
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Olyphant, and that she spoke of him. He dropped into a chair beside them. "Is Miss Olyphant well?"

"Yes," went on Miss Lily, "and having such a gay time at Cambridge. She is always a belle, I can see; but she says that she finds the Harvard men a little stiff, and they don't seem to understand her as well as some others she has met. She said that you might be in London, and if we met you to be nice to you. I wish I had her letter here."

"It would give us great pleasure," said Miss Knowlton, "if you would like to join us in our visits to places of interest. We are here through the kindness of an unknown friend, and we should be glad to pass it on. To-morrow morning we shall devote to Westminster Abbey. Perhaps you would like to meet us there."

Harrington saw himself—but he also saw that letter. "Delighted," he began, and then broke off to point out an ambassador who was passing.

Their attention strayed to the spectacle before them. "Sister says," remarked Miss Lily, "that if there were not this regulation against public vehicles she should feel justified in taking a hansom for the sake of driving in Hyde Park."

"Well, it is a pity," he answered, "that you can't get a grande remise at short notice; but I know a way where cabs are allowed to cut across, that gives you some idea of it. Won't you allow me to show it to you?"

He led them to the gate, called a four-wheeler, and was soon doing the honors of the Serpentine at long range. Miss Knowlton rode with her Baedeker open to corroborate his information. To Miss Lily every name was an allusion, every type an illustration of that literature which a college man may so easily escape. But while he could not share her enthusiasm he could enjoy it, and so absorbed was he in the society of his proteges that he did not notice Newell Blake spinning past them at forty miles an hour.

When he set the ladies down at their lodgings, it was with the promise to meet them next morning at the Abbey. Blake, returning late from dining out, found their rooms strewn with maps, Baedekers, Hares, Literary Landmarks, and shilling guides. Harrington looked up and said, "Did you know that Chaucer was really buried in the Poets' Corner?" And Blake answered, "You poor thing! Who is she?"

The next morning Harrington found the old ladies before him, gazing at the outside of the beautiful pile. While Miss Knowlton brandished her Baedeker at Early English and Late Perpendicular, Miss Lily handed him Alice's letter, and with that in his pocket he was ready to face the American Review. It need hardly be said that Miss Knowlton took the lead and spared them no single fact. Harrington noticed that, while he served as audience, she was not patronizing him nor showing off. Her whole attention was given to verifying her lectures. Her impressions had crystallized long ago, but it was of the utmost satisfaction to her to measure the crystals by the facts. Her highest praise was, "Exactly what I expected."

Miss Lily, although she walked in a sort of trance, "with eyes that saw the dead," was the first to flag, and Harrington gladly sat down with her while her sister went once more to impress the Poets' Corner on her mind. "I feel that I owe it to our unknown friend, Mr. Harrington."

"Indeed you do," he assented, as he settled himself for a quiet talk about Alice, her girlhood, childhood, and infancy.

The next week Harrington was too busy worrying his Englishman to see much of the Knowltons, but he found time to plan their trip north and to induce them to visit towns in the order in which they appeared in the time-table rather than in the lectures. He even went up to Oxford with their mail to spend Sunday, to the disgust of Blake, who said within himself, "I'm a gentleman; I can't spy on a fellow; but some woman has got hold of Tommy."

He was somewhat comforted when Harrington came in one day, glowing with victory over the Englishman, and said, "There's a Frenchman to be done next, but I'll forget dull care with you for eight days in Normandy."

They were golden days of the old times, and it was a couple of care-free boys who shot into Paris one July day. As they

streaked along Rue de Rivoli, Harrington's attention was caught by two familiar figures clinging to a refuge at the corner of the Rue Castiglione. The moment he could drop his paraphernalia and remove the stains of journey, he muttered an excuse to the astonished Blake and hurried into the Tuileries gardens.

It did not take him many minutes to find the sisters watching the children on hobby-horses. "We seem to meet in gardens," he observed flatly, to cover his broad grin. The two ladies fell on him with the pent-up observations of two weeks. England had been perfect. Stratford! Oh, the Lakes! Cambridge, wasn't it even more interesting than Oxford?

For many minutes he made no attempt to stem the tide. At last he ventured to ask whether they had heard from Miss Olyphant recently. "Yes, three letters since we saw you," began Miss Lily, and Miss Knowlton left them to search for the original site of the Palace.

Miss Lily wound up the report with a confidence. The 30th of July would be Alice's birthday. Miss Lily always sent her some little thing. This year, of course, she had no time for fancywork, and she should like to send her the very prettiest thing in Paris; but she couldn't go above five francs, and how should she get it through the custom-house? At one of the shops on the Castiglione there was a little turquoise forget-me-not ring, perfectly lovely, but she hadn't dared ask the price. The sentiment would be just what she wanted, but she had very little time for shopping. Sister was so constantly sight-seeing. She felt that she owed it to their unknown friend.

Harrington said he was sending some things by customs broker and would be delighted to arrange for her parcel, and he proposed that he should call for her the next afternoon and go shopping with her, and Miss Knowlton agreed to take that time for a more exhaustive study of Notre Dame. He took them home in a cab, so that he should know the way next day, and then he searched out the forget-me-not ring and fixed the clerk thereof in case of his return next day. Sure enough, all Miss Lily's gloating over miles of shop-windows ended in her return for the forget-me-not ring, for which she negotiated herself, with gentle pride, in French as archaic as the Chanson de Roland. She never ceased to celebrate the cheapness of jewelry in Paris.

For Harrington the next three weeks were a period to be forgotten if possible. His days were so taken up with business that he could not go about much with the old ladies, and the anxiety he suffered about them in this strange land was beyond any he had ever known. He did their banking, changed them from one pension to another in spite of scenes with the landlord and threats of prosecution. He hunted up a doctor when four consecutive hours of the Louvre proved too much for Miss Lily. How they stood their pace was a mystery! Nothing but their strict Sundays saved them—and him. He sat up nights planning their expeditions by bus and train. Even when he went with them they refused to take a cab. They felt that they owed it to their unknown friend to spend their money to the best advantage.

The night before they left for Lucerne, came a letter from Alice, thanking Miss Lily for the beautiful ring, the dearest thing she ever had, and wishing to be remembered to Mr. Harrington if they saw him again. "Probably you won't, for it seems as though, just as you are getting acquainted with people, they go away."

"Poor child, that seems a little lonely, doesn't it? I don't see why."

The next morning after he had seen them off he felt a little lonely himself. However, there was nothing to be done but hammer away at his business, placate Blake, and answer the queries that the old ladies despatched him, usually too late to be of any use. At last his business was done. He showed Blake a cablegram, "Good, father," and began rather awkwardly:

"Oh, I think I'll take a look at Holland for a week or so."

"All right," answered Blake; "the roads are good and it's all one to me."

"Well," faltered Harrington, "I was going by train—to save time you know."

"Don't mention it," said his friend stiffly. "You needn't be afraid of my intruding. I'm off for London this afternoon. The state-room for the fifteenth



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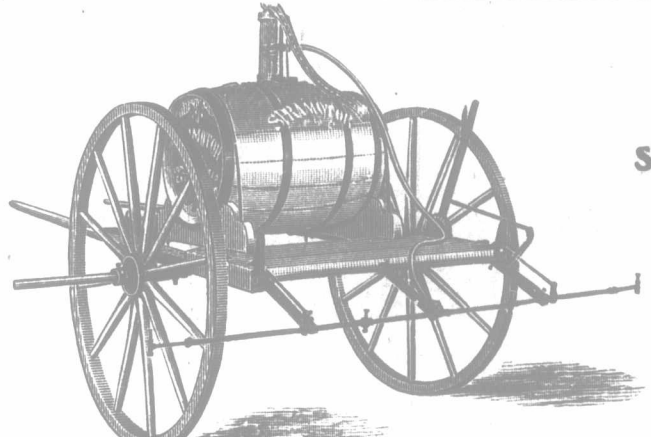
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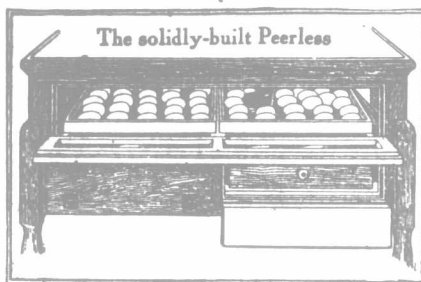
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holds, I presume?" And with that he was gone.

Harrington felt pretty cheap, but what could he do? Miss Lily had just written him that, while she thanked him for his advice about taking a valet-de-place in Holland on account of the language, her sister felt that it would be an unnecessary tax upon the funds that they considered a sacred trust. If any remained after the custom-house, they should apply it to the mounting of their few photographs. But they were beginning to hear dreadful stories about the custom-house. Did he think they would have any trouble? They had bought so little of all the lovely things, but people at the table d'hôte told such strange instances. Would he write them what he really thought?

Harrington cursed himself for a fool, and likely to be a worse one, but he packed for Amsterdam. After a week of courier duty, he was hardly surprised to find himself wiring Blake that he should sail on the Dutch line two weeks earlier than he had planned. He did not mention that Alice had promised two old ladies to come in town to meet that steamer, but he was not wholly unprepared for Blake's:

"You poor thing! Who is she!" Neither that, nor the discomforts of the last berth on the ship, nor the care of two drooping old ladies, counted when at last the moment really came and he saw the hat trimmed with forget-me-nots in the crowd on the pier. Under the forget-me-nots there was a question in two pretty eyes to which his made confession, but so full of the reason why that the

pretty ones had to hide behind their lashes.

Before Blake sailed Harrington was able to wire him: "She is Alice Olyphant. Congratulations in order."

The unknown friend remained forever a romantic mystery to the Knowltons, but they took a proprietary pleasure in Alice's engagement. Miss Lily said that she had foreseen it from the first. Miss Knowlton was more surprised than interested until she was told that they were going abroad on their wedding journey, when she remarked: "Alice is fortunate to have some one who has been over the ground with us." And Alice thought so too.—[Lippincotts.]

TRADE TOPIC.

THE TRADERS BANK OF CANADA, the annual report of whose transactions for 1907 appeared in the Feb. 13th issue of "The Farmer's Advocate," page 262, was incorporated in 1885, and has had a very successful and satisfactory career, evidencing careful and judicious management, as the general statement published amply demonstrates. The net profits for the year 1907 amounted to \$522,822.81, which with the sum carried from the profit-and-loss account and the premium on new stock made a total of \$569,692.68, while the rest account was strengthened by the addition of \$100,000, bringing it up to the gratifying figure of \$2,000,000. From the statement, it will appear that the relation of assets to liabilities gives the bank a most substantial standing.

GOSSIP.

Messrs. Wilhelm & Moore, Shakespeare, Ont., advertise in this paper their broodmare special, the use of which, it is claimed, ensures a strong, healthy foal, evidence of which they are prepared to prove by testimonials from many farmers who have tested it.

SALE DATES CLAIMED.

March 3rd.—S. J. Pearson & Son, Meadowvale, and F. A. Gardner, Britannia, Ont., joint sale of Shorthorns.
 March 4th.—Provincial sale of pure-bred cattle, at Guelph.
 March 5th.—Joint sale of Shorthorns, at Toronto Junction, W. C. Edwards & Co., Rockland; Sir Geo. Drummond, Beaconsfield, and Peter White, Pembroke.
 March 6th.—Robert Miller and Donald Gunn & Son, at Toronto Junction, Shorthorns.
 March 11th.—Provincial sale of pure-bred cattle, at Port Perry, Ont.
 March 12th.—Donald Gunn & Son, at Dunrobin Farm, Beaverton, Ont., Clydesdale mares and fillies, imported and Canadian-bred.
 March 12th.—J. H. Patten, Paris, Ont., Holsteins, dispersion.
 March 12th.—W. R. Bowman, Mount Forest, Ont., Shorthorns, Shropshires, Yorkshires.
 March 18th.—C. M. & G. W. Blythe, Marden, Ont., Shorthorns, dispersion.
 March 18th.—N. A. Steen & Sons, Meadowvale, Ont., Shorthorns.
 June 4th.—John Dryden & Son, Brooklin, Ont., Shorthorns.

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

FOR SALE or to rent—Blacksmith shop in small village, surrounded by first class dairy country. Applicant must have good habits, total abstainer, and a competent general blacksmith. Comfortable house and 2-acre land included. Immediate possession given. A. Campbell & Son, Ormond, Ont.

GOOD stock farm, in Egremont, 14 miles from Mount Forest corporation. Good new brick house, and large frame barn, with good new stabling underneath. Power windmill supplies house and barn with water. Pastures well watered. W. R. Bowmen, Mount Forest.

MAN wanted—An experienced man on a stock farm, to take charge of Clyde stallion and band of brood mares. Married men preferred, and a good house provided. Position year around to right man. Address, J. J. Hales, Eureka Stock Farm, Chatham, Ont., box 704.

POSITION wanted as manager or assistant manager on stock farm. Understands Thoroughbred horses, cattle, sheep or hogs. Always farmed. Age 32. Married. Good worker. Canadian. Can give recommendation. Address Daniel Block, Box 217, Dunton, Ont.

SEED CORN—Reliable seed corn that we guarantee to grow or money refunded. The largest and most comprehensive seed catalogue published in Canada; send for it; sent free to all who write for it. Globe Seed Co., Ruthven, Ont.

WANTED—A few good subscription agents for The Farmer's Advocate and Home Magazine. Liberal terms. The William Webb Co., Ltd., London, Ont.

WANTED—Good farm hand. Single. To hire by the year. W. C. Good, Prentford.

Wanted! I want to tan your hides, skins and furs soft and pliable; never get hard. Also to make and line your robes, or make your fur coats. Try me for best of satisfaction. I am to please you. Address: B. F. BELL, Delhi, Ont.

SEND \$1. receive 5 cloth remnants, suitable for boys' knee pants up to 11 years. Give age and we will cut out pants free. Add 25c. for postage. N. Southcott & Co., 8 Coote Block, London, Canada.

GOES LIKE SIXTY
 SELLS LIKE SIXTY
 \$65
 GILSON
 GASOLINE
 ENGINE
 For Pumping, Cream
 Separators, Churns, Wash
 Machines, etc. FREE TRIAL
 Ask for catalog—all sizes
 GILSON MFG. CO., 150 York St., Guelph, Ont.

HARRY YATES

General Auctioneer.

Graduate of Jones College of Auctioneering, Chicago, Ill. Pedigree stock sales especially. For terms address:

Box 907, Sault Ste Marie, Ontario.

ABERDEEN-ANGUS ASSOCIATIONS.

Mr. James Bowman, Guelph, writes, with regard to the report of Aberdeen-Angus meeting, held in that city during the Fat-stock Show week, which appeared in a local paper of Dec. 12th, and since copied by other papers: "I may say, as ex-President of the Angus Society in Ontario, and Vice-President of Canadian Aberdeen-Angus Association, I feel it my duty to explain that the Aberdeen-Angus Society meeting held at that time is a local society, formed for the purpose of promoting the interests of the breed in a general way, but not for recording, while the Canadian Aberdeen-Angus Association is organized for recording, and is affiliated with National Records at Ottawa, and is for all Canada, east, west and center. Secretary F. J. Collyer's office is in Welwyn, Sask. The statement that we were not going to affiliate with the West was quite incorrect. So far as I know no such resolution was ever mentioned at our meeting."

TRADE TOPIC.

REDUCED COLONIST RATES.—Commencing Feb. 29th, and continuing daily until April 29th, inclusive, one-way colonist tickets will be on sale to the following points: Vancouver, B. C.; Victoria, B. C.; Seattle, Wash.; Portland, Ore.; Tacoma, Wash.; Spokane, Wash.; San Francisco, Cal.; Los Angeles, Cal.; San Diego, Cal.; and Mexico City. Full information may be obtained from any Grand Trunk ticket agent, or write to J. D. McDonald, D. P. A., Toronto.

GOSSIP.

Mr. H. C. Hamill, late of Islay, Ont., writes that he has purchased the Craiglea farm, advertised for sale in this paper last summer by Mr. H. J. Spence, Box Grove P. O., near Markham Station (C. T. R.), where Mr. Hamill purposes building up a first-class herd of Ayrshire cattle and to breed a few good Clydesdale horses. Mr. Hamill is to be congratulated on securing so good a farm in such a desirable locality.

D. GUNN & SON'S CLYDESDALE SALE.

Another golden opportunity for the purchasing of high-class imported and Canadian-bred Clydesdale mares and fillies, at auction prices, will take place on Thursday, March 12, when Messrs. Donald Gunn & Son, of Beaverton, Ont., will sell a number of their imported and Canadian-bred Clydesdales. The "Dunrobin" stud is one of the most noted in Ontario. Two years ago a large importation of fillies was made, personally selected from the leading breeders in Scotland. These, together with the dozen or more of imported and Canadian-bred ones on hand at that time, made the stud a very strong one. The annual increase from so many brood mares has resulted in a large number being on hand of all ages, necessitating a surplus sale by auction. The animals to be offered at this sale are a strictly high-class lot, bred in the purple, and in good condition. "Dunrobin" farm, comprising 500 acres of Ontario's richest agricultural lands, is one of the best-equipped stock farms in Ontario or the Dominion. All the stock, of whatever kind, is pure-bred and registered. The Clydesdales have won a reputation for excellence for themselves in the show-rings at Toronto and Ottawa, where they have held their own among the best that could be brought out against them, and among this lot to be sold are a number of prizewinners, big in size, smooth to a turn, quality from the ground up, and in good condition, among which are ten imported, all in foal; five three-year-olds, imported, in foal; four two-year-olds, Canadian-bred, and some grade mares. The Messrs. Gunn have been liberal buyers at other sales for several years, and should receive a hearty response from Clydesdale breeders at this their first sale. The farm lies one mile from Beaverton (Grand Trunk and Canadian Northern Railways), where conveyances will meet morning trains on day of sale. Lunch will be provided at noon, and visitors are assured a hearty welcome. If credit is desired, arrangements must be made before commencement of sale, otherwise the terms will be cash. Geo. Jackson, the popular auctioneer of Port Perry, will conduct the sale. Catalogues on application. Fuller particulars next week.

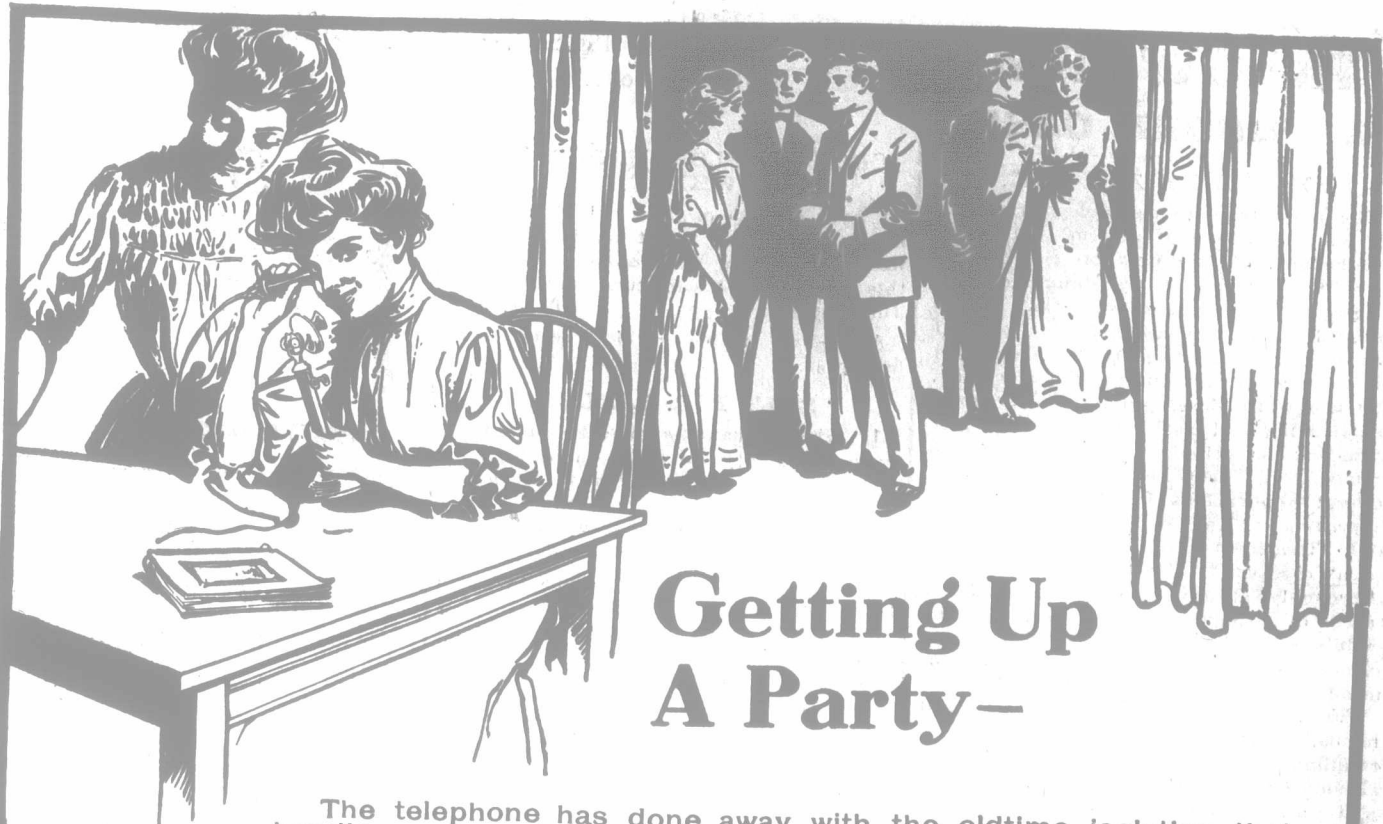
QUESTIONS AND ANSWERS. Miscellaneous.

COST OF PRODUCING MILK—SCURF ON CATTLE.

I would like to know how much it costs to produce a quart of milk when the price of hay is \$16 per ton; wheat bran, \$1.70 per cwt., and wages to a man, \$1.35 per day. I notice on some of my cattle a yellow scurf or dandruff, which seems to make them itchy. What is the cause of it; also, the best way to get it off the cattle? MIRAMISHEE.

Ans.—1. The answer to this question depends on the man, the cows, the stable and several minor considerations, so that no general answer can be given; but sixteen-dollar hay and thirty-four-dollar bran are difficult factors to compare with. By the way, we would like to know of any dealer who has had the nerve to ask \$1.70 per cwt. for bran. Our inquirer should provide corn silage, clover and alfalfa hay, and this, with a few roots, a little straw and a very light allowance of grain and oil meal, should enable one to produce milk profitably at 75c. or 80c. a cwt. (at the farm) under ordinary conditions; though on high-priced land, where a man was endeavoring to maintain a regular supply for retail trade, the cost would probably be \$1 per cwt. or upwards.

2. For the scurf on cattle, use West's fluid, Zenoleum or any of the advertised sheep dips and cattle washes.



Getting Up A Party—

The telephone has done away with the oldtime isolation that handicapped social life in the country and drove young people to the cities. In fact, the telephone has completely turned the tables, and to-day the city dweller envies his country brother the good social times that are now to be had on the farm. Perhaps you think you do not need the best instrument for a light chat with friend or neighbor, but remember that same telephone will also be called upon in your more important business when the reply of "I can't hear half you say" might be a serious matter. THEREFORE BUY AND USE ONLY,

The Northern Electric and Manufacturing Co., Ltd. APPARATUS AND EQUIPMENT.

The kind that is used on lines that carry messages 1500 miles. The kind that can ALWAYS be depended upon. Write us for prices and information on rural and suburban equipment.

THE NORTHERN ELECTRIC & MANUFACTURING CO., LTD. MONTREAL AND WINNIPEG. USE ADDRESS NEAREST YOU.

EMPIRE CREAM SEPARATOR

Easily and Thoroughly Cleaned Skimming Devices

To keep the skimming devices perfectly clean is of first importance, otherwise the quality of the cream suffers—profits diminish. The majority of skimming devices are hard to clean. Some next to impossible to clean perfectly. But the Empire cones are easier than any others to keep clean and sweet. They are of sheet steel, six in number, pressed into shape after fourteen distinct operations. They are accurate to a fraction, fit to a nicety—and it's utterly impossible to put them together wrong. Light and nice to handle. The surfaces are smooth as china, with no crack, joint, seam or rivet to catch the albumen and impurities of the milk which stick like glue if given a chance. Nothing could be simpler than to take our brush and wash out these cones, as shown in picture. Inside and outside, every part readily accessible—easier to clean the Empire cones thoroughly than

to half-clean other skimming devices. Yes! we will gladly send you this Frictionless Empire, with its easier cleaned skimming devices, its lighter bowl, its simpler and smoother running mechanism, its frictionless bearings, and guaranteed to skim as close as any other Separator made, for free trial in your own dairy. Anyway, we ask you as a favor to drop a postal for FREE DAIRY BOOK which should be in the hands of everyone interested in dairying. The Empire Cream Separator Company of Canada, Limited Toronto, Ont. Western Office, Winnipeg.



Clydesdales—Stallions and mares—Lyon MacQueen (3632), 3 reg. dams. Royal Robbie (4274), 4 reg. dams; sure getters. Mares of large size, good quality, regular breeders, at right prices, JOS W MILLARD, Altona, Ont. Stoneville Sta., G.T. R., Midland Div.

DEVICE FOR PLANTING POTATOES.

Can any reader of your highly-valued paper tell me of a device for planting (dropping) potato sets, other than by hand or with a factory-made planter? J. P. R.

TANNING A CALF SKIN.

Let me know the best way to tan a calf-skin hide with the hair on.

J. I. W. Ans.—We strongly advise sending it to a tannery; but if our subscriber doesn't value his time at anything, and is willing to risk amateur's luck with the skin, he might try one of the recipes for tanning appearing so often in these columns of late.

FEEDING APPLES TO COW.

Am very much pleased with your weekly paper. Indeed, if succeeding numbers are as good as Feb. 6th and 18th, can only say every farmer in Canada ought to subscribe.

Would a few ripe apples, fed a milking cow once a day, have any effect on her milk supply? We give her best and bran and good timothy hay, with cut cornstalks every day, but have quite a lot of small apples and do not know what to do with them, having no pigs. Have only four acres, half in orchard, so have not much room for stock. E. W. M.

Ans.—It is probable that some slight benefit would be derived by feeding her four quarts or a peck of these apples per day, although large quantities would very likely cause shrinkage in the milk flow.

CONTAGIOUS ABORTION.

We have been troubled with abortion in cattle. Will you give me the cause of it, also the cure, if any, and should cows be removed from others? A SUBSCRIBER.

Ans.—It is difficult to assign a cause for this scourge. It is believed that a bull that has been in service in a herd affected may carry the germs to cows in the herd he goes to. A cow purchased from an aborting herd may also infect the herd she goes into. It is claimed that from other cows coming in contact with discharges from the vagina of affected cows, the germs find their way by the genitals of the healthy cow, and set up the disturbing influence. It is strongly advised to isolate the affected cows, and disinfect the stable they leave. If left with the other cows, the manure gutter should be sprinkled freely every day with a disinfectant, and the tail and other hind parts of the cows be washed daily with the disinfectant. An aborted cow should not be bred again for three months, and should be fed 25 drops of carbolic acid in a pint of water twice a day for four weeks, on feed or as a drench. The sheath of the bull used in such a herd should also be disinfected with a syringe after each service.

RINGWORM STUBBORN CASE

HEALED BY ZAM-BUK.

The most troublesome and obstinate of all scalp trouble is ringworm. Mrs. H. Girdlestone, of 106 Rawdon St., Brantford, Ont., says: "My daughter had ringworm very bad, so bad that I was compelled to have her hair cut off. I obtained a preparation from the druggist to paint the sores, but instead of curing, the Ringworm developed into nasty sores mattering and smelling badly. I saw Zam-Buk advertised in the newspaper and immediately sent for a box. After several applications I could see a great improvement, and as I kept up the Zam-Buk treatment daily the disease was soon checked. The nasty sores were thoroughly cleaned and healed, and all trace of Ringworm banished from the child's scalp in a few weeks after commencing with Zam-Buk. I cannot recommend Zam-Buk too highly."

Zam-Buk cures cuts, burns, chapped hands, cold sores, itch, ulcers, eczema, running sores, catarrh, piles, bad legs, rheumatism, neuralgia, sciatica, abscesses and all diseases of the skin. Of all druggists and stores, 50c., or postpaid, upon receipt of price, from Zam-Buk Co., Toronto; 6 boxes, \$2.50.

LEADER fence Lock

Newer and Stronger

Think of the strongest lock of which you know on a woven fence and multiply its strength two fold. You then have an idea of the strength of the Leader lock—the new lock with the double grip (single grip locks have hitherto been considered good enough for woven fences).

The "Leader" is a brand new No. 9 hard steel wire fence—more durable and a better investment than ever before offered.

TAKE ORDERS FOR US

Write for money-making proposition, covering our complete line of farm and ornamental fences and gates.

Frame & Hay Fence Co., Ltd.
Stratford, Canada



OUR STUDENTS PROVE

the success of our methods. When our records for the past six months show that each month we enrolled from one to six of our former students for new courses, there must be something valuable about our instruction. We can help you just as we helped them. We give instruction by mail in Bookkeeping, Shorthand, Arithmetic, Commercial Law, Business Correspondence, Teachers' Certificates, Matriculation, Beginner's Course, Agricultural Subjects, Steam Engineering, etc. Ask for what you need. Address as below to 752

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\$1000 REWARD
FOR THEIR EQUAL.
No slide head. Oil only twice a year. Ask about our two wheel power mills and our arm saver huskers. Get book 113 free. Write for it today.
DOUBLE POWER MILL CO.
Appleton, Wis., U. S. A.

QUESTIONS AND ANSWERS. Miscellaneous.

CROP TO PLOW UNDER FOR WHEAT.

I have a piece of land fall plowed, and I want to put wheat on it this fall. What crop would you recommend sowing this spring so I can turn under about July 1st?
F. J. S.

Ans.—We know nothing better than field peas.

SALT FOR BARLEY.

1. What quantity of salt should be sown per acre when sown on barley?

2. How big should barley be when salt is sown?

3. Is salt of much value when sown on barley on loamy land?
J. O. S.

Ans.—1. Two hundred pounds per acre is a fair dressing.

2. Apply before the barley is sown.

3. Sometimes it produces benefit and sometimes the results are negligible. Salt is not a direct fertilizer, but acts, if it acts at all, upon the plant food already in the soil, tending to make it more available. It is also believed to have an effect in retaining moisture in the soil. On grain crops, it sometimes proves beneficial in tending to stiffen and brighten the straw. In general, the expenditure of money for salt is not advisable, except for mangels. Usually, it is wiser to purchase actual plant foods, such as ashes, bone meal or their commercial substitutes.

PERENNIAL SOW-THISTLE SEED.

I bought 40 bushels oats for seed, and find that it has come from a farm on which there is sow thistle. Could it be safely sown after being cleaned with fanners?
H. S.

Ans.—There will be little or no danger of getting any of the perennial sow thistle seed in your oats, or, in fact, any seed. The seed usually remains attached to the papus so securely that it is blown out easily with the fanning mill. If detached from the papus, it will fall among the screenings, as it is a very small light seed, not so large as the Canada thistle seed. The greatest source of contamination with sow thistle is the seed that is carried by the wind from crops in which the seed is allowed to mature. It may travel for miles in that way. What we should have, in my opinion, is some effectual law which would prevent this thistle ripening its seed on any man's farm. It is poor encouragement to the farmer who is cultivating his land thoroughly to destroy weeds to have his careless neighbors, nearby or miles away, furnish him with sow-thistle seed enough to contaminate his summer-fallow or hoe-crop ground. Surely it is time we were protecting ourselves against this, the introduction of what I believe to be the worst weed menacing the farmer to-day.
T. G. R.

SAND OR HAIRY VETCHES.

1. If I sow sand vetch on sandy soil, can I get rid of it, as it is a fall vetch?

2. How is it for pasture?

3. How for hay?

4. How to plow down?
C. B.

Ans.—1. Although we have sown the sand or hairy vetch, both in the autumn and in the spring in each of several years, we have not found this vetch to become a troublesome weed at Guelph. However, it would be likely to prove to be a more persistent grower, and a little harder to eradicate than the common spring variety. Owing to the high price of the seed, however, the hairy vetch is almost excluded from general cultivation in Ontario.

2. The hairy vetch makes an excellent pasture crop when sown either in the fall or in the spring of the year.

3. It also furnishes a large yield of hay of excellent quality; but, owing to the fact that the plants become tangled together considerably when growing, it is sometimes rather difficult to cure the crop into hay.

4. The hairy vetch is a leguminous plant, and provides a large amount of green manure of excellent quality, but the price of the seed makes the crop expensive, and its peculiar habit of growth makes it rather difficult to plow under satisfactorily as green manure.

O. A. C., Guelph. C. A. ZAVITZ.

STARVED!

Many people eat in plenty, but yet do not obtain the amount of nourishment they need. Their food is not assimilated. An occasional cup of "BOVRIL" will tone up the system and stimulate the gastric functions so that full benefit is derived from ordinary diet. The most economical way is to get the one pound (16 oz.) bottle.

PURITY FLOUR

in itself costs more than most flours—but the bread costs less.

WHY

because it makes more bread and better bread to the barrel.

Your grocer will gladly sell you some to-day or any time.

712

WESTERN CANADA FLOUR MILLS CO., LIMITED
MILLS AT, WINNIPEG, GODERICH AND BRANDON.



To Tenant Farmers and Others

We hold the Exclusive Agency for large blocks of rich, specially selected lands in SASKATCHEWAN, ALBERTA AND MANITOBA at

\$8 per Acre

and upwards for choice locations

On Very Easy Terms or Crop Payments

Terms 5 to 10 years as purchaser prefers. Parties having only a few hundred dollars to invest can participate. Lands in well-settled wheat-growing, stock-raising and mixed farming districts—easy to reach, easy to work, producing wonderful crops—good cash markets, healthful climate, desirable neighbors.

You can easily have a farm where our lands are situated and own it clear, because frequently

One Year's Crop Pays for the Land

Now is your opportunity to secure the best bargains in farm lands obtainable anywhere, on terms not offered by any other company.

Write at once for particulars or call for a personal interview.

Address F. W. HODSON, MANAGER LAND DEPARTMENT

Union Trust Company, Limited
174 Bay Street - - - - Toronto, Ontario

795

When Writing Advertisers Kindly Mention "The Farmer's Advocate."

Don't plan your BUILDING or REPAIRING till you get THIS BOOK

FREE TO YOU FOR A 2-CENT STAMP TO COVER POSTAGE

Whether you're planning a barn or a poultry house—a hog house or a stable—get the right ideas from "Practical Farm Buildings"—the book we are now sending out to all who get in their applications.

Through working drawings, floor plans and text it shows how to build to the best advantage.

Send your name NOW for a complimentary copy. It's an invaluable book to have on hand. Incidentally it gives you information on the roofing question which anyone who believes in getting his money's worth will be mighty glad to have. Tell us when you write if you're interested in roofing.



Real economy depends upon what you get for your money. Cheap roofing is easily the most expensive. PAROID READY ROOFING costs a little more and is worth FAR more than any cheap substitutes. IT LASTS years upon years of solid service. The only ready roofing with rust-retarding caps.

But this is one reason only—you will learn the others and a great deal more when you get the book.

DON'T miss the book—send for it—send NOW.

F. W. BIRD & SON, Est. in U.S.A. 1817 (Dept. 8) Hamilton, Ont.



The EDISON PHONOGRAPH

THE Edison Phonograph is just what the average home needs for good entertainment. It entertains all who hear it and is unlimited both as to variety and amount of music and other forms of vocal and instrumental entertainment.

Go to the nearest Edison dealer's and see the new model Edison and hear the latest Records, or write to us for descriptive catalogue.

WE DESIRE GOOD, LIVE DEALERS to sell Edison Phonographs in every town where we are not now well represented. Dealers should write at once to National Phonograph Co., 100 Lakeside Ave., Orange, N. J., U. S. A.



Be An Expert Engineer.

You can be an expert engine operator in from two to four months through The Heath School of Traction Engineering (by correspondence), and it will not interfere with your present work. Spare-time study is all that is required to put you through the course. The School is conducted under the auspices of The Thresherman and Farmer, which publication guarantees its reliability and power to turn out practical engineers. OUR DESCRIPTIVE BOOKLET SENT FREE ON REQUEST.

E. H. HEATH CO. LIMITED,
Dept. T,
WINNIPEG, CANADA.

BOOK REVIEW.

THE LATEST HISTORY OF SHORT-HORNS.

The most complete, critical and comprehensive history of the origin, development and record of the "red, white and roan" breed ever produced is the splendid volume of nearly 900 pages just issued from the press, written by that master author of live-stock literature, Mr. James Sinclair, and published by Vinton & Co., London, England, publishers of the Live-stock Journal. The object has been to place on record as many facts as could be obtained regarding the work of the early breeders and the development of the breed throughout the wide regions where it has been cultivated. Mr. Sinclair in his narrative has gone to the bottom of the history of the breed, which has proved its cosmopolitan character and its peculiar adaptability to the wants of man wherever introduced, in the dual capacity of meat and milk production. The work is divided into twenty-seven chapters and an appendix giving prices at notable sales the world over, from 1810 to 1906, and the index is so complete that any desired information within its covers may be found at a glance, the chapters commencing with the origin of the breed and its remarkable development from the ancestry of British cattle, and its widespread influence. Intensely interesting accounts are given of the character and achievements of the early breeders and of their principal successors on the honor roll in the more than one hundred years of the history of the breed down to the present time. A chapter on the milking properties of Shorthorns is timely at this juncture, and will prove useful reading, the record in this regard in many Old Country herds being such as to challenge the admiration of not only the friends of the breed, but of those who are looking for the dual-purpose cow in her best combination. The book is a masterpiece in its line, profusely illustrated with excellent portraits of the leading breeders of the early days and prominent animals figuring in the improvement of the breed. It is a work that should have a place in the library of every ambitious or interested breeder of Shorthorns.

GOSSIP.

Mr. W. H. Tran, Cedar Grove, Ont., in ordering a change in his advertisement, writes: "My Clydesdale stallion, rising three, is looking well, and is in good shape, and anyone wishing to purchase such a horse will do well to see him before buying. My Ayrshires are all looking well; have still some young stock of both sexes for sale, also some good Yorkshires of both sexes. Visitors are always made welcome, and met, if notified, at Locust Hill (C. P. R.), or Markham (G. T. R.). Independent telephone in the house; Bell telephone, Cedar Grove."

Mr. Thompson Porter, Toronto Junction, Ont., breeder of high-class Jersey cattle, writes: "I must say I am very much pleased with the result from my advertising in 'The Farmer's Advocate,' and especially so since I put in the photo of our yearling bull, Golden Fox 72108, junior champion at Toronto National Exhibition, 1907. Although the bull is only a youngster, I have already sold nine of his get, and still have fifteen bulls and heifers left. I think I never saw a lot so even and so much alike, straight, deep, angular bodies, with well-divided, thin, well-spread thighs, a great requisite in perfect dairy type. They are chips of the young block sure, and duplicates of that grand cow, Brunette (imp.). His grandam, for which \$1,500 was refused, and which Mr. Fuller, one of America's best judges said, while judging her at Toronto, was the most perfect dairy-type heifer he ever saw, and gave her first place in her class, and sweepstakes for the best female of any age, although she was only a yearling. American Jersey breeders are loud in their praise of the results of the cross between the Golden Lad family and the St. Lambert. And I am sure, from what I see, I can join them in that praise."

NATIONAL SHEEP-BREEDERS' ASSOCIATION.

The ninth International Conference of Sheep-breeders will be held on Monday, June 29th, 1908, in the Council Chamber, Town Hall, Newcastle-on-Tyne, England, at 4.30 p. m., the day previous to the opening of the Royal Agricultural Show, at Newcastle-on-Tyne.

The subject for discussion is one of world-wide interest, "The General Management of Sheep." Mr. Alfred Mansell, of Shrewsbury, has been asked to open the discussion by reading a paper upon this important matter. The Council will be pleased to welcome any representative of Governments or societies interested in sheep-breeding, and will be obliged if an early intimation of the name, home address and address in England of such representative be sent to the address below. This Association has powers, under its Memorandum and Articles of Association to admit into affiliation foreign and colonial sheep societies, an opportunity which they are pleased to say has been already accepted by several societies, and the Council trust that this notification will result in this number being largely increased. The terms of subscription for the above societies are £1 is. a year for each member of the Council nominated by the society affiliated, with a maximum of four representatives from any society, this being the limit of representation allowed any affiliated society, home or otherwise. Copies of rules, etc., will be sent on application to W. W. Chapman, 4 Mowbray House, Norfolk Street, Strand, London, W. C., England.

QUESTIONS AND ANSWERS. Miscellaneous.

A HALLOWE'EN PRANK.

Would like to know something about the law regarding stealing on hallowe'en. It has become the habit of the young men to steal fowl and have a supper on hallowe'en.

1. Can the man at whose house this supper is held, knowing such to be the custom, but considering it none of his business where or how fowl are obtained, be held in any way responsible?
2. Or, must the losers find the direct thieves?
3. Are the whole or any part of parties taking part in feast responsible?
4. How and what legal grounds would the losers have to take to obtain reparation?

J. F. S.

- Ontario.
Ans.—1. Hardly.
2. Yes.
3. Probably all.
4. By laying information before a magistrate, or by suing the guilty parties in the Division Court, or both.

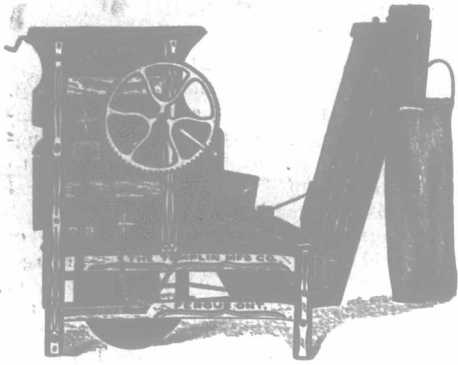
ROUP IN TURKEYS.

Kindly state cure for roup, or swelled head in turkeys.

J. L. H.

Ans.—In the winter of 1889, my turkeys contracted roup or swelled head, brought on, I thought, by compelling them to roost in a warm building at night and allowing them to run out during the cold days. I tried many different remedies with very poor results. I have known rare cases where a bird of strong constitution and running in the open air day and night have recovered without any treatment. I was so disgusted with my experience in 1889 that I have since practiced killing an afflicted bird as soon as noticed. There is a small piece of loose flesh between the eye and beak, and when this flesh is noticed to bulge out the slightest and remain that way—not being drawn in in the act of breathing—then I take the bird from the rest of the flock at once. I confine it in a small building, where other turkeys are never allowed, and in two days' time the bird will be all right, if it is only a cold; but generally the hatchet has to be used. By watching for it, and treating this way, I have only had to kill one bird the past two years. If not carefully looked over occasionally, it will probably be swollen slightly for ten days or two weeks before noticed. A turkey with a badly-swollen head is a danger to all other healthy birds; and, even if cured, should not be used as a breeder. My experience has been that prevention is the more profitable policy.

W. J. BELL.



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The latest and best device for cleaning and grading all kinds of seed and grain. 40 years ahead of all others. Sieves and vibration do the work, and do it thoroughly. Does not blot out good grain with the chaff. Perfect separation. Easy to turn. Saves its cost in one season. See nearest agent, or write for booklet F.

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Safe, Sure, Effective.
All Druggists, 40c and \$1.00
LYEAM, BONS & CO.
MONTREAL

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QUESTIONS AND ANSWERS.
Miscellaneous.

KEEPING A BULL.

Is there anything to prohibit a man from letting a bull run loose on his own premises, so long as he is not vicious? Ontario. OLD SUBSCRIBER.

Ans.—No.

REGISTRY OF CONQUEROR.

I would like to know in which stud-book Conqueror, the sire of Darnley (222), was registered, the Scotch or the English? J. H.

Ans.—Conqueror, the sire of Darnley (222), is registered in the Scotch Clydesdale Studbook, and his number in that book is (199). He was bred in Kirkcudbrightshire, Scotland, and owned in Glasgow. His sire was Lochfergus Champion (449).

FAULTY UDDER—GRAIN RATION FOR YOUNG STOCK.

1. A dairy heifer, two years old, due to calve on April 1st, has one quarter of her udder more developed than the rest. She has been getting only about three quarts of grain per day, chiefly bran, and about a peck of roots, mixed hay and straw. Does this symptom indicate that there is something wrong with that quarter?

2. What grain ration would you feed a heifer like this along with hay and roots? Have ground wheat (frozen), bran and barley chop.

3. What grain ration would you give cows of 1,200 to 1,300 lbs., due to calve April 1st? In each case to make them do their best and still not injure.

SUBSCRIBER.

Ans.—1. It is not stated whether the heifer is or has been milking. If not, we should judge that she may have received a bruise of that quarter, in which case an application of some strong liniment may be necessary. But if there is little or no inflammation or hardness in the quarter, it may be all right after calving. If she is milking, and there is no swelling or hardness, no treatment would seem to be necessary, but pumping the quarter full of air, and massaging it, would do no harm, and might do good. For this purpose, a bicycle pump, with a short rubber attachment, and a teat syphon or milking tube (disinfected by boiling in hot water) is suitable.

2. On the above ration of hay and roots, she should do fairly well, till she freshens, without any grain; but two or three pounds a day of a mixture consisting chiefly of bran, with a little ground wheat and barley, will yield profitable returns in increased strength of calf and subsequent yield of milk, unless she should get in too high condition and contract milk fever.

3. We should prefer not to risk more than three pounds a day of the mixture recommended for the heifer.

GOSSIP.

A COW THAT HAS PAID HER WAY.

Mr. J. H. Patten, of Paris, Ont., who advertises in this paper a dispersion sale, to take place on March 12th, of his entire herd of Holstein cattle, also grades, horses, etc., writes: "In looking through my books recently, to pick up some items for my sale catalogue, I was much struck with the work of one of my cows. The cow is Pauline Pet (1846), calved March 20th, 1897. She dropped her first calf March 24th, 1899. Since that time up to the present, or nine years on the 24th of March next, she has given an average of 16,000 lbs. milk per year, making the enormous total of 144,000 lbs. She made a total, at two years, that I believe few heifers of the same age can beat. She gave, in exactly twelve months, 14,400 lbs. milk. We weighed her milk every day. Last year she gave over 18,000 lbs. in a little over eleven months. This year, at eleven years old, she came in on Dec. 21st, and since January 1st, last, to date, she has averaged 70 lbs. Seventy-five pounds in one day is the most she ever gave. Her milk was retailed in town up to December last, since then, at wholesale, and

she is just making us \$1 per day. At the present high prices, her feed costs 30c. per day. This cow is bred for heavy work. Her son is Sir Paul De Kol Clothide, sire of four A. R. O. daughters, and two sons, who have sixteen A. R. O. daughters. Her dam is Mercena's Pet; grandam Mercena, dam of a lot of great producers. Mercena 3rd, at four years, gave, in one day, 83½ lbs., and 24.58 lbs. butter in seven days. Last year she gave 90 lbs. milk per day; at five years, 25.87 lbs. butter in seven days. Mercena 4th, last year, gave 88 lbs. milk per day. We feel a little proud of this cow. She seems to think its all right, if we don't forget her at meal time. She is a cow of enormous capacity and wonderful constitution. Has never been sick, nor missed a meal. We have three females in our herd from this cow—all good ones—which will be sold at our dispersion sale on March 12th. The stock bull is Sir Belle De Kol Posch. Send for catalogue, which tells all about them."

Remember the auction sale of Shorthorns on Tuesday, March 3rd, at Britannia, Peel County, Ont., about 20 miles west of Toronto, 3½ miles from Streetsville Junction (C. P. R.), 6 miles from Brampton (G. T. R.), and 7 miles from Port Credit (G. T. R.). The sale will be at the Prospect House farm of Mr. F. A. Gardner, at Britannia, and will include his entire herd of 20 head, imported and home-bred, also 20 head from the Valley Home herd of Messrs. S. J. Pearson & Son, of Meadowvale. In all, there will be 14 bulls and 26 females of choicely-bred Shorthorns, some of which are of deep-milking strains, and all thrifty, well-fleshed animals. Mr. Gardner has rented his farm, and will sell all his herd, and Messrs. Pearson are overstocked and must reduce the herd.

The many friends of Mr. A. D. Perry, late of the live-stock department of Macdonald College, will be pleased to learn that he has accepted the responsible position of superintendent of the 400-acre farm of the Montreal Cotton Company, adjoining their mills at Vallyfield, Que. Mr. Perry has had a wide experience as a farm manager, stock feeder and cheesemaker, having taken the dairy course at the O. A. C., and has travelled extensively throughout the Dominion. He is an enthusiastic reader of "The Farmer's Advocate" and other agricultural literature, and is not ashamed to be called a "book farmer," though he is also a practical farmer in the best sense of the term. His advice to young farmers is "read all the best literature obtainable relating to your business, take as long a course as you can afford at an agricultural college, and visit the best farms you can to observe the methods practiced."

MAKES HIS OWN STOCK FOOD

In interviewing a prominent stock dealer recently, the question of Stock Foods was discussed. He states that for some time he has been making his own stock food, and that the results he had obtained were very satisfactory, that by making it himself he was sure of obtaining only the best and purest of drugs and in the proper proportions, and that the ingredients would not produce the harmful results that he had experienced with many of the preparations now on the market.

As a conditioner and flesh-producer for all kinds of stock, he found nothing that would equal this home mixture, both in economy and results.

He has given this recipe to be published for the benefit of stock owners in general, and is sure that it will be to their advantage to use it.

He found that best results were obtained by using one pound Barnes English Compound and mixing with three pounds of Linseed Meal and six pounds of Corn Meal. Barnes English Compound can be procured from S. G. Amsden, Box 668, Windsor, Ont., who will send a one-pound package, sufficient to make ten pounds of the home mixture, postpaid, on receipt of 50c., money order or stamps.

SAVE THIS ANYWAY.

Here is a simple home-made mixture as given by an eminent authority on Kidney Diseases, who makes the statement in a New York daily newspaper, that it will relieve almost any case of Kidney trouble if taken before the stage of Bright's disease. He states that such symptoms as lame back, pain in the side, frequent desire to urinate, especially at night; painful and discolored urination, are readily overcome. Here is the recipe; try it:

Fluid Extract Dandelion, one-half ounce; Compound Kargon, one ounce; Compound Syrup Sarsaparilla, three ounces. Take a teaspoonful after each meal and at bedtime.

A well-known druggist here in town authority that these ingredients are all harmless and easily mixed at home by shaking well in a bottle. This mixture has a peculiar healing and soothing effect upon the entire Kidney and Urinary structure, and often overcomes the worst forms of Rheumatism in just a little while. This mixture is said to remove all blood disorders, and cure the Rheumatism by forcing the Kidneys to filter and strain from the blood and system all uric acid and foul, decomposed waste matter, which cause these afflictions. Try it if you aren't well. Save the prescription.

"You are charged," said the court, reading the formal complaint, "with having willfully, feloniously and with malice aforethought appropriated to your own use and behoof a certain article—to wit: a vehicle—said vehicle having been wrongfully and feloniously abstracted by you from the premises of one John Doe on or about the 14th day of August, Anno Domini 1907, contrary to the statute in such cases made and provided, and against the peace and dignity of the people of the State of Illinois. What say you? Are you guilty or not guilty?"

"I'm not guilty, Judge," protested the prisoner. "All I done was to steal a buggy."

PLEASE MENTION THIS PAPER WHEN WRITING ADVERTISERS

THE EGG YIELD

What are the hens doing for you this year—how's the egg yield? If you are not satisfied with the record up to date, put your business on a more profitable basis by giving daily in the morning's feed a little of

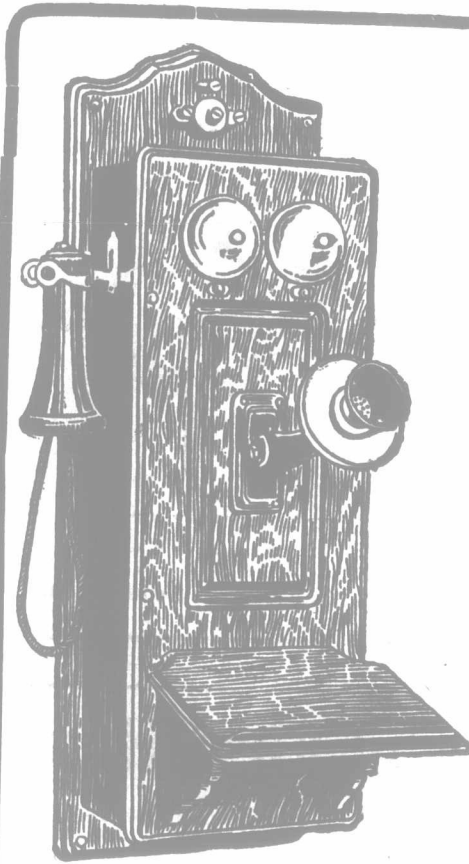
DR. HESS Poultry PAN-A-CE-A

That will mean at once a positive and paying increase. Poultry Pan-a-ce-a is a wonderful poultry tonic. It contains the bitter elements which aid digestion, iron for the blood and nitrates which expel from the system of the hen all poisonous and hurtful matter. It is the prescription of Dr. Hess (M. D., D.V.S.) and is guaranteed to make hens lay eggs when other means fail. It is a remedy for roup and all poultry diseases. Fits fowls for market in less time than can be done without its use, and forces early maturity in young chickens. Endorsed by poultrymen in United States and Canada. Costs but a penny a day for 30 hens.

Sold on a written guarantee.
1½ lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75
25 lb. pall \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

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Instant Louse Killer Kills Lice



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You see and hear a great deal about poor telephone service. This is the natural outcome of using old style, out-of-date telephones and telephone methods.

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10 Imp. Clydesdale Mares and Fillies And Several Registered Canadian-bred Ones.

The get of such noted sires as Olympus, Graphio, Red Ticket, Carbineer, Acme Ert. They are up to a big size, of first-class quality, in good condition, and safe in foal. An exceptionally choice lot. The farm is one mile from Beaverton—stations, G. T. and C. N.—where conveyances will meet morning trains. Lunch at noon. Terms cash unless otherwise arranged for.

CATALOGUES ON APPLICATION.

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Reliable Farm Help

BRITAIN'S BEST

IF YOU need laborers for any class of work, you can rely upon the Salvation Army Immigration Department doing its best to meet your requirements from those whose emigration from Great Britain it proposes to undertake during this year. The majority of these people will come prepared

TO WORK ON THE LAND

as farm laborers or as teamsters, quarrymen, laborers on railway construction and general laborers. Apply at once for application forms to

LIEUT.-COL. HOWELL, James & Albert Sts., Toronto.

When Writing Advertisers Kindly Mention "The Farmer's Advocate."

QUESTIONS AND ANSWERS. Miscellaneous.

ECZEMA.

I have ten October pigs which have a hard scab over their backs, and, when you pick it off, their back seem quite raw. Would you kindly tell me, through your paper, what this is, also treatment for same? M. W. E. S.

Ans.—This is evidently a case of eczema. The bowels should be freely opened at once. Castor oil, or a combination of sulphate of magnesia and sulphur will answer the purpose. An occasional washing with one of the sheep dips (West's fluid or Zenoleum), applied quite warm, the pigs being placed in a narrow crate for treatment, will clean and heal the sores.

PIGS FIGHTING.

1. Will you kindly let us know what causes pigs to quarrel? They have been together for six or eight weeks, and they took a dislike to one, and they all turned on this one, knocking him down, biting, and nearly tearing the ear off him.

2. In a bunch of small hogs, two have turned stiff, and are not doing well. Have been feeding middlings, roots and some barley chop. Please tell me what I should do with them. A FARMER.

Ans.—1. The cause of this "cussedness" is an unsolved problem. The best cure we know is ringing the offenders. Put two rings in the snout of each.

2. Give a desertspoonful of sulphur to each daily for a week in feed. Keep them well bedded, and dry. Keep some ashes and salt, mixed in a low box, where they can take it at will. As soon as the weather gets milder, let them out for an hour each day in a sunny place for exercise.

BOUND VOLUMES.

Where could I get the back numbers for three or four years bound up in book form, also state cost for same? I thought perhaps you might be able to do it for me. I would like each year by itself, unless you could advise some better way. I have tried to keep them clean, and in good condition. W. D. L.

Ans.—Any subscriber who will send us his files complete, may have each year's papers bound in two volumes (six months in each) for \$1.50, the subscriber paying express charges both ways. For the year 1908 and previous to that, one volume is sufficient for twelve months' papers, and for this the charge will be \$1; but since the paper has become a weekly, the complete files for twelve months make too big a bulk for one volume. Cash must accompany order, as at the above prices we make no profit, the offer being made merely as an accommodation.

CIDER VINEGAR—GESTATION TABLE.

1. I have a 45-gallon barrel of cider that I would like to make into vinegar. I haven't any good mother to put in it, so would like to make some if I can. Would you kindly tell me what would be best to do?

2. Three or four years ago, you published a sheet showing how to reckon the period of gestation for different animals, which was very helpful. My copy has been mislaid, and I would be glad if you would reprint it. It will possibly help many other readers. FARMER.

Ans.—1. "Mother" can be started by putting a mixture of one-half old vinegar and one-half hard cider in a shallow crock, and leaving it exposed in a place where the temperature is about 80 degrees. In a few days a thin scum will form. Remove this, and lay it gently on the surface of the cider in the barrel. Do not stir it in. If the temperature is right (about 70 degrees), the fermentation should be completed in a few months. If not satisfactory then, a few pounds of brown sugar may be put in to give more body.

2. The gestation table appeared in our May 10th issue, 1906. It is expensive to set up. The period for cows is nine months; mares, eleven months; sows, four months; ewes, five months, with variations of a few days, and, with mares, sometimes a month.

Fistula and Poll Evil

Any person, however inexperienced, can readily cure either disease with

Fleming's Fistula and Poll Evil Cure—even bad old cases that skilled doctors have abandoned. Easy and simple; no pain; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in

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Dr. Page's English Spavin Cure.

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle and to remove all unnatural enlargements.

This preparation (unlike others) acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Fredrick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents: **J. A. JOHNSTON & CO., Druggists, 171 King St., E., Toronto, Ont.**

West's Disinfecting Fluid

KILLS LICE

SPECIAL PRICE: Five Gallons, \$6.50. FREIGHT PAID.

The West Chemical Co., 125 Queen St., East, Toronto.



Cure Your Horse

with Kendall's Spavin Cure—the one reliable cure for all Bone Diseases, Swellings and Lameness.

FAIR GROUND, Ont., May 3 '06. "I have used Kendall's Spavin Cure with great success, and think it an excellent remedy for Spavins, Sweeney, Sprains, etc. Wm. LINDAY, Dr. R. J. KENDALL CO., Enosburg Falls, Vermont, U.S.A."

RIVER VALLEY CLYDESDALES AND SHORTHORNS.

For Sale—Two stallions, one imp., the other imp. in dam; 3 imp. mares 3 and 4 yrs. of age—a grand pair, with size and quality; 1 fully foal imp. in dam. Shorthorns all ages, of both sexes; straight milking strain. A. V. Carefoot, Thornbury Sta., Redwing P. O.

FOR SALE: CLYDESDALE STALLION riding 3 years this spring Grandson of Imp. Bold Boy. His sire full brother to a world champion show horse at Chicago. A light chestnut. White face. Well feathered. Good mane and tail. Stands 16 hands. Good block and splendid action. Plenty of good flat bone. Was bred to 13 mares last season 9 or 10 have proved in foal. The property of the late Henry K. Schmidt. Must be sold. For further particulars apply to **GEO. MOORE** or **J. H. ENGLE, Y. E., Waterloo, Ont.**

Shannonbank Clydesdales, Ayrshires, Yorkshires One stallion rising three years, by imported Hopewell. Two young bulls ten months, and some heifers from six months to two years. Yorkshires of both sexes. **W. H. TRAW, Cedar Grove P.O., Locust Hill Sta., C.P.R.**

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GOMBAULT'S
CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from horses. Impossible to produce scar or blemish. Send for circulars. Special advice free.
THE LAWRENCE-WILLIAMS CO., Toronto, Canada

OAKLAWN FARM

Largest and Choicest Collection

PERCHERONS FRENCH COACHERS

To be found on this continent Included in our last importation, which arrived February 5th, 1908, are the tops of twenty of the greatest breeding establishments of France. Nearly every stallion has been approved and subsidized by the French government for the season of 1908.

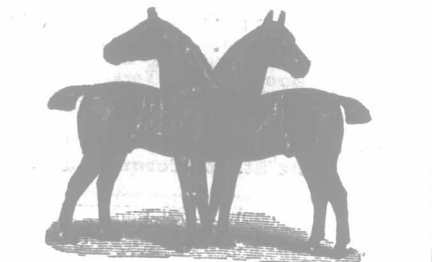
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THE LAFAYETTE STOCK FARM

J. CROUCH & SON, PROPS., LaFayette, Ind.



Largest importers in America of Percheron, Belgian and German Coach stallions and mares. The three popular breeds. The States have about discarded all breeds of draft horses except the Percheron and Belgian. They are low down, blocky shaped, clean legs, cuppy foot and tough, and can go over rocky roads without shoes; are close made, long ribbed, and live on half the food that the leggy, shorty ribbed, big Roman nose kind do. They mature at three years old. Long time to responsible buyers. Guarantee the best. Prices from \$700 up to \$9,200.

ABSORBINE

Removes Bursal Enlargements, Thickened Tissues, Infiltrated Parts, and any Puff or Swelling. Cures Lameness, Allays Pain without laying the horse up. Does not blister, stain or remove the hair. \$2.00 a bottle, delivered. Pamphlet 1-C free.
ABSORBINE, J.F., for mankind, \$1.00 bottle. Cures Syphilis, Weeping Sore, Strains, Gouty or Rheumatic Deposits, reduces Varicose Veins, Varicocele, Hydrocele, Allays pain. Book free. Genuine mfd. only by
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Canadian Agents: LYMAN BONS & CO., Montreal.

HORSE ACTION DEVELOPERS



WRITE FOR PARTICULARS.
G. E. GIBSON, OAKHAM, ENGLAND.

NOTHING BUT THE BEST

New importation of Clydesdales and Hackney Stallions. For sale more Old Country premium and H. and A. Society winners than any other importer. Such horses as A. O. M. Marquis, Marquis, Roxelle, Ardethan Goldsmith, King's Seal, Baron's Charm, Baron's Carrick, Abbey Fashion, Medallion, and many others equally good. Thirty six in all. Prices reasonable.
OSWALD SORBY, GUELPH P. O., ONT.

Clydesdales, Shorthorns and Cotswolds—For individuals of above breeds, write me. My new Cotswold and Clydesdale importation will arrive early in the season.
J. C. ROSS, Jarvis P.O. & Sta.

Imported Clyde Stallions and Fillies For Sale, sired by Marcellus and Prince Alexander; one home-bred stallion rising two years, black, imported-bred.
ALEX. MCGREGOR, Uxbridge, Ont.

QUESTIONS AND ANSWERS.
Veterinary.

MARE SWEATS IN STALL.

Last fall my mare started to sweat on side of neck. Now I notice her sweating on side. She is wet when I remove the blanket. She eats and looks well.

J. F. M.

Ans.—This is hard to account for, and is not serious. You can check the perspiration by washing the part once daily with a solution of corrosive sublimate. 1 dram to a gallon of warm water.

Miscellaneous.

LESSEE IN DEFAULT.

I own a piece of property of which a lease was given to Wm. and Mary G. for the term of their natural lives as a home. The man is dead, and the widow has left the property for two years, and has rented same (without permission, and the repairs are not being done), and has only paid rental for the last three years. Part of lease reads: "Yielding and paying therefor 50c. per annum. First payment due 25th Sept., 1891. That the parties of 2nd part (Mr. and Mrs. G.) covenant with party of 1st part (myself) to pay taxes, rent and repair and keep up fences, and that I may enter and view state of repair, and that they will repair according to notice, and will not assign or sublet without leave, and that they will leave the premises in good repair, proviso for entry by me on non-payment of rent, or non-performance of covenants. The leaser covenants with the lessees for quiet enjoyment."

1. Does widow leaving property make her claim void?
 2. Has owner a just right to take possession without discharge of lease?
 3. Otherwise, what course should owner pursue to obtain possession, she not further intending to make a home of it?
 4. Can she return and take possession after having left?
- SUBSCRIBER.
Ontario.
- Ans.—1. Possibly not of itself alone.
2 and 3. We think he has.
4. Under the circumstances we would say, no.

DITCHING NEEDED.

I live in a village (not incorporated), and a road runs through the center of the village east and west. North side of the village runs up hill, and south side is flat, and there is no ditch on any side of the road. The water from north side comes down to the road, crosses the road and floods our garden, and we can crop nothing. The engineer was called last fall; but north side refuse to make the ditch on their side because they are not benefited by it?

1. How shall I proceed to have a ditch made on north side of road?
 2. Can south side compel north side to do it?
 3. Can we compel the township council to do it, or to crown the road so that the water won't cross it?
 4. Who has to pay the cost? A ditch cannot be made on south side of road because it is banked up with stone to level the road?
 5. Can we compel the Clergy Reserve to make the ditch (their share of the ditch)?
- J. B.
Ontario.

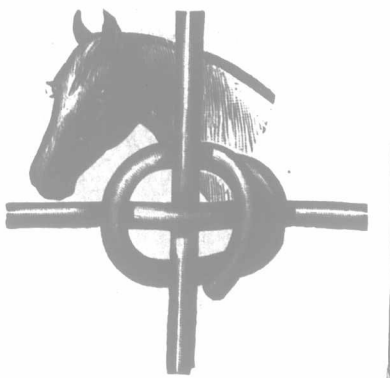
Ans.—1. According to the provisions of the Ditches and Water Courses Act (Revised Statutes of Ontario, 1897, Chap. 285), and amending Acts.

2. We think not.
- 3 and 4. The parties to be benefited, including the corporation of the township, should contribute to the expense.
5. Probably not.

Imported and Canadian bred Clydesdale stallions and fillies are advertised for sale by Alex. McGregor, Uxbridge, Ont. The imported animals are sired by noted Scotch sires, such as Marcellus and Prince Alexander.

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While new to Canadians, the "MONARCH" lock has been for years one of the most popular in the U. S. It is somewhat different and altogether superior to any lock found on any other Canadian Fence. Unlike other locks, the "MONARCH" is applied without a heavy pressure falling on the point where the laterals and stays cross. This heavy pressure weakens the wires greatly, and though the injury is not apparent while the wires are in place, the cause of the weakness is easily seen when the wires are parted or broken later.



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You don't pay a cent extra for the 56 years' experience that goes into Tudhope Sleighs. You don't pay a cent extra for a dozen little improvements that mean extra strength and service. You pay only for what the BEST MATERIALS and WORKMANSHIP are worth. Every Tudhope Sleigh is sold with a guarantee that has been lived up to for 56 years.

TUDHOPE No. 67
This is an all-round, serviceable sleigh. Built for rough roads—an easy, comfortable runner for hard driving. Write for free booklet showing different Tudhope styles.
THE TUDHOPE CARRIAGE CO., Ltd. ORILLIA, Ont.

JOHN CHAMBERS & SONS

Holdenby, Northampton, England,



SHIRE.

Have at their American branch, at St. Thomas, Ont., under the management of C. K. Geary, a number of good big stallions, also several very fine fillies coming three years old, and safe in foal to some of England's leading sires. Address all communications to:

C. K. Geary, St. Thomas, Ont.

CLYDESDALES



Long-distance phone.

At Columbus, Ont., the home of the winners, this year's importation just arrived. The pick of Scotland's best. For size, style, conformation, quality and royal breeding, they eclipse any former importation we ever made. Look them up in our barn on Exhibition Grounds. Over 30 head to select from.

SMITH & RICHARDSON, COLUMBUS, ONTARIO.



Imp. Clydesdales (Stallions and Fillies), Hackneys, Welsh Ponies.
I have now on hand Clydesdale stallions and fillies—Scotland prizewinners and champions; Hackney fillies and Hackney pony; also Welsh ponies. There are no better animals, nor no better bred ones, than I can show. Will be sold cheap and on favorable terms. A. AITCHISON, GUELPH P. O. AND STATION.

SIMCOE LODGE CLYDESDALES

Our stable of imported and Canadian-bred Clydesdale stallions and fillies was never so strong in show stuff as now, although we have had some very strong lots. Call and see what we have before buying elsewhere. HODGKINSON & TISDALE, BEAVERTON, ONT., G. T. & C. N. R. Long distance phone.



OAK PARK STOCK FARM HACKNEYS!

Four imported and home-bred stallions for sale. Ten imported and home-bred mares for sale. Among these are prizewinners at Toronto, Chicago and New York. Prices reasonable. Visitors always welcome to inspect stock. JAS. J. BROWN, Manager, BEAVERTON, CAN.

QUESTIONS AND ANSWERS. Miscellaneous.

CARNEGIE'S ADDRESS.

I am writing you to see if you could give me Andrew Carnegie's address.

F. M.

Ans.—Andrew Carnegie's address is Skibo Castle, Sutherland, Scotland.

BURNT FLAX.

I had 200 bushels of flax in the elevator at Sask., which I left on the raise. I heard that this elevator was burnt last week from the cause of a hot-box at the top. Can I collect any damages or the going price of flax?

Ontario.

Ans.—Probably not, unless you can prove negligence on the part of the elevator people.

WANTS A TEAM OF MARES.

Please inform me where is the best and cheapest place to buy a team of Canadian-bred fillies for farm work, four years old, any good color.

F. F. C.

Ans.—We would advise you to advertise in our "Want and For Sale" column, the rate for which, three cents a word, is very moderate and has proved very helpful to many who have used it.

OWNERSHIP OF TREE-TOPS.

Who owns the oak tops? My neighbor cut oak, and felled the trees on my place across the line fence. Cutting the logs, he left the tops. That was at Christmas, and in March he sold his place.

1. Can the man that bought the place claim the tops?

2. Do they legally belong to me, the tops not being on his place at time of sale, as I have explained as clear as I can?

Ontario.

Ans.—1. No.

2. Yes.

MOTH-EATEN FUR COAT.

A bought a fur coat of B, a store-keeper, which proved to be damaged. B took the coat back, and ordered another coat for A, which also proved to be moth-eaten, and A would not take it. A was willing to discount the price, or take part of the price in other goods to get his money, but B refuses.

1. Can B compel A to take the coat?

2. Or can A collect his money from B?

B's clerk told A that the coat was moth-eaten.

Quebec.

Ans.—1. No.

2. Yes.

DOGS AT LARGE — ROAD FENCES.

1. Supposing A is the owner of a dog, pays tax at the rate of one dollar per year. If B finds this dog roaming over his property, doing no damage more than roaming about, will the law protect B if he shoots that dog?

2. Or, can A make B pay for the dog if A can prove that B shot him?

3. Supposing A lives close to the road. His dog runs out at B's rig and does damage to the rig. Can B lawfully shoot the dog, or must he first notify A that his dog is giving him trouble?

4. Must A pay damage done to B's rig?

5. Are hounds allowed to run anywhere during hunting season?

6. Are the owners of such dogs responsible for any damage they do farmers' stock during that period?

7. Dare a man shoot a hound, or are they protected by the law during hunting season?

8. What is the law regarding road fences? Must a man have a fence along front of his farm that will stop all kinds of stock that run on highway? If he has not, can he lawfully put such stock in pound and get damage done to crops?

Ans.—1. No.

2. Yes.

3. B cannot legally shoot the dog under the circumstances stated.

4. Yes.

5. No.

6. Yes.

7. There is no such right to shoot as suggested.

8. No.

9. Yes, if they trespass on his premises and do damage.

Veterinary.

ENLARGED LEG.

Mare's leg swelled from hock to fetlock early in January, and she was very lame. I bathed it, poulticed it, applied liniment, and blistered it. The lameness and soreness has disappeared; but the leg is about twice its normal size. W. G.

Ans.—The symptoms indicate a sprain, and the thickening remaining will be very hard to reduce. Take 1 ounce each of iodine and iodide of potassium, and 8 ounces each of glycerine and alcohol. Mix, and rub a little well into the leg once daily. Feed lightly, and give regular exercise. V.

UNTHRIFTY MARE—CRIPPLED PIGS.

1. Mare, rising five years, lost flesh while working last spring, and has not gained up since. She is fed hay and a little straw, half gallon of oats in the morning, and a turnip at night. Her hind legs swell.

2. Sow farrowed last fall, and, after weaning the pigs, she went lame on one hind leg, and now is lame on both. She sits up and will not rise unless forced to. H. F. R.

Ans.—1. You are not feeding sufficient grain to fatten her. Give her a purgative of eight drams aloes and two drams ginger. After this has ceased to act, give her one of the following powders night and morning. Take 3 drams each of sulphate of iron, gentian, ginger and nux vomica. Mix, and make into twenty-four powders. Feed her reasonable quantities of good hay, and give a gallon of oats or its equal in weight of rolled oats, three times daily. Give a turnip or two at noon, and a feed of bran twice weekly. Give daily exercise or light work.

2. Purge with 8 ounces Epsom salts, and follow up with 10 grains nux vomica, three times daily. Feed lightly, and see that she takes daily exercise. V.

NAVICULAR DISEASE.

Mare is lame in right fore leg. She is worse sometimes than others. She is quite lame in the morning or after standing a while, but gets some better after going some distance. There is no noticeable difference between the legs. She is not so bad when she is idle. A. J. L.

Ans.—The symptoms indicate navicular disease, and there is little hope of a recovery. The symptoms can be relieved to some extent by repeated blistering. Take 2 drams each of cantharides and biniodide of mercury, and mix with 2 ounces vaseline. Clip the hair off for 2 inches high all around the hoof. Tie so that she cannot bite the parts. Rub well with the blister daily for two days. On the third day wash off and apply sweet oil. Let her loose in a box stall now, and oil every day. Repeat the blistering every four weeks for a few months. V.

LYMPHANGITIS.

Mare was all right at night, and in the morning she was shivering and would not eat, and went lame on hind leg. After a while, the leg swelled on inside near body. I gave her electric oil and saltpetre, and bathed leg with warm water. She eats all right now, but the leg is large and sore.

1. What was the disease?
2. Did I treat her properly?
3. How should she have been treated?
4. How can a recurrence be avoided? W. B.

Ans.—1. This is called lymphangitis, weed, a shot of grease, and, sometimes, Monday-morning disease. It is caused by high feeding and want of exercise.

2. No.

3. Should have been given a purgative of 8 drams aloes and 2 drams ginger, followed by 2 drams nitrate of potash three times daily for a week. The leg bathed several times daily with hot water, and, after bathing, rubbed with camphorated liniment, and, after the lameness gets better, give regular work.

4. Give her daily exercise, and, if she is not doing much work, feed bran instead of oats. V.

THE UNION STOCK-YARDS COMPANY, Ltd. HORSE EXCHANGE

KEELE ST., - - TORONTO JUNCTION

Auction Sales of Horses, Carriages and Harness every Monday and Wednesday. Private Sales every day.



Come and see this new Horse Exchange, it will interest you, also the Quarter-mile Track for showing and exercising

The Directors of the above Company have not spared anything in the building of this new Horse Exchange. The stables, which are built of cement and brick, will stall between 800 and 900 head of horses and are considered by judges, who have seen them, to be the most sanitary they have yet seen.

We have sold on an average of 100 horses per week since the opening of this great horse market, and now that the success of the horse business is assured, we are in a position to handle Breeders' Stock Sales of all kinds, Cattle, Sheep, and Hogs.

Breeders will find that advertising from a central place like Toronto will be advantageous in many ways, as this is unquestionably the most complete market of its kind in America for both buyer and seller.

We have our own railway chutes, which are the finest, and can load any number of cars at once on both G.T.R. and C.P.R. No charge for loading or unloading stock of any kind.

Correspondence solicited as to terms, etc.

HERBERT SMITH, Manager. (Late Grand's Repository).

GLYDESDALES AND FRENCH GOACHERS, IMP.

Scottish and Canadian winners, stallions, mares and fillies. The Clydes represent the blood of such noted sires as Baron's Pride, Up-to-Time, Royal Favorite, Ethelton and Acme. They combine size, quality and action. The French Goachers are a big, flashy, high-stepping lot, and are winners in both France and Canada. Our prices are right, and our horses as good as the best. Long-distance telephone.

ROBT. NESS & SON,

Howick, Quebec.

GLYDESDALE STALLIONS

Our new importation has just landed. An exceedingly good lot. Some extra big fellows. They may be seen at our stables, Fraser House, London. Call and see them, or write

MESSRS. DALGETY BROS., GLENCOE, ONT.

Shires, Shorthorns and Lincolns.

At present we are offering a very choice consignment of imported stallions, mares and fillies received from the great Shire stud of R. Moore & Sons, Boston Fields, Nottingham, England. They are a grand lot, and will be sold at right prices.

In Shorthorns we have a number of choice young bulls, three of them show animals; also an excellent lot of females—all ages.

John Gardhouse & Sons, Highfield, Ont.

Toronto, 14 miles. Weston, 2 1/2 miles.

Graham - Renfrew Co.'s

GLYDESDALES and HACKNEYS.

Our Clydes now on hand are all prizewinners. Their breeding is gilt-edged. Our Hackneys, both stallions and mares, are an exceedingly high-class lot. We also have a few high-steppers and carriage horses. Yonge street cars pass the door every hour. Phone North 4488.

GRAHAM-RENFREW CO., LTD., Bedford Park, Ont.

IMPORTED GLYDESDALES!

9 stallions, 1 to 6 years of age; 10 fillies, 1 to 3 years of age, several of them in foal; 1 two-year-old Hackney stallion; 1 two-year-old Shire stallion; 3 Percheron stallions, 3 years old. All are selected animals, bred in the purple. Will be sold cheap and on terms to suit. T. D. ELLIOTT, BOLTON, ONT. Phone.

DUNROBIN STOCK FARM.

Don't Buy a Clydesdale Mare or Filly until after our AUCTION SALE, on MARCH 12th, at our farm. Write for catalogue. DONALD GUNN & SON, Beverton P. O.

25 Imported Clydesdale Stallions and Fillies 25

Two Clyde stallions, 1 Hackney stallion, over 20 Clyde mares and fillies, from 1 to 5 years of age. Many high-class show animals among this lot. Many winners in Scotland among them. They have size, quality, style, action and breeding. Come and see them. GEO. A. SHODIE, Bethesda P. O., Stouffville and Bermy Station.

IMP. GLYDESDALE STALLIONS AND FILLIES.—Our new importation of stallions and fillies are the best we could select in Scotland, particularly well bred, with the size, smoothness and quality that Canadians admire. Show-ring stuff. Come and see them. Will sell on terms to suit. JOHN A. BOAG & SON, Queenville P. O., Ont., Newmarket Sta., G. T. R. Telegraph and telephone one-half mile from farm. Metropolitan Street Ry. from Toronto crosses the farm.

IMPORTED GLYDESDALES

Up to over a ton in weight, with the very richest of breeding and the best of quality. I think no better shipment of stallions ever left Scotland. I have also nine fillies, without doubt the best lot in Canada. All will be sold cheap and on terms to suit. Long-distance 'phone. GEO. G. STEWART, HOWICK, QUE.

Clydesdale Stallions! ROBT HUNTER & SON, Maxville, Ont.

Are now offering that grand quality horse, Baron Collin, imp., [4542], by Baron's Pride, dam by Flashwood's Best, four years old; also Kyama, Canadian-bred, rising two, imp. sire and dam, a big, grand, good colt, a show animal. Long-distance 'phone.

\$10.45 A Week More Profit

"How much it is possible for me to make out of my cows?"—can be answered in just one way, "as much as you can make with a U. S. Cream Separator." This letter shows the possibilities.

BEFORE

"We had a separator and from 12 cows, we made 36 pounds of butter. The next week we used a No. 6 U. S. Separator and made 74 pounds from the same cows in the same pasture without any extra feed. That is certainly a record-breaker. We made \$10.45 the first week after using the machine. We are very much pleased with it, and could not do without it now. We have used our U. S. three years."

JOHN NEYLON,
MRS. JOHN NEYLON.

RAYMOND, NEB., Nov. 9, 1906.

These two tubs of butter were made from the same quantity of milk from the same cows



Holds
World's
Record

How? Because the
U.S.
SEPARATOR
skims out
all the
cream

AFTER

You've got to get the cream out of the milk, to get your money out—and the U. S. skims out all the cream, the World's Record guarantees it.

The U. S. Cream Separator makes money for you and saves time and work twice every day in the year. The U. S. Cream Separator is easy running—the easiest to clean—the simplest—has fewest parts—lasts longer—and skims cleaner.

Prompt Delivery from well assorted stocks of U. S. Separators in Sherbrooke and Montreal, Que., Hamilton, Ont., Winnipeg, Man., and Calgary, Alta.

Write for free copy of the new book that tells just why the U. S. is such a steady money-maker for farmers and dairymen. Ask for "Book No. 100."

VERMONT FARM MACHINE CO.

Address all letters to Bellows Falls, Vermont, U. S. A. 485

26 Holsteins by Auction 26

At Moss Bank Farm, 2½ Miles North of Paris, on

THURSDAY, MARCH 12, 1908.

The entire herd of registered Holsteins, comprising 2 bulls 15 months old, and younger ones cows, a prime lot of heifers and heifer calves from large-producing cows, and sired by Sir Belle De Kol Posch; also a few good grades. Horses and farm implements, etc. Clean sweep. Sale will commence at 9:30 a. m. Cattle immediately after lunch. Terms: 8 months' credit on approved notes. 6% discount for cash. Conveyances will meet morning trains at G. T. station, and trolley from Galt. Catalogues sent on application to

J. H. PATTEN, PARIS, ONT., PROP.

Jas. Telfer, Paris, } Auctioneers, Jos. Wrigley, Clerk.
Thos. Ingram, Guelph, }

AUCTION SALE, MARCH 12, '08.

W. R. Bowman, Mt. Forest.

WILL SELL BY AUCTION HIS ENTIRE HERD OF

Shorthorn Cattle, Shropshire Sheep, Yorkshire Swine.

The Shorthorn herd is in good breeding condition, and all females of breeding age are safe in calf, or with calves at foot. Such sires as Newton Prince (imp.) and Gronje (imp.) have been used on this herd, and some choice young heifers and bulls will be offered from these sires. The Shropshires are a useful flock, and were bred this past season to Dickens (imp.) and to Prolific (imp.). Some of the ewes have dropped lusty lambs already. The choice STOCK FARM, Crest Hill, will also be offered FOR SALE, if not previously disposed of, also implements and grade stock. Parties wishing to attend sale from a distance will be met at Queen's Hotel, at 2 p. m., if notice of their coming is sent in time.

Farm is situated 3 miles N. E. of Mt. Forest, C. P. R. & G. T. R.

**When Writing Advertisers
Please Mention this Paper.**

QUESTIONS AND ANSWERS. Miscellaneous.

TO DESTROY LICE.

1. What is the best thing to kill lice (big red ones), and their nits on cattle. Something that will not take the hair off.
2. What is the best thing to kill lice (little gray ones) and their nits on horses; something that will not take the hair off?
3. What is good for greasy fetlocks on colts?

Ans.—1. For the large red lice, use insect powder (pyrethrum), sifted into the hair from a flour or pepper dredger, or use West's disinfectant fluid or Zenoleum as per directions.

2. The same treatment should destroy the smaller class of lice. Anything that would destroy nits would take the hair off.

3. Corrosive sublimate, 40 grains to a quart of water rubbed into the itchy parts twice daily.

BREACH OF HIRING CONTRACT

I hired a man in January for seven months, beginning at March 1st; but I sold my farm in February, and am going to quit farming. He wants a certain sum from me, because he says I have put him out of a job. He says he can hire with another man, but for not near as much.

1. Would he be in a position to collect any money from me? He says he can, because I have not kept my promise; that is, by hiring him. We made a fair and square bargain in January, but I said nothing of selling the farm.

2. If he is in a position to collect any money, how much would I have to give him?

Ontario.

Ans.—1. Yes.

2. It is impossible to judge at all from the foregoing statement of facts what amount could be recovered from you as damages for your breach of contract. Better settle. If the matter were to be litigated, the amount would be largely in the discretion of the court, and, in addition, there would be costs to pay.

INTERESTS OF WIDOW AND SON—MISSING HEIR.

1. I would like to find out the facts as to whether a son, having had a farm willed to him, can sell it without consent of his mother or her signature, he having to pay her a certain amount as long as she lives?

2. If she consent and sign papers suitable for him to sell the farm, how can she claim her allowance?

3. If the heir to money cannot be found after advertising for him, how long should that money lie before it is disposed of as per will, property belonging to Ontario?

4. If executor has moved to British Columbia, would that change the length of time? This is very important to me, as I have been told it is seven years here, and he says the law out there is twenty years. It is six years since will was probated. There seems so much dissatisfaction as regards farmers making wills, could we not have a discussion in your instructive paper as to how things should be divided, especially regarding the parent left and the daughters who very often work harder to help parents than their brothers. How do people in the cities usually divide up their property and live after retiring?

Ontario.

X. Y. Z.

Ans.—1 and 2. It is probable that the allowance to the widow is made a charge upon the farm, or at all events that she would be entitled to a lien upon the farm to secure it. It depends, however, upon the construction to be placed on the will, and, in order to advise, it would be necessary to see the exact wording of the document. The matter is one which ought to be submitted to a solicitor by the parties interested, and ought not to prove difficult of arrangement with his assistance.

3. There is no arbitrarily fixed period. The court would consider the circumstances of the case.

4. No. Under favorable circumstances, seven years might be considered sufficient, and it has been so considered in many cases; but the executor would probably be justified in making an application to the High Court for an order dealing with the matter.

ITCHY LEGS.

Please give a remedy for itchy legs of horses. They stamp, and there are small spots with little scabs, and, when turned out in the yard, they bite them. L. T.

Ans.—Dress the itchy parts twice daily with a solution of corrosive sublimate, 40 grains to a quart of water.

TWO-STORY HENHOUSE.

Could a henhouse be built two stories high? If so, the fowls could roost on one floor, and have the other to feed them in; by so doing, more hens could be kept under a smaller roof?

YOUNG FARMER.

Ans.—A poultry-house could be built two stories high, with a roosting and laying rooms above and exercising-room below. This has been done in some places. The poultry department at the Massey farm in Toronto is built this way. I have never seen any so constructed that were very popular. The general impression is that they are not nearly so satisfactory in practice as they look on paper.

W. R. GRAHAM.

REGISTERING A CLYDESDALE.

I have a Clydesdale stallion which I would like to get recorded. I have the registration numbers of both sire and dam. What steps would I have to take to get him recorded, and where would I have to send it? What would it cost me? I am not a member of the C. H. A.

SUBSCRIBER.

Ans.—Write, addressing your letter, "Accountant," Live-stock Records, Department of Agriculture, Ottawa, Ask for blank form of application for registering Clydesdales. The fee required, and other necessary information, you will find printed on the back of this form, which fill in and mail, enclosing the fee, to the Accountant, as above. The fee for a non-member is \$2; for a member, \$1.

AN UNDESIRABLE TENANT.

For the following reason, could a man get a contract cancelled concerning a ten-year lease of farm lands. A leases B a farm for ten years, on condition that B is to have a certain number of cattle and horses to stock the farm with. B is at present renting a farm from C, but is not able to pay the rent, so C has taken a chattel mortgage on his stock for same, which will greatly reduce B's stock, so much so that he will not have sufficient to go on A's place, according to contract between A and B. Has A sufficient grounds to have contract cancelled, or what would you advise A to do?

Ontario.

SUBSCRIBER.

Ans.—We do not see that A is in a position at present to obtain a cancellation of the lease by legal proceedings; but we so judge from facts above stated alone, and it may be that upon some ground B has rendered himself liable to have the lease cancelled. We would advise you, accordingly, to consult a solicitor, and see if he cannot find some way for you out of the difficulty.

AMOUNT OF SEED PER ACRE—SOWING FALL WHEAT.

1. How much seed per acre should be sown of the following: Clover, timothy, alfalfa, barley, buckwheat, rye, oats, peas, wheat and corn?

2. When should fall wheat be sown.

A QUEBEC READER.

Ans.—1. Conditions vary considerably, and opinions still more widely. For ordinary purposes, on average soils, we should name the following as standard seedings: Clover, 10 pounds; timothy (to be sown with clover), 5 pounds; alfalfa, 20 to 25 pounds; barley, 2 bushels; buckwheat, 3 to 4 pecks; rye, 7 pecks; oats, 2 to 2½ bushels; peas, 2 to 2½ bushels, depending on variety; wheat, 7 to 8 pecks; corn, for husking, 3 or 4 kernels per hill, for ensilage, 4 or 5 kernels per hill, or if in drills, one kernel every ten or twelve inches. Small-growing varieties may be planted a little thicker when grown for ensilage. The foregoing figures apply to the standard Canadian acre, and would be equivalent to about four-fifths of that amount in the Quebec arpent.

2. In Western Ontario, fall wheat usually succeeds best when sown the first week in September. On poor land, it is sometimes sown the first of August, and on extra rich land the second week in September is sometimes preferred, as there is a possibility on such soil of the crop growing too big a top.

DOES YOUR HEAD

Feel As Though It Was Being Hammered?

**As Though It Would Crack Open?
As Though a Million Sparks Were Flying Out of Your Eyes?
Horrible Sickness of Your Stomach?
Then You Have Sick Headache!**

BURDOCK BLOOD BITTERS

will afford relief from headaches no matter whether sick, nervous, spasmodic, periodical or bilious. It cures by removing the cause.

Mr. Samuel J. Hibbard, Belleville, Ont., writes: "Last spring I was very poorly, my appetite failed me, I felt weak and nervous, had sick headaches, was tired all the time and not able to work. I saw Burdock Blood Bitters recommended for just such a case as mine and I got two bottles of it, and found it to be an excellent blood medicine. You may use my name as I think that others should know of the wonderful merits of Burdock Blood Bitters."

**I Cured My Rupture
I Will Show You How To Cure Yours FREE!**

I was helpless and bed-ridden for years from a double rupture. I wore many different kinds of trusses. Some were tortures, some positively dangerous, and none would hold the rupture. The doctors told me I could not cure it without a surgical operation. But I fooled them all, and cured myself by a simple method which I discovered. Anyone can use it, and I will send the cure free by mail, postpaid, to anyone who writes for it. Fill out the coupon below and mail it to me today.

Free Rupture-Cure Coupon

CAPT. W. A. COLLINGS,
Box 63 Watertown, N. Y.
Dear Sir:—Please send me free of all cost your New Discovery for the Cure of Rupture.

Name _____
Address _____

BROOKS' NEW CURE

FOR RUPTURE
Brooks' Appliance New discovery. Wonderful. No obnoxious springs or pads. Automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves. No lymphol. No lies. Durable, cheap. Pat. Sept. 10, '01. SENT ON TRIAL. CATALOGUE FREE. C. E. BROOKS, 6870 Brooks' Bldg., MARSHALL, MICH.

CONSUMPTION Book Free!

If you know of any one suffering from Consumption, Catarrh, Bronchitis, Asthma, or any throat or lung trouble, or are yourself afflicted, this book will help you to a cure. Write at once to the Yonkerman Consumption Remedy Co., 132 Rose Street, Kalamazoo, Mich. Don't wait—do it now.

MR. A. I. HICKMAN,

Court Lodge, Egerton, Kent, England, exports pedigree live stock of every description to all parts of the world. Exported during 1907 more Shetland ponies, more Romney Marsh sheep, and more champion Oxford Downs than any other breeder or exporter, besides large numbers of other breeds of horses, ponies, cattle, sheep and pigs. Correspondence invited. Highest references given.

THE SUNNYSIDE HEREFORDS



To reduce herd will sell:
10 cows at \$100 each
10 heifers at 50 each
10 bulls from \$50 to 100 each
Come and see them or address

M. H. O'NEIL,
Southgate, Ontario.

ABERDEEN - ANGUS

For sale, 50 head to pick from, males or females by imported sire. Drumbo station.

WALTER HALL, Washington, Ontario.

HYDE PARK HEREFORDS Young stock of both sexes. Cows with calves at side. Cows and heifers bred. Prices right. **THOS. SKIPPON,** Hyde Park, Ont.

GOSSIP.

A Clydesdale stallion, three years old, son of Bold Boy, is advertised for peremptory sale in this paper. Look up the advertisement, and write for particulars.

Mr. James Dalgetty, of Glencoe, Ont., the well-known and popular importer of Clydesdale horses, has lately sold to Messrs. Batters & Mournahen, of Grand Valley, Ont., the high-class quality stallion, Linton Lad (12639). He is a bay four-year-old son of that great show horse, Alexander Everard, by that greatest of sires, Sir Everard; dam Sally of Wester Deans (14650), one of the most noted prize and cup winners of Scotland, by the noted Glenalbyn, a son of the great mare, Beatrice, winner of 23 cups and medals, thus making him exceptionally richly-bred on fashionable and prize-winning lines. Individually, he is a show horse of a very high order, up to a ton or over in weight, wonderfully smooth of mould from the ground up, showing that flashy quality so much admired in the best class of Clydesdale stallions to-day. He'll be a bonnie 'un for some of thay 'uns to run up against next spring.

LAST CALL FOR THE EDWARDS-DRUMMOND-WHITE SALE.

March 5th is the date, and Toronto Junction the place, advertised for the joint sale of Shorthorn cattle from the noted herds of W. C. Edwards & Co., Rockland; Senator Drummond, Beaconsfield, and Peter White, of Pembroke. A grand lot of young bulls and heifers of the best of breeding are included. That the country needs the services of these young bulls is evidenced by the weekly run of cheap-selling scrub stuff seen in the stock-yards at Toronto, Montreal and elsewhere. Heavy loss is sustained by farmers in feeding this class of stock as compared with well-bred cattle. Never was a more favorable opportunity to secure good-quality bulls at moderate prices than at present. Sell the old bull for beef, unless he is an extra good breeder, and buy a good young one to take his place. Fat bulls sell well for export now. There will be a good chance for selection at the sales advertised for the next two weeks. A good time to buy is when prices are not running high. Then you will be ready to realize when the rebound comes and prices are going up, as they certainly will in the near future.

LAST CALL FOR THE MILLER AND GUNN SHORTHORN SALE.

Following is a short description of the breeding of part of the females to be sold at the Toronto Junction Stock-yards, on Friday, March 6th, by Robert Miller, Stouffville, and Donald Gunn & Son, Beaverton, Ont. Every animal offered is a high-class one of modern type, in good condition, and bred along the most approved lines. It is a surplus-stock sale, and there will be no reserve. The consignees are gentlemen whose reputation is above reproach, and whose herds are among the very best in this country. Many of the animals to be sold are show stuff of a high order, and intending purchasers will certainly find in the offering something to please. The terms will be cash, unless otherwise arranged for. The sale will commence at 1 p. m. Toronto Junction Stock-yards are easy of access from any point of the city. "Dundas cars" will land visitors at Toronto Junction, when a transfer on the Weston line will land them at the Yards. The sale will be held in a covered pavilion, and the comfort of visitors is assured, and this sale being held the day after the Edwards-Drummond-White sale, will give buyers a greater range to choose from than was probably ever offered before in this country. All told, 100 head, part of which are imported, will be sold. The Miller-and-Gunn offering are the get of such richly-bred imported sires as Nonpareil Duke, Cronje 2nd, Scotland's Fame, Magstrand, Republican, Lucerne, Bonus, and others of first-class rank; while on the dam's side they are of such favorite families as the Lady Fanny, Nonpareil, Buckingham, Missie, Bellona, Averno, Fry and others of equal merit. The females of breeding age either have calves at foot or have been bred to first-class sires, and the offering, as a whole, will be found a very attractive one.

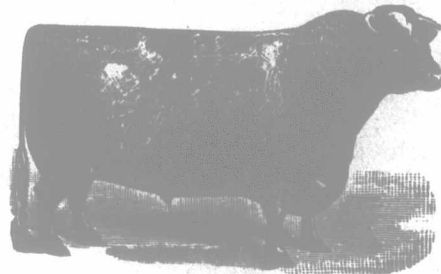
40 SCOTCH AND SCOTCH-TOPPED 40 SHORTHORNS BY AUCTION 40

AT PROSPECT HOUSE STOCK FARM

The property of Mr. F. A. Gardiner, 3 1/2 miles east of Streetsville Jct. Stn., 6 miles south of Brampton, and 7 miles north of Port Credit, on

Tuesday, March 3rd, 1908

Mr. F. A. Gardiner will sell his entire herd of 20 head, including his two high-class stock bulls, to which will be added 20 head from the noted herd of Messrs. S. J. Pierson, Son & Co.



In all there will be sold 14 bulls—some extra high-class ones among them—and 26 females, imp. and Canadian-bred; a number of local prizewinners among them.

Terms: Cash, or 7 months' on bankable paper, with 5% interest. Lunch at noon. Conveyances will meet morning trains at Streetsville Jct. and Port Credit, and will be at Queen's Hotel, Brampton, at 10 a. m. Catalogues on application to:

F. A. Gardiner, and S. J. Pierson, Son & Co.
Britannia P. O. Meadowdale P. O.

Auctioneers: John Smith, M. P. P.; Capt. T. E. Robson.

Ontario Department of Agriculture.

Provincial Auction Sales OF PURE-BRED CATTLE

(Registered).

100 Head, Males and Females, of Beef Breeds

will be held at the following points:

**QUELPH, MARCH 4;
PORT PERRY, MARCH 11, 1908.**

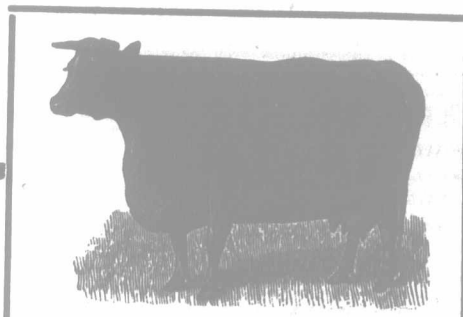
All stock inspected before being accepted. Only good representatives of the various breeds will be offered.

Special Inducement to Purchasers in Ontario:

Freight Paid: The freight on any animals purchased at these sales by residents of Ontario shipped to purchaser's station in Ontario, will be paid by the Ontario Department of Agriculture. The original receipted freight bill containing the point of shipment and destination, name and registration number of the animal purchased and shipped, the estimated weight for billing, and the rate charged per cwt., should be sent immediately to the Live-stock Branch, Ontario Department of Agriculture, Toronto.

For catalogues and particulars regarding any of the sales, address the Secretary at the point of sale, or make application to:

Live-stock Branch, Ontario Department of Agriculture, Toronto.



ROBERT MILLER,
Stouffville,
Ont.,

DONALD GUNN & SON,
Beaverton,
Ont.,

WILL SELL ON **FRIDAY, MARCH 6th, 1908,**

By Auction, at the **TORONTO JUNCTION STOCK YARDS,** Forty Straight

Scotch Shorthorns

Consisting of five imported bulls and five home-bred bulls, fifteen imported females, cows and heifers, and fifteen home-bred females, cows and heifers, of highest quality and most fashionably bred, and will positively be sold without reserve. Terms cash, unless previously arranged for.

Catalogues on application to **ROBERT MILLER, Stouffville, Ont.**
Hon. W. C. Edwards, Sir Geo. Drummond, and Peter White, K.C., will sell at the same place preceding day.

When Writing Advertisers Kindly Mention "The Farmer's Advocate."

Shorthorn Sale

AT

TORONTO, ONTARIO,

Annual "Produce" Sale of the three great combination herds, the property of The W. C. EDWARDS CO., Ltd., Pine Grove, Rockland, Ont.; SIR GEORGE DRUMMOND, K.C., M.G., Huntleywood, Beaconsfield, Que., and PETER WHITE, Pembroke, Ont., at the **New Sale Pavilion, Union Stock Yards, Toronto Junction, on**

Thursday, March 5th, 1908

At one o'clock sharp.

20 BULLS.**43 HEIFERS.**

Sons and daughters of the greatest sires and the best matrons that money and judgment can buy, and themselves prizewinners at the leading shows.

A good Cruickshank bull to place at the top of your herd, or a few choice Scotch heifers to embellish it.

We are not "making" a sale. We are disposing of the natural increase of our herds.

Auctioneers:

COL. CAREY M. JONES and CAPT. T. E. ROBSON.

FOR CATALOGUES, APPLY TO

JAMES SMITH, Supt.,
Rockland, Ont.

Messrs. Robert Miller and Donald Gunn & Son sell at Stouffville, March 6th.


Maple Grove SHORTHORNS.

6 bulls and 2 heifers for sale. Bred from imp. and home-bred stock. A number of young cows safe in calf. Present stock bull, Sharry Morning. **C. D. WAGAR, Enterprise, Ont. Sta. & P.O.**

PLEASE MENTION THIS PAPER

YOUNG SHORTHORN BULLS!

Am now offering 2 grand ones from Scottish Peer (imp.). Will make show animals. Also Leicester sheep. A number of young breeding cows to sell. **JAS. SNELL, Clinton, Ont.**

High-class Shorthorns Royal Chief, a son of Mildred's Royal at head of herd. We are offering a few choice heifers of showing form. Pure Scotch. Terms reasonable. **A. DUNCAN & SONS, Carleton Place, Ont.**

We are offering a very superior lot of SHORTHORN

HOME-BRED BULLS

of the best breeding and quality at attractive prices for the buyer. To see them is all that is necessary. Try to do so if you are in the market. It will pay you.

JNO. CLANCY, Manager.
H. CARGILL & SON, Cargill, Ont.
WILLOW BANK Shorthorns and Leicesters.

ESTABLISHED 52 YEARS.

Have a special good lot of either sex to offer in Shorthorns of various ages. Also a few choice Leicester sheep. Write for prices, or, better, come and see. Choice quality and breeding. **JAMES DOUGLAS, CALEDONIA, ONT.**


Glen Gow Shorthorns

Our present offering is 9 bulls from 6 to 14 months of age sired by Imp. Ben Loman and Imp. Joy of Morning and out of imp. and Canadian-bred cows. Also a number of very choice heifers. No fancy prices asked. Long-distance phone. **WM. SMITH, Columbus P.O.**

Brooklin & Myrtle Sts.
Scotch Shorthorns

Our breeding females are very heavy milkers, also good individuals. For sale are a few young bulls and a few choice heifers, all from imported sires, and a number from imported dams. The imported Bruce Mayflower bull, Royal Bruce 55038, heads the herd. **R. J. DOYLE, Box 464, OWEN SOUND, ONT.**

ROSE COTTAGE STOCK FARM—2 Shorthorn bulls for sale—14 and 30 months—one red and one roan. The red a Matchless. The roan, sired by Royal Prince, is a full brother to Fair Queen and Queen Ideal, the two champion females of two continents. **H. K. Fairbairn, Thedford, Ont.**

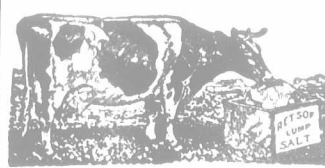
Shorthorn Bulls—Ready for service. One will make a show bull. Also young things from Matchless, Crimson Flower, Miss Ramsden, Rosemary, Diamond and Lady Fanny dams, the get of Chancellor's Model. Prices to suit times. Come and see. **ISRAEL GROFF, Elmira, Ont.**

Guelph Sale

We have entered Woodfield Prince, by Imp. Gold Cup, and 2 (two) extra straight Scotch-bred bulls. All fit for service. Sale March 11th.

GIBB'S WOODFIELD STOCK FARM, ST. CATHARINES, ONTARIO.
SHORTHORN BULLS FOR SALE.

I have for sale two young bull calves: 1 red, 14 months, reg. in U. S. Herdbook, and one dark roan about the same age—a good one. Also a few females. **Hugh Thomson, Box 556, St. Mary's, Ont.**


ROCK SALT for horses and cattle, in ton and car lots.

TORONTO SALT WORKS, TORONTO
GOSSIP.

Mr. John Miller, Brougham, Ont., advertises for sale young Shorthorn bulls, bred from some of the best cows purchased at the dispersion sale of the famous Thistle Ha' herd, which for breeding and quality are second to none. See the advertisement, and write for particulars.

The Salvation Army immigration agency for the supply of farm labor appears in our advertising columns this week. The work done by this agency last year we believe was generally of a very satisfactory character, and we commend it to the consideration of farmers needing help for the coming season, either in the fields or for domestic service.

In the "Gossip" notes of the Springhill Ayrshire herd of Messrs. R. Hunter & Son, Maxville, Ont., in our Jan. 30th issue, owing to a misunderstanding on the part of the writer, the records given of a number of the older females reads as though these records were made in Canada last year, which is incorrect. The figures stated representing the milk yield of a number of the cows in a thirty-eight weeks' test are absolutely correct, but they represent records made in Scotland before importation to this country.

W. STEWART & SON'S AYRSHIRES.

Menie Stock Farm, the property of Wm. Stewart & Son, Menie, Ont., for a great many years has been noted as the home of a choice and well-selected herd of Ayrshire cattle. Mr. Stewart is one of the oldest Ayrshire breeders in Ontario, and his herd one of the best known, largely due to the fact that for many years they have been shown at the leading Canadian exhibitions, where they have been in competition with all comers, imported and Canadian-bred; and never a year has passed that the Menie herd has not carried off their share of awards. It has been our privilege for several years to visit this herd annually, and year after year, we have noticed a steady improvement, a testimony to the care exercised in the selection of the herd-headers, and to the skill of the Messrs. Stewart in recognizing the fitness of things along the lines of breeding. For some time the stock bull has been that excellent type of the breed, Rob Roy, a grandson of that great cow, Minnie of Lessnessock (imp.), with a milk record of 65.43 lbs. a day, testing 4.3 per cent., and a son of Edna, whose milk record is 55.4 lbs. a day, testing 4 per cent. As a show bull, Rob Roy has won seven firsts and two second prizes, and championship at London for two years, 1906 and 1907. He is now sold to A. C. Wells, of British Columbia. A testimony of his greatness as a sire is seen in the splendid class of heifers he is leaving behind. His successor in service is Queen's Messenger of Spring Hill, sired by Imp. King of Beauty; dam Imp. Queen of the Soncies, whose milk record is 60 lbs. a day. This bull is a choice individual, with nice lines and good depth. Last fall he won third at Toronto, first at London, and first at seven other shows. His get, now coming on, give promise of great things. The milk yield of the herd last year ranged from 7,000 to 10,800 lbs.; average test, 4.03 per cent. For the last two years at the Castleton District Fair, the special prize for best male and female of any breed was won by representatives of this herd, an honor of no mean consequence. Mr. Stewart reports the demand for Ayrshires as exceedingly brisk. At the time of our visit, they were making a crate to ship a yearling bull sold to E. H. Hitchcock, New York, which youngster has to his credit from last fall's shows, eight first prizes and one second. A yearling heifer was lately shipped to Mr. Geo. Taber, of New York, and a cow to the Donkhabor Society, Sask. On hand for sale are three young bulls, from eight to twenty months of age, one from an imported dam.

TRADE TOPICS.

AN IMPORTANT ITEM IN BUTTER-MAKING.—There's one feature that many good farmers' wives rather neglect in their buttermaking, and that is the kind of salt they use for seasoning. They think that one kind is as good as another—that it's a small matter anyway. But that's a gravely mistaken idea. Some salt contains many impurities that, of course, cannot be seen by the user, but which if such were used, would surely lessen the quality of the butter. It is only an old standard make, like Windsor salt, upon which you should rely to give the best results in the butter. Windsor salt is absolutely pure; it has been found that the prizewinning butter at the leading agricultural fairs for years back has been salted with Windsor salt. It is always of the same fresh, tasty flavor and in perfect crystals which can be worked in more easily than any other kind. Windsor salt never cakes into lumps. And Windsor salt is economical, too. A bag of it will season much more butter than any other kind—goes farther in every case. You'll be putting money back in your pocket by buying Windsor salt all the time.

POTATO MACHINERY.—Many enquiries regarding machinery for planting, cultivating and spraying potatoes have recently reached "The Farmer's Advocate." The advertisement of the Aspinwall Manufacturing Company, of Jackson, Mich., whose Canadian factory is at Guelph, Ont., seems to meet this want very fully, as they make machines for slicing, halving or quartering seed potatoes, planting, spraying, cultivating, digging, sorting, etc., the planter having fertilizer and corn-planter attachments, and the sprayer suitable for either potatoes or fruit trees. See the advertisement in this issue, and write for their illustrated, descriptive catalogue, which is full of information of interest to potato-growers.

QUESTIONS AND ANSWERS. Miscellaneous.
CEMENT-SILO QUERIES.

In building cement silo at back wall of a bank barn is there any objection to placing silo in ground seven or eight feet so as to be on a level with stable floor? If silo gets a cement wash on inside, would silage be affected by dampness in ground? Soil is gravelly where silo is to be placed. If I dig a fifteen-foot hole, would I need any cribbing on outside if I have steel rings on inside of wall for building up to surface of ground, a silo fourteen feet in diameter? A. B.

Ans.—There is no objection, providing the lower door opens within three or four feet of the bottom, and providing you insure drainage from the bottom of the silo by laying a line of tile or otherwise. The juice which accumulates in the bottom of the silo should be drawn off for best results, otherwise a foot or so of silage becomes slushy and makes inferior feed. As to the cribbing, while a clay bank might answer in lieu of the outside rings, this would result in a somewhat uneven face, which would allow water to seep through the wall. An underground wall should have a hard-finished, smooth outer surface to guard against this. It is not quite so important, however, in the case of a silo as of a cellar, as what little moisture soaked through would not be a serious disadvantage to the silage, if there were drainage from the floor of the silo. The principal danger is of moisture soaking into the wall and causing damage by frost. On the whole, therefore, we should prefer to dig out a larger excavation, say 17 or 17½ feet across, and build the wall from the bottom up with a complete set of rings. In any case, a 15-foot hole would not be large enough for a silo with an inside diameter of 14 feet. The excavation would need to be at least 16 feet wide, even if dispensing with the outer rings, and 16½ would be better.

Ring-Bone



There is no case so old or bad that we will not guarantee Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cures. Works just as well on Sidebones and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durably bound, indexed and illustrated. Make a right beginning by sending for this book. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ontario

The British Army HAVE BEEN USING

MOLASSINE MEAL

for several years, and take it in quantities. It keeps horses in good condition, healthy, and adds lustre to their coats. Eradicates worms, prevents colic, diarrhoea and cough. Not a condiment, but a valuable food, replacing other food stuffs.

J. Watt & Son

For sale—2 high-class bull calves of the richest breeding; 90 young cows and heifers, a number of which are well gone in calf to Imp. Pride of Scotland. Moderate prices. Correspondence invited.

Salem P.O., Elora Sta. G.T.R. & C.P.R.



J. BRYDONE,

Breeder of pure Scotch Shorthorns. Breeding females imported. Headed by the pure Orickahank (Duchie-bred) bull, Sittyston Victor (Imp.)—5008—(1897). Young stock from Imp. dams for sale. Prices reasonable. Telegraph, Telephone, R. R. Sta. and P. O., Milverton.

SCOTCH SHORTHORNS

My herd is represented by such noted Scotch families as Victoria, Orange Blossom, Duchers of Glosier, Strathallan, Stamford and Lovely. Mostly from imported sire and dams. Write me for prices on what you want.

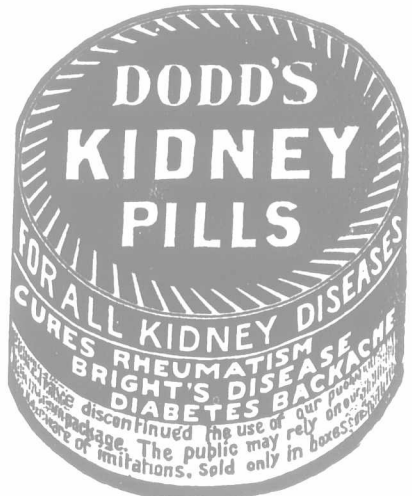
J. F. MITCHELL, Burlington Jct. Sta. Burlington P. O. and Telegraph.

SHORTHORNS FOR SALE—Four choice bulls, all from imp. sire; two from imp. dams. P males of all ages. Scotland's Fame (Imp.) at head of herd for sale or exchange. ALEX. BURNS, Rockwood P.O. and G.T.R. Station.

SCOTCH SHORTHORNS!

We now offer four heifer calves 10 and 11 months old. All reds. Bred from Imp. sire and dams. Will be sold right. C. RANKIN & SONS, Wyebridge P.O., Wyevale Sta.

"I should like every boy interested in electricity to hear what Thomas A. Edison once said to me when I was a boy working in his laboratories," writes Joseph H. Adams, in the introduction to his "Harper's Electricity Book for Boys." "I often recall it when things do not go just right at first. I asked the great inventor one day if invention was not made up largely of inspiration. He looked at me quizzically for a moment, and then replied: 'My boy, I have little use for a boy who works on inspiration. Invention is two parts of inspiration and 98 per cent. perspiration.'"



DODD'S KIDNEY PILLS
CURES RHEUMATISM, BRIGHT'S DISEASE, DIABETES, BACKACHE, GRAVEL, NEURALGIA, MIGRAINE, AND ALL KIDNEY DISEASES.

GOSSIP.

TO KILL LICE ON CATTLE.

J. C. Mason, Peel County, Ont., writes: "Get twenty or twenty-five cents' worth of blue (mercurial) ointment. Make a ring around the neck with the ointment, as near the head as possible. The lice go to get a drink at the nose and will not cross the ring. I have used it for years, and found it a sure remedy."

[Note.—While this remedy has long been known as an effective one, we think the idea of the vermin travelling to the drinking fountain is erroneous. Mercury salivates the blood and skin of the animal and overcomes the vermin. Care should be taken to avoid letting the animals get wet by rain or snow after applying mercury.]

MALLORY'S HOLSTEINS.

In Hastings Co., near the village of Frankford, is situated one of the oldest herds of Holsteins in Canada. Over twenty years ago, Mr. B. Mallory paid long prices for the foundation stock. Twenty years of careful and persistent breeding have left the owners in a happy position. Two years ago, Mr. B. Mallory retired from active farm work to accept the position of County Treasurer, but he still retains his old regard for and gives the boys advice concerning the "blacks and whites." During the past two years, the herd has been under the management of his two eldest sons, Messrs. E. B. & F. R. Mallory. But believing that greater results can be obtained with a less expensive management, they are now uniting their herds, and, henceforth, this old-established herd will be known as the E. & F. Mallory herd of Holstein cattle, with headquarters at Frankford, Ont.

The herd at present consists of 75 head of number-one stock. By weeding out the inferior ones, it has reached a high standard of uniformity, which is seldom to be found. Sires of the very best strains have been used, uniting the blood of the De Kols, Pietertjes, Calamitys, Inkas, Korndykes and other noted families of heavy-milking and rich-testing propensities. To continue this good work, Count Gerben and Inka Sylva Beets Posch have recently been placed at head of the herd.

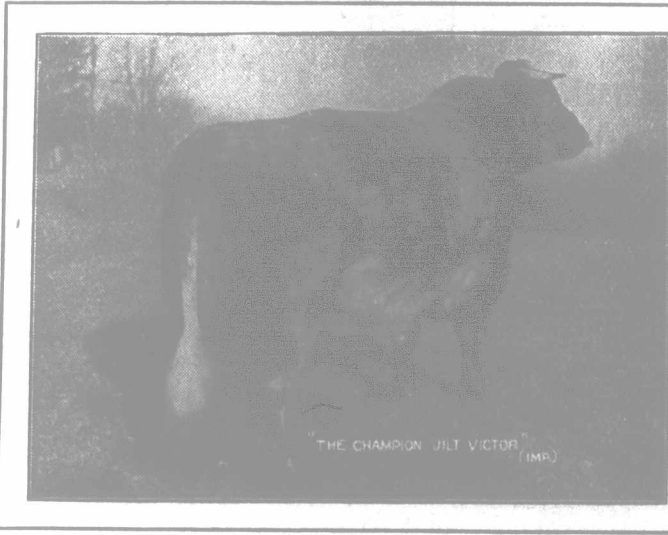
Count Gerben is a sire of very superior breeding. He is a son of De Kol 2nd's Butter Boy 3rd, the king of butter bulls. He has 44 A. R. O. daughters, which is more than any bull living of his age. His dam was De Kol 2nd, unquestionably the greatest cow of the breed. At the age of 11 years, she made 26 lbs. 9.21 ozs. of butter in seven days. Sixty-one of her granddaughters have official records averaging over 20 lbs. of butter each. Count Gerben's dam is Shadybrook Gerben Parthena, one of the greatest American show cows. She won second prize for milk at the Pan-American Exposition. Her milk at the age of twenty months averaged 6.79 per cent. of fat for a week. Her dam, Shadybrook Gerben, was the winner at St. Louis in the butter test open to all breeds. Her seven-day record is 26.11 lbs. butter. For 120 days she gave 8,101.7 lbs. milk, containing 330 lbs. of butter.

Inka Sylva Beets Posch is a no less inferior size. His dam has a record for seven days of over 26 lbs. of butter. His grandam and great-grandam have records of 21.95 lbs. and 19.30 lbs. of butter, respectively. His sire, Sir Alta Beets Posch, is a grandson of the famous Alta Posch, whose butter record at two years and eleven months old, was 27 lbs. in seven days.

Messrs. E. & F. Mallory have a number of cows in the Record of Merit. Two of the stock bulls recently disposed of had daughters enough tested to qualify them for the Record of Merit. They now report that their sales have been numerous, and prices good. They have not suffered much from the shortage of feed, and their herd is in good condition. The uniting of the two herds has left them with a stock somewhat too many in number, and they are now offering for sale a number of females of all ages and a few young bulls. Intending buyers would do well to visit their herd. If that is impossible, they will give correspondence their careful attention.

Salem Herd of Shorthorns

J. A. WATT, SALEM P. O.



I will take a very limited number of high-class cows for service to Jilt Victor. I can supply any number of Shorthorns of either sex, or willingly help buyers in making selections elsewhere.

Elora Stns., G. T. R. and C. P. R., 13 miles north of Guelph. Long-distance 'phone.

1854 Maple Lodge Stock Farm 1907

An exceptionally choice lot of heifers and young bulls for sale now. Best milking strains.

A. W. Smith, Maple Lodge P.O., Ont.

Valley Home Shorthorns AND BERKSHIRES.

Our herd numbers sixty-five head. We are prepared to give bargains to suit all who wish to buy from one animal up to a carload of females and 19 bulls from 9 to 18 months old. Also 65 Berkshires of prolific strains.

S. J. PEARSON, SON & CO., Meadowvale, Ont. Stations: Meadowvale, C.P.R.; Brampton, G.T.R.

10 IMPORTED 10 BULLS

Recently arrived from Scotland in good condition. They are a superior lot. Selected for herd-headers. We also have a number of Canadian-bred bulls of excellent quality, and representing the choicest breeding. Females suitable for show or breeding purposes.

W. G. PETTIT & SONS, FREEMAN, ONTARIO.

Burlington Jct. Sta., G. T. R. Bell telephone at each farm.

Maitland Bank Shorthorns—Five bulls, 19

six bulls, 9 to 12 months, got by Broadhooks Prince (Imp.) = 55002 =, and some of them from imp. cows; also cows and heifers, milking sort and right breeding. Lowest prices for quick sale. Come and see them, or write. DAVID MILNE, Ethel, Ont.

MAPLE GROVE SHORTHORNS

Scotch and dairy bred; up-to-date in type; prize-winners at the local shows. A number of 1 and 2 year old heifers. 1 year old bull, and one 5 mos. old—the last will make a show bull. Fine bred—will be sold easy. L. B. POWELL, Wallenstein P. O. and Stn. G. T. R.

Six Thick, Thrifty Shorthorn Bull Calves JUST HOME FROM SCOTLAND.

They are ready to use, and I am going to sell them. Will change for your old imported bulls if good. Will also sell imported cows and heifers and home-bred bulls; also some good Shropshire and Cotswold ewes, bred to great imported sires.

ROBERT MILLER, STOUFFVILLE, ONTARIO, CANADA.

PLEASANT VALLEY SHORTHORNS

For sale: 3 young bulls by Old Lancaster Imp., from Imp. dams, including Lancaster Victor, first prize sr. bull calf at Dom at Sherbrooke, second at C. N. E., Toronto. Correspondence solicited. Inspection invited. Geo. Amos & Son, Moffat Stn. & P. O. C. P. R. Farm 11 miles east of City of Guelph.

Queenston Heights SHORTHORNS

All Scotch. The thick-fleshed, early-maturing sort. Special prices on young stock, either sex. Ask for catalogue with sample pedigrees.

Hudson Usher, Queenston, Ont. Farm three miles north of Niagara Falls.

Winners at the leading shows have been sired by bulls bred here. We can sell you a good bull to head your herd of SHORTHORNS, or for use on your good grade cows. The bull catalogue explains the breeding. Write for it.

John Dryden & Son, Brooklin, Ont.
Stations: Brooklin, G. T. R.; Myrtle, C. P. R. Long-distance telephone.

GREENGILL HERD OF HIGH-CLASS SHORTHORNS.

We offer for sale choice young bulls from 6 to 19 months old, sired by imp. Lord Roseberry, also cows and heifers, with calf at foot or bred, either imp. or Canadian-bred.

R. MITCHELL & SONS, Nelson P. O., Ont., Burlington Jct. Sta.

Brown Lee Shorthorns!

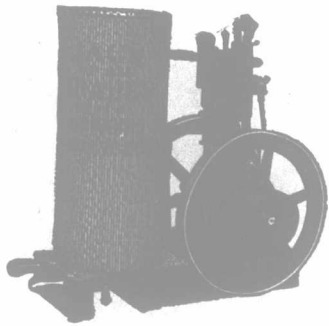
Nonpareil Victor = 63307 = at head of herd. Young stock for sale at all times. Prices very reasonable. Ayr, C. P. R.; Drumbo, G. T. R.

DOUGLAS BROWN, Ayr, Ont.

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Please send catalogue and copies of testimonials.

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Address

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Glover Lea Stook Farm,
PINE RIVER, ONT.

BREEDER OF SHORTHORN CATTLE
Golden Cross (imp.) at head of herd.

Two young imported bulls of the very best quality and breeding. Six Canadian-bred bulls mostly the get of Bapton Chancellor (imp.) prices right.

KYLE BROS., AYR, ONTARIO.

LIVINGSTON'S OIL CAKE MEAL.

OLD PROCESS

Nothing is better for fattening steers quickly and putting them on prime condition than Oil Cake Meal. Thousands of Canadian and English stockmen use Livingston's, and would have no other. It is equally good for milk cows. They give more and better milk when fed Livingston's Oil Cake Meal. Also used for horses, sheep and hogs. Write for information regarding prices, etc., etc., to

DOMINION LINSEED OIL CO., LIMITED
Montreal, Que. Baden, Ont.

SHORTHORNS AND LINCOLN SHEEP.

Two bulls, 11 and 12 months old—a Miss Ramsden and a Bessie, both by the good breeding bull, Proud Gift #5077—(imp.), also cows and heifers in calf by him. Inspector solicited. Always have some choice Lincoln sheep for sale at reasonable prices.

J. T. GIBSON, DENFIELD, ONTARIO.

A. EDWARD MEYER,

BOX 378, GUELPH, ONT.

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Scotch Shorthorns

exclusively. Herd bulls: Scottish Hero (imp.) #56042—(90065), a Shethin Rosemary; Gloucester King #68708—283804, A. H. B., a Crnickshan; Duchess of Gloucester. Young stock for sale. Long distance phone in house.

Shorthorns!

BELMAR PARC.

John Douglas,
Manager.

Peter White,
Pembroke, Ont.

Calves for sale by our grand quartette of breeding and show bulls:

Nonpareil Archer, Imp. Proud Gift, Imp.
Marigold Sailer. Nonpareil Eclipse.

Females. Imported and from imported stock in calf to these bulls.

An unsurpassed lot of yearling heifers.

SHORTHORNS Shorthorns!

For want of stable room will sell cheap 10 heifer calves, 12 yearling heifers, 4 two-year-old heifers in calf, and 3 red bulls about 14 months old. Right good ones. **OLYDESDALES.**—Two-year-old mare in foal, and a good pair 4 and 5 years old. Write, or come and see them.

JAMES McARTHUR,
GOBLES, ONTARIO.

WOULD EXCHANGE

a few high-class Shorthorns FOR PURE-BRED OR GOOD GRADE SHEEP, Shropshires preferred.

D. Allan Black, Kingston, Ontario.

QUESTIONS AND ANSWERS.

Miscellaneous.

DIARRHEA IN CALVES.

Calves take scours. They get better and get worse and better, till they get so thin and weak that they cannot get up.

E. W.

Ans.—When scours first appear, a dose of castor oil, two to four tablespoonfuls, according to age, should be given to remove the irritant. Give warm milk in small quantity, three times daily, with one-sixth as much lime water mixed with it. This will generally cure in early stage of disorder. Keep stall clean and dry. Scours are generally due to indigestion, and, if neglected, the ailment becomes chronic, and is then harder to treat. In the case of yours, we would give a teaspoonful of laudanum, three times a day, in about four times as much lime water as a drench.

MARE HAS WORMS.

Mare, seven years old, that has raised four colts, passes pinworms every spring and fall. I feed her good timothy hay and about two quarts of bran night and morning, and one or two turnips once a day. When driving, she sometimes feels very dull, and other times feels well. What treatment do you advise. In treating her for pinworms, will it hurt the foal if she is in foal?

E. W.

Ans.—Take 1½ ounces each of powdered sulphate of iron, sulphate of copper and tartar emetic. Mix, and make into 12 powders. Give a powder every night and morning in damp food, or mixed with ½ pint cold water as a drench. After the last powder has been given, feed only bran for eight or ten hours, and then give 1½ pints of raw linseed oil. Feed only bran for 24 hours longer, and give water in small quantities and often. This treatment is considered safe for a mare in foal.

WORMS IN HORSES.

I have a pair of blood workers which have worms. Once in a while they pass one with the manure; white worms, from three to six inches long. Horses are fed oat straw three times daily, and three quarts of hard oats each twice daily, and a feed of timothy hay about twice a week. They are not doing much this winter, but are thin; have not been real fat for three years. They are high-spirited; are ten and twelve years old.

C. F. L.

Ans.—Take 1½ ounces each of sulphate of iron, sulphate of copper, and tartar emetic, and 1 ounce calomel. Mix, and make into 12 powders. Give a powder every night and morning in damp food, or mixed with water as a drench. Give nothing to eat but a little bran. After giving the last powder, in about eight or ten hours, give a purgative of 8 drams Barbadoes aloes and 2 drams ginger. Feed bran only until purgation commences, and do not work until the bowels regain their normal condition. The horse can work in the usual way until he gets the purgative.

HENS DO NOT LAY.

Do you think that a henhouse could have too much light? The roosts are just in front of the window. The hens are not laying; getting plenty of food, meat, gravel and a good duster. Is broken dishes or china good for them as a grit? My hens will sit on the roost all day, just getting off to eat what they can pick up handy. Would you advise starving them till they would get down and look for it? I cover the grain all over in the litter.

SANDY.

Ans.—A henhouse can have too much light, but not as a rule. Roosting in front of a window is a bad place, liable to be drafty and cold, and then a chick prefers to roost where it is moderately dark. I would suggest that you place over the floor of the henhouse 1½ feet of straw, and if you throw the grain in this and get the straw and wheat well intermixed, they will have to get down and work for it, or else starve. Evidently you feed them too much, or they would have to do some work. There is no better grit for chickens than stone china (pounded to about the size of wheat grains). The only objection is the time it takes to break the stuff.

O. A. C.

W. R. GRAHAM.

STAYS FOR FENCING—MAPLE BUSH.

1. Can you inform me where I can obtain stays for a barb-wire fence?

2. How thick should maples be let grow to give the best results for sugar bush?

3. About what size should they be before tapping?

P. I. M.

Ans.—1. Insert a brief advertisement in our "Want and For Sale" column. They can be ripped out at any sawmill.

2. We should say twelve to twenty feet apart, according to size of trees. A fairly liberal growth of saplings should be allowed in addition to hold leaves, as well as providing for ultimate substitution of the mature trees.

3. Ten to twelve inches in diameter.

FROZEN WHEAT FOR FEED—TREATING NAVEL OF FOAL.

1. Will oats and frozen wheat ground and mixed make a good ration for a working horse?

2. Please give me a recipe for the tying of the navel cords in young colts, also how to prevent joint evil.

G. W.

Ans.—1. Oats and frozen wheat, ground in the proportion of two to one, should make a very good ration for a working horse, especially if used as mixed feed along with moistened, cut hay.

2. The treatment advised for treatment of the navel string by Charles Dunlop, in his second-prize essay, in Feb. 6th issue, page 198, is simple, and as good as any. Remember that corrosive sublimate is poison and should be so labelled. Tie close to body with a clean string, dipped in the solution, and cut off two inches below string if not already broken, and treat two or three times daily till dried up.

GOSSIP.

Mr. Churchill tells an amusing story concerning an old man who happened to see a portrait of him in a shop window. The old fellow was greatly interested in the picture, and asked a bystander who it was. "Oh, that's Winston Churchill," was the reply. "Where does he preach?" asked the old man, suddenly. "Oh, he is not a preacher," said the other, "he's a politician." "A what?" "A politician—a member of Parliament." The old man slowly shook his head and a look of pity came into his eyes. "That's too bad! too bad!" he exclaimed, sadly. "And he has such a good face, too!"—M. A. P.

Stable Ventilation.

Basement stables are going out of fashion because of the difficulty of proper ventilation and light, says the Chicago Daily Drivers and Farmers' Journal. While it is economy to keep stock warm, they do not need to be housed in a cellar to receive adequate protection from the severity of the weather. It is difficult to construct basement stables and avoid darkness and dampness, two enemies to health of live stock.

The importance of having stables ventilated according to the latest principles of sanitation is now recognized by livestock breeders. There are many devices to admit fresh air into stables without creating drafts, and stock to maintain robust vitality needs an abundance of pure air.

Not only proper ventilation should be provided for stables, but also adequate light. For a stable to be in semi-darkness at midday indicates faulty hygienic construction. All domestic animals enjoy the light of day. Horses in their wild state delight to disport on the treeless plains. They never seek the darkness of dense forests for residence, but rather the plain or mountain side, where they can have the glorious light of day.

Man is the child of light and many of his ailments are conquered by a life in pure air and sunshine. Domestic animals are appreciative of and benefited by proper ventilation and light. The abrupt transition from a dark stable to glaring sunshine is exceedingly injurious to the visual organs of all kinds of domestic animals. Make the stables so they can be filled with refreshing air and cheerful light.

ONLY A Common Cold

BUT IT BECOMES A SERIOUS MATTER IF NEGLECTED. PNEUMONIA, BRONCHITIS, ASTHMA, CATARRH or CONSUMPTION IS THE RESULT.

Get rid of it at once by taking
Dr. Wood's Norway Pine Syrup

Obstinate coughs yield to its grateful soothing action, and in the racking, persistent cough, often present in Consumptive cases, it gives prompt and sure relief. In Asthma and Bronchitis it is a successful remedy, rendering breathing easy and natural, enabling the sufferer to enjoy refreshing sleep, and often effecting a permanent cure.

We do not claim that it will cure Consumption in the advanced stages, but if taken in time it will prevent it reaching that stage, and will give the greatest relief to the poor sufferer from this terrible malady.

Be careful when purchasing to see that you get the genuine Dr. Wood's Norway Pine Syrup. Put up in a yellow wrapper, three pine trees the trade mark.

Mr. Wm. O. Jenkins, Spring Lake, Alta., writes: "I had a very bad cold settled on my lungs. I bought two bottles of Dr. Wood's Norway Pine Syrup but it only required one to cure me. I have never met with any other medicine as good."

Price 25 cts., at all dealers.



Am offering at the present time

3 Very Fine Imp. Young Bulls.

Good colors, and of the best breeding; also some extra good Canadian bred bulls ready for service. Also cows and heifers.

imported and Canadian bred. Prices reasonable.
H. J. DAVIS, Importer and Breeder,
Woodstock, Ont.

SHORTHORN BULLS

For Sale.
At the dispersion of the "Thistle Ha" herd in Jan., 1906, I purchased a few of the best blooded cows. From these cows I now have 6 extra good young bulls for sale. For pedigrees and other particulars apply to

JOHN MILLER,
Brougham P. O. Clremont Sta., C. P. R.

SHORTHORN BULLS AND LEICESTERS.

For sale: One extra good young bull, 11 months old, from imp sire and dam; also a few good young Leicesters or ewes in lamb. At easy prices for quick sale.

W. A. Douglas,
Caledonia station, Muscarora P. O.

RAW

SHIP TO WE PAY ALL EXPRESS CHARGES

E. T. CARTER & CO.
83-85 Front St., E., TORONTO CANADA.

WRITE FOR OUR LATEST PRICE LIST Highest Cash Prices For Everything.

The Oldest and Most Reliable
HIDE, WOOL, SKIN AND FUR
House in Canada.

FURS

QUESTIONS AND ANSWERS. Miscellaneous.

LIGHTNING RODS.

Kindly give me the address, through your very valuable paper, of some first-class lightning-rod companies. J. E. F.

Ans.—We do not know the addresses of any lightning-rod firms. We recommend the use of homemade rods, which are inexpensive to erect. For details, see "The Farmer's Advocate" of April 12th, 1906, page 597; April 26th, 1906, page 683, or May 17th, 1906, page 809.

ALFALFA ON CLAY.

How much alfalfa seed should be sown to the acre, and, also, the proper time to sow it, and if any good clay ground is suitable for it, as I live in York County? I have taken your valuable paper for about three years, and am highly delighted with it. R. D.

Ans.—Twenty or twenty-five pounds per acre. Sow in spring, as soon as the land can be worked up into a fine state of tilth. While it is not quite so easy to secure a catch on clay as on more loamy soil, it is more liable to prove a permanent success on clay land than on any other. Drainage is the main thing, however.

PREPARING SOD FOR CORN—MIXTURE OF SEEDS.

1. I have a piece of sod very bad with June grass; going to manure and plow in the spring for corn. Would it be better to plow deep or shallow? Would you plant or sow with drill?

2. In what proportion would you mix red clover, alsike and timothy for seeding? How would you sow it with spring grain to secure a catch?

A. E. G.

Ans.—1. Plow about five inches deep, roll and harrow immediately, work up with disk, plant in hills and cultivate frequently.

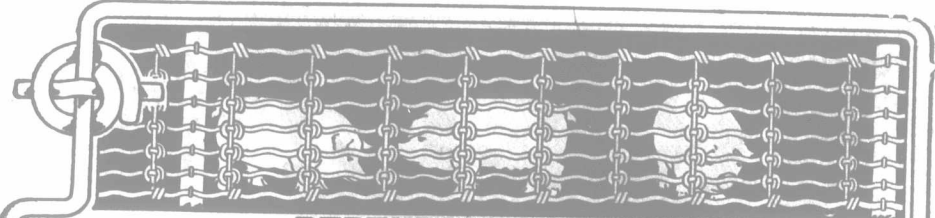
2. Red clover, 8 pounds; alsike, 2 pounds; timothy, 4 pounds, makes a good seeding. Sow before the grain-drill tubes, using grass-seeder attachment. Follow with harrow, then roll, and go over field again with harrow or weeder. If this is considered too much work, dispense with the rolling and second harrowing. Never leave a seeded field rolled. Always aim to leave a loose surface to hold moisture.

RENTING A FARM ON SHARES.

What would be a fair share to get, taking a 200-acre farm, valued at \$8,000, on shares, the landlord to furnish twelve average cows, ten head of young cattle, two brood sows, horses to work the farm, and implements and half of seed and feed for first spring? Same is to be left on farm when term is up, or its equal in a substitute. The lessee to do all work on farm, and road work, and pay taxes, and find half of seed and feed for first spring.

READER.

Ans.—It is impossible to give any definite answer as to what would be a fair proportion for landlord and tenant in renting a farm on shares without knowing the line of farming to be followed. For instance, a man rents a pasture farm worth \$300 per year. He does no work on it, takes no risk, merely grows some soiling crops, and manages to sell \$450 a year. If rented on shares, the landlord's portion should be two-thirds. Another man rents a farm of equal value, but, instead, goes into a city milk business. He hires two or three men, works his place thoroughly, grows some soiling crops, and manages to sell \$3,000 worth in the year. The difference in the returns has resulted from labor intelligently applied. It is plain that in this case the landlord should be content with one-tenth of the proceeds. A very common proportion for the landlord to receive as rent is one-third. In the case stated in the question, the landlord really rents not only the farm, but also the stock and implements. These, if worth \$1,700, should return to him \$100 per year over and above the share coming fairly from the bare farm. It might be that the tenant should give half, but two-fifths would probably be nearer the fair share. T.



DEPENDABLE FENCING
We know the Canadian farmers' needs and we can furnish a Woven Wire Fence that will give absolute satisfaction. We believe in square dealing and we stand right back of our goods with an absolute guarantee of its honest and reliable quality.

THE PEERLESS FENCE
is made by experienced fence men from all No. 9 hard steel wire, heavily galvanized; having the famous Peerless Lock. In tensile strength, rigidity and elasticity it is unrivaled. No stock can break thru it and once well erected, it is practically indestructible. Send for folder, "How to erect a good fence."
THE DANWELL WOVEN WIRE FENCE CO. LTD., Dept. 8, Hamilton, Ont. Winnipeg, Man.

T. DOUGLAS & SONS STRATHROY, ONT.

Breeders of Shorthorns and Clydesdales. 15 bulls, 60 cows and heifers, 1 imp stallion, imp. and home-bred fillies. Write us what you want or come and see our stock. Farm 1 mile north of town.

Shorthorns—Sweepstakes herd at London, Aylmer, Wallaceburg, Rodney, Ridgetown and Highgate, 1907.

We have for sale at reasonable prices 3 choice young bulls, 1 red and 2 roans, of grand type and quality. All sired by the good breeding bull, Edgewood Marquis—45008, a son of the old champ on Spicy Marquis. Also a few young cows and heifers. JNO. LEE & SONS, Highgate, Ont.

Shorthorns, Cotswolds, Berkshires

For sale: 2 bulls 18 months, 1 bull 12 months, and 4 from 7 to 9 months; and females all ages. In Cotswolds a few good ewe lambs. Nothing to offer in Berkshires.
CHAS. E. BONNYCASTLE, P. O. and Station, Campbellford, Ont.

Brampton Jerseys

Unbroken record of several years success at all leading Canadian exhibitions is unequalled by any other herd of any kind or breed of live stock on the American continent. When buying a family cow, a stock bull or a dairy heifer, buy only the best. Our public record proves that we have them. **B. H. BULL & SON,** Brampton, Ont.

Shorthorns & Leicesters

for sale. Two young bulls for sale from good milking dams. Leicesters—a few females for sale, different ages. **JOHN LISHMAN,** Hagersville, Ont., P. O. and Stn.

Jerseys 2 Extra Choice Young Bulls For Sale, 8 and 9 months old, grandsons of the great Financial King, out of large, heavy-milking dams. Inquiries solicited. **ARTHUR H. TUFTS,** Box 111, Tweed, Ont.

STONECROFT STOCK FARM, St. Anne de Bellevue, Quebec.

(Adjoining the new Macdonald College.)
Breeders and Importers of High-class
Ayrshire Cattle, Clydesdale Horses, Yorkshire Swine and Collie Dogs
Anything for sale. We offer especially a few select young bulls to clear cheap. Orders booked for spring pigs.
HAROLD M. MORGAN, Prop. **E. BJORKELAND, Manager,** Bell Phone connection.

Hillview Herd of Prizewinning AYRSHIRE CATTLE.

All animals bred and carefully selected for size, constitution, long teats and deep-milking qualities. Select animals of both sexes for sale at reasonable prices. For further information and prices write
A. KENNEDY & SON, Hillview Stock Farm, Verner, Ont. Winchester Station, C. P. R.

Trout Run AYRSHIRES and POULTRY

1 imported bull calf, 2 August bull calves from imported stock, 1 May bull calf. Females all ages; heavy milkers and from heavy milking stock, with good teats. Also Shropshire ram lambs. Buff Orpingtons, B. P. Rocks, B. Leghorns, Mammoth Pekin ducks at \$1.25 each. Toulouse geese, \$6 per pair. Prices very reasonable, considering quality. For particulars write: **William Thorn, Lynedoch, Ontario,** Trout Run Stock Farm.

D. M. Watt, St. Louis Station, Quebec, breeder of HIGH-CLASS AYRSHIRES

Canadian and Scotch-bred. All of deep milking qualities.

AYRSHIRES Young bulls from producing dams and same sire, from 7 months up to 3 years. Bave good ones and will speak for themselves. **H. DYMONT, Hickory Hill Stock Farm, Clapton, Ont. Dundas Station and Telegraph.**

AYRSHIRES A PRIZE-WINNING HERD

Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to **Wm. STEWART & SON,** Campbellford Stn. Menie P.O., Ont.

SPRINGBURN STOCK FARM.—Ayrshire Cattle, Oxford Down Sheep, Berkshire Pigs. No ag stock for sale. Buff Orpington poultry, eggs \$1 per 13, \$4 per hundred; orders now being booked. **H. J. WHITEKER & SONS, Williamsburg P. O.**

AYRSHIRES & YORKSHIRES

We expect to again import a few choice head. Our J. Retson, now in Scotland, is securing some bulls and females, bred from the best milking stock in Scotland. We would be pleased to fill your order at lowest living prices. Choice animals, either sex or any age, either home-bred or imp., always on hand. We bred and own the grand champion female of Toronto, 1906 and 1907, prize 3-year-old cows at Toronto, Sherbrooke (Dom.), London, Ottawa and Norwood fairs in 1907. A few young cows due last of April. Long-distance phone, Campbellford. **ALEX. HUMB & CO., MENIE, ONT.**

LYNDALE HOLSTEINS!

Bull calves for sale out of cows with records of from 18 to 20 lbs., also 3 heifers coming 2, and a number of young cows in Record of Merit, bred to a grandson of Pieterje Henger veld's Count De Kol.
BROWN BROS., LYN, ONTARIO

QUEEN CITY HOLSTEINS.

15 young cows due to calve during next 3 mos.; bred to bulls having high official backing. Orders booked for bull calves at moderate prices. A few bulls ready for service. Farm 7 miles north of Toronto, near the Metropolitan By. Write: **R. F. Hicks, Newton Brook, Ont.**

Maple Hill Holstein-Friesians

Bull calves from No. 1 dams, sired by bulls with great official backing. Write for prices.
G. W. Clemons, St. George, Ont.

MAPLE GLEN HOLSTEINS

Herd of 35 head with A. B. O. breeding, backed up by butter tests of over 16 lbs as a two-year old to over 26 lbs. as a cow. A good herd to select from. Two spring bull calves on hand. A. B. O. test of one is over 26 lbs. for dam and s. dam. Come and inspect the herd. Any animal will be offered for sale.
G. A. GILROY, GLEN BUELL, ONT.

Maple Hill Holstein-Friesians

Bull calves from No. 1 dams, sired by bulls with great official backing. Write for prices.
G. W. Clemons, St. George, Ont.

METAL EAR LABELS

with name and address and numbers. No trouble to know your stock. Write for free sample.
F. G. JAMES, BOWMANVILLE, ONT.

"THE MAPLES" HOLSTEIN HERD

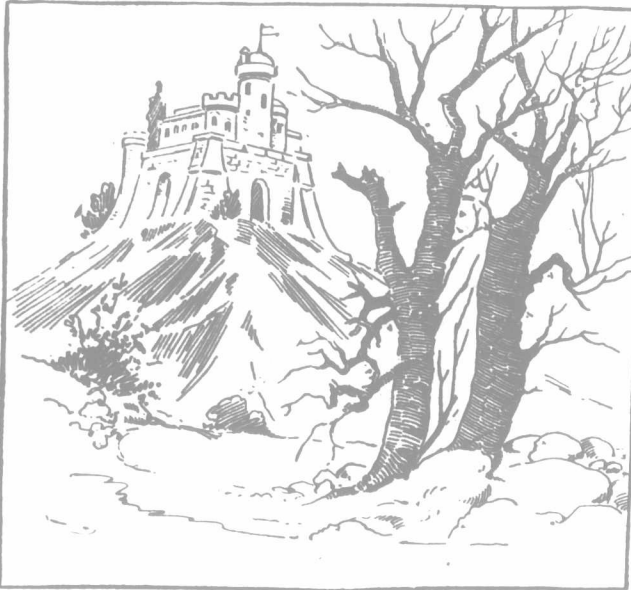
Young bulls fit for service. Bull calves. Also a few choice heifer calves.
Walburn Rivers, FOLDEN'S, ONT.

FREE! VALUABLE PREMIUMS GIVEN AWAY FREE!

Herewith will be found the picture of a Castle on a hill and some old trees. At first glance, no one would notice anything else, but by close observation and perseverance two full figures and five faces can be found. The figures are those of a King and a Queen and the five faces are those of the Princes and Princesses.

Can you find them? It is not easy, but by patience and perseverance, you can probably find them all.

If you find them all, you are entitled to your choice of any one of the premiums mentioned below, provided you comply with a simple condition about which we will write you as soon as we have received your solution to the puzzle.



It is not necessary to write us a letter. Simply mark X with a pencil on each one of the full figures and five faces, then write your name and address on the blank below very plainly, cut out the advertisement and return it to us. We will write you at once telling you about the condition that must be adhered to.

The condition mentioned above does not involve the spending of one cent of your money. This is an excellent opportunity to obtain a handsome and useful present. Do not delay, write to-day.

It is possible you may not see this advertisement again. Only one present is given in each locality. So if you wish to have one, be the first to apply.

LIST OF PREMIUMS

Ladies' or Gents' Gold Finished Watches.
Ladies' Solid Silver Watches.
Rogers Silverware Dinner Sets. (Six silver-plated knives and six forks.)

Rogers Silverware Dessert Sets. Six dessert spoons, six teaspoons, sugar shell, butter knife, etc.)
China Tea Sets.
Gold Finished Parlor Clocks.
Water and Lemonade Sets.

Photograph Albums.
Ten Key Hardwood Accordions.
Handsome Violins and Bows.
Toilet Sets.
Parlor Lamps, etc., etc.

Do not fail to write your name and address very plainly.
DO NOT SEND ANY MONEY,
Address, **BOVEL MAN'FG CO'Y.,**
Dept. V, MONTREAL.

Name

Address

Are we to address you as Mr., Mrs. or Miss?.....

HOLSTEINS FOR SALE!

The undersigned are uniting their herds, and to make room must sell a number of cows and heifers, also several young bulls. 75 head to choose from. Come and see them, or write for prices and description.

E. & F. MALLORY, FRANKFORD P. O.
Frankford and Belleville Sta.

STEVENS DAIRY FARM HOLSTEINS

I have now for sale two bull calves 6 months old sired by a grand son of Pieterjie Hengerveld's Count De Kol; also four choice young cows due to calve in February.

W. C. STEVENS,
PHILLIPVILLE P. O., DELTA STATION.

RECORD OF MERIT HOLSTEINS

Herd 110 strong. Over 40 head now in the Record of Merit Two of the richest-bred bulls in Canada at head of the herd. For sale: 18 bulls, from 3 months to 1 year of age, all out of Record of Merit cows and sired by the stock bulls.

P. D. EDM, Oxford Centre P. O.
Woodstock Station.

RIVERSIDE HOLSTEINS

For sale: Eight young bulls from 3 to 5 months old, out of Record of Merit cows, sired by Johanna Rue 4th's Lad and Sir Pieterjie Posch DeBoer, whose dam and sire's dam average in official test 35.87 lbs. butter in 7 days, and 87.6 lbs. milk 1 day.

J. W. RICHARDSON, Caledonia, Ont.

SPRING BROOK HOLSTEINS AND TAMWORTHS.—Holsteins of richest breeding and highest production. Tamworths of best British blood and ideal bacon type. Herd headed by prizewinning Imp. Knowle King David Stock of all ages and both sexes for sale. Young sows bred to imp. boar. Write, or come and see: **A. C. HALLMAN, Breslau, Waterloo Co., Ont.**

Homestead Holsteins Yearling bulls for sale, out of cows with records, from 16 to 21 lbs., and sired by Rattie Bros' famous bulls, Cornelius Posch and Count Mercena Posch. Write for prices. **G. & F. Griffin, Box 43, Burgessville, Ont.**

HILTON STOCK FARM—Holsteins, Otagowolds and Tamworths.—Present offering: Some young cows; a nice lot of young pigs; few boars six months old, and sows in pig. **R. O. MORROW & SON, Hilton P. O. Brighton Tel. and Stn.**

FOR QUICK SALE.—Choice registered Holstein bull calves at \$25.00 each, sired by Prince dretqui De Kol, whose dam has an official record of over 18 pounds at three years old. Express paid anywhere in Ontario. **W. A. BRYANT, Cataraugus, Ont.**

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HOLSTEINS

large herd. This is a chance of a lifetime to buy good cattle at bargain prices. The best way: arrange to come and look the herd over. If you cannot, we will do our best for you by correspondence. Also a few young bulls. 100 head to select from. Imported **Pontino Hermes**, son of Hengerveld De Kol, world's greatest sire, head of herd. All leading breeds represented. **H. E. GEORGE, Crampton, Ont.** Fulnam station, near Ingersoll.

We must sell at least 25 cows and heifers at once in order to make room for the increase of our herd. Also a few young bulls. 100 head to select from. Imported **Pontino Hermes**, son of Hengerveld De Kol, world's greatest sire, head of herd. All leading breeds represented. **H. E. GEORGE, Crampton, Ont.** Fulnam station, near Ingersoll.

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R. HONEY,
Brickley, Ontario,
offers a very choice lot of young bulls also boars and sows fit to mate.

Evergreen Farm Holsteins—FOR SALE: Bull calves 3 months old, from A. R. cows. Dam and sire's dam average from 20.55 lbs. as 3-year olds, to 22.0 lbs. as mature cows in 7 days; also young females bred to Sir Mercena Paforit.
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Of the best performing strains.
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Show rams, show ewes and breeding stock. Of the best of breeding and best in quality. For 25 years the flock is known as the Producer of the highest type of sheep. If you need a choice ram, or a few good ewes, write for circular and tempting prices to **J. & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.**

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Choice breeding ewes for sale at reasonable prices. White Wyandottes at all times.
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for sale, bred to high-class imported Buttar ram.
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I can furnish you with a bull sired by our great herd bull, **PONTIAC KORNDYKE**, who has 19 daughters in the last year's report that made official records from 13 pounds at less than two years old to over 314 pounds at four years, and the whole number averaged over 4 1/2% fat. No other bull in the world has ever made such a showing in one year. I have just tested another of his daughters that made 26.40 pounds butter in seven days with second calf. I have over 50 cows and heifers in calf to him. Come and look my herd over before making your selections elsewhere. **E. H. DELIAR, Heuvelten, St. Law. Co., N. Y., near Prescott.**

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FOR SALE: 2 imported prizewinning rams, and 60 home-bred and imported ewes. **COLLIES.**—Bred by champion sire, and out of prizewinning dam.

Robt. McEwen, Byron, Ont.

Sheep Breeders' Associations.

American Shropshire Registry Association, the largest live-stock organization in the world. **Richard Gibson, President, Delaware, Canada.** Address correspondence to **MORTIMER LEV-ERING, Secretary, Lafayette Indiana.**

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JOHN HALLAM III FRONT ST. EAST TORONTO

QUESTIONS AND ANSWERS. Miscellaneous.

LOSSES OF MANURE IN PILE.

Does manure lose any of its value standing in a pile until fall? G. P.

Ans.—Yes; a great deal, especially if it heats much or is exposed to much leaching by rainwater. Where both leaching and fermentation occur, half the virtue of the pile may be lost.

ALFALFA SEEDING.

As regard to alfalfa when once sown, will it be hard to get out of the land? How much would you sow per acre to grow a good crop? Is it like red clover, that is, leaving the second cutting for seed? Would it be advisable to sow it on heavy clay land, seeding with oats? C. E.

Ans.—Alfalfa roots are large and tough, and a vigorous stand is hard to break up, but severe pasturing, especially with sheep, throughout a season and late into the fall will usually kill it pretty well, so that it may be plowed without much difficulty the following spring. Sow at least twenty pounds of seed per acre, preferably alone, though a bushel of oats or barley per acre as a nurse crop is not much of a disadvantage. Clay land is very suitable for alfalfa, if well drained. As a rule, alfalfa does not yield very profitable crops of seed in Ontario.

ALFALFA AND SILO QUERIES.

I have three acres of ground in good state of cultivation. Two acres are fall plowed and the other one wheat.

1. Can alfalfa be seeded on wheat ground the same as other clover?
2. Can I seed the other down after soiling crops have been taken off?
3. How does a silo and power-mill compare as to value for a farmer's use? I have a power-mill that cuts feed, grinds and pumps water.
4. Will it pay me to build a silo, having a mill on hand?
5. Would a silo be better with a roof on? O. R. D.

Ans.—1. Alfalfa may be seeded on fall wheat in the same way as clover, but the chances of a successful seeding are not extra good. In this case it might be well to try deferring the seeding until the ground is dry enough to harrow the field after sowing the alfalfa seed.

2. Yes; although the prospects of a successful seeding would be much better if the seed were sown alone early in May, on a well-prepared seed-bed. Failing that, we would sow the soiling crop very thin, say, five pecks of oats or barley per acre, and sow the alfalfa seed before the grain-drill tubes.
3. Both are good. The fact of your having a mill is no sufficient argument against building a silo.
4. Yes.

RE INCUBATOR EXPERIMENTS.

Some time ago you published an article on artificial incubation, where they used trays of wet sand in the bottom of the incubator.

1. Is the tray put on the floor of the incubator?
 2. How deep should the sand be in the tray?
 3. How often should it be dampened?
 4. Are the chickens allowed to rest on the wet sand when they hatch?
- Our incubator is a _____ Everything seems to go all right until near the last. The eggs seem to be too dry. It often takes 22 or 23 days for the hatch, and then only half come out. We never have any trouble raising them after they hatch, only two or three in each hatch die. Please answer these questions in "The Farmer's Advocate" as soon as possible. HENNERY.

Ans.—The tray is put on the floor or bottom of the incubator in all makes, so far as we have used them. The tray covers practically the entire surface of the machine, with the exception of perhaps 4 inch around the walls. In some of the hot-air machines we use the tray 1 inch deep. The sand in the tray should be kept wet, and the tray is removed when the eggs begin to pip, so that the chickens do not get on the sand. Where it takes from 22 to 23 days to hatch chickens, you are not using high enough temperature or cooling your eggs sufficiently, perhaps both.

W. R. GRAHAM.

QUESTIONS AND ANSWERS. Miscellaneous.

CODLING MOTH.

Last year our apples were greatly destroyed by worms. Could you give cause and a means of prevention? The orchard has for years been in crop of fodder corn. There is a fence along one side, on which limbs have been piled for many years. Should it be cleaned out? The trees in the orchard are getting quite old.

Ans.—Without fuller particulars than those given, it is impossible to state positively what insect caused the injury complained of; but there is every probability that it was that destructive foe of the fruit-grower, the codling worm. This is the insect which causes the "wormy" apples with which everyone is so familiar. The worm, or larva, which produces the burrow, hatches from an egg which is laid by the parent insect on the young fruit or nearby leaves, shortly after the blossoms have fallen in the spring. The young larva usually finds its way in a short time into the "blossom" end of the fruit; and, after feeding there for a short while, burrows in towards the core of the apple. In three or four weeks it is full-fed, and the injured apple in most cases, sooner or later, drops to the ground. Whether the apple drops or not, the worm bores out of it and seeks for shelter. This it most commonly found in the crevices of the loose bark of the tree trunk, as also in any rubbish which is conveniently near. Here it spins for itself a covering of silk, and after spending a couple of weeks in what is known as the pupal or resting stage, it comes out as a small, dull-colored moth. In the more northern parts of the Province, the larva remains in its silk enclosure until the following spring; but in South-western Ontario, the moth emerges at once, and lays eggs for a second brood of the worms, whose life-history is much the same as that of the first brood, except that they remain in their shelters over winter.

To deal successfully with this pest, requires thoroughness, care and some work in applying a few simple measures. Where there are two broods in a year, as in South-western Ontario, the following are the principal steps to be taken: Within a week or ten days after the blossoms have fallen, spray carefully with Paris green. At this time, the young fruits are still standing upright on their stems in such a way as to catch the poison in the cavities at the "blossom" ends, at which the majority of the young worms enter the fruit. This spraying, which may be repeated in case it is followed closely by rain, should destroy a large percentage of the worms; and it is only at this stage that they can be reached by poisons. Those which escape this poisoning cannot be prevented from doing their damage to the crop; but many of them can still be prevented from maturing into the moths which would lay the eggs for the second brood. One way which is often practicable is to allow growing pigs to gather up the "wormy" apples as fast as they fall. An additional method is to loosely fasten coarse cloth or sacking around the trunks of the trees, after having first scraped off the roughest of the bark. The worms coming to the tree from the apples which they have left, take shelter and spin up in the folds of the bandages. The bandages should be put on four or five weeks after the blossoms fall, which is usually near the end of June; and need to be removed about every ten days, to destroy the worms before they have had time to change to the moths and escape. If this is carried out faithfully for the following couple of months, the numbers of the insect can be very greatly reduced; but if the bandages are neglected, they simply furnish the worms with a welcome retreat, and do more harm than good. By spraying in the spring, and following this up with bandaging in summer, many fruit-growers succeed in getting almost entirely sound crops of apples. It means a lot of work, especially to bandage, and it must be kept up from year to year, since one's neighbors cannot be all persuaded to keep

down the worms in their orchards; but many who practice it, testify that it pays in the extra marketable value of the crop. Just how much the conditions mentioned in the above query had to do with the injurious numbers of the insects on these apples I cannot say, but it is certain that any kind of rubbish lying about an orchard will serve to harbor not only the codling worm, but hordes of other insect pests, and should, by all means, be cleaned up and burned.

O. A. C., Guelph. H. GROH. SPRING-BALANCE SCALE. Where could I secure a spring-balance scale, for keeping daily milk records; one that would weigh at least 35 lbs.?

Ans.—Inquire of your local hardware merchant, or correspond with the Dairy and Cold-storage Commissioner, Ottawa, Ont.

SEEDING ALFALFA ON POOR SANDY LAND.

What is the best kind of alfalfa seed to sow on sandy soil, it being in poor condition, having been in grain for several years? Do you think it would amount to anything? How much seed would be required to the acre?

Ans.—Sow the ordinary common alfalfa seed twenty-five pounds per acre. While this land is not in very favorable condition for seeding to alfalfa, it is unquestionably in need of being seeded to something, and it may be worth trying alfalfa at once. A light top-dressing of rotted barn-yard manure might be applied now, providing same is reasonably free of noxious weed seeds (the rotting will help to kill them), and as soon as you commence working the land, apply one or two loads per acre of unleached wood ashes. If available, thirty bushels of air-slacked lime would also help. Work up well, and seed either alone or with a bushel of barley per acre. Send twenty-five cents to the Bacteriologist, O. A. C., Guelph, for a bottle of nitro-culture to treat your alfalfa seed before sowing.

MAKING A DRY BATTERY.

Please tell me how to construct a dry battery.

Ans.—Make a round can of zinc, without a lid, six inches deep, 2 1/2 inches in diameter. Solder a binding screw to its rim. Cut a cardboard disc to fit tight inside can, and push home to bottom. Take a strip of blotting paper, long enough to go thrice around inside of can and wide enough to project 1/2 inch over edge of can. Roll up the paper, put in can, and unroll it until it fits tightly to can. Procure a piece of carbon, about 1/2 inch in diameter and 7 inches long. Flatten both sides of one end with a file, and drill a hole to take binding screw. Heat flat end, and dip into melted paraffin 1 1/2 inches deep, until it does not smoke much when withdrawn. Stand with flat end down to cool. This forms the carbon pole. Procure some chloride of zinc (crystals); make a saturated solution of it, using distilled water. To this add the same weight of sal ammoniac as the zinc chloride used. This forms the "battery solution." Procure some powdered carbon and manganese dioxide. When all is ready, fill the can with the battery solution until the blotting paper is saturated; pour the solution out; turn the can upside down, and drain. Set can upside down on blotting paper to dry a little below saturation. Take equal parts of carbon powder and manganese dioxide and moisten with battery solution until they are no longer dusty, but not in a paste. Next, set the carbon pole in center of the can, and put 1/2 inch of pure, dry sand in the bottom. On top of this put two table-spoons mixture of carbon and manganese, and tamp it down firmly. Put in more of mixture and tamp again, using hammer and being careful not to disarrange blotting paper. Continue filling thus until within half an inch of top of can. Then fold the blotting paper over on top of the black mixture, but take care it does not touch the carbon pole. Now fill the remaining half inch of the can with resin, tar, or with this mixture: Resin, one part; tar, one part; soapstone or powdered slate, one part, melted in a clean pot, and stirred thoroughly. Next, put binding screw in carbon pole, wrap the cell in paraffined paper, leaving top open, hot covering bottom, and the cell is ready for use.

Elmhurst Berkshires

We have a number of choice young boars ready for service. Some imported, others imported in dam—also from imp. sire and dam—which we will price right for quick sale. Write us for what you want.

H. M. VANDERLIP, Importer and Breeder, CAINSVILLE P. O., BRANT CO.

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Yorkshire and Berkshire Swine, Shorthorn Cattle. As I must leave farm in March, I am offering 40 sows of choice breeding and quality. Prize-winners and the get of prize winners. Also cows and calves bred, fed and sold right.

IRA L. HOWLETT, KELDON. MOUNT PLEASANT HEAD OF TAMWORTHS AND HOLSTEINS.—For sale: Pigs of either sexes from 6 weeks to 2 years; also 12 bull and heifer calves from 1 week to 1 year old. Phone in residence. Bertram Hoskin, The Gully P. O.

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D. O. FLATT & SON, Millgrove, Ont.

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are the easily fed, quick maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now. JAMES WILSON & SONS, FERGUS, ONTARIO.

Newcastle Tamworths and Shorthorns For Sale: 100 pigs, both sexes, all ages. Sows from 10 months to 2 years, bred to Imp. Cholerton Golden Secret, all descendants of Colwill's Choice and Newcastle Warrior, both Toronto champions. Also two choice Shorthorn bulls, ready for service, from choice milking dams, and sired by a son of Imp. Joy of Morning. A. A. COLWILL, NEWCASTLE, ONT.

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Imported and Canadian-bred boars and sows of the best possible breeding, with lots of size and quality. A fine lot of both sexes and all ages. Everything guaranteed as represented. Prices reasonable. H. S. McDIARMID, Fingal P. O., Shelden Sta.

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Bred from imp. and Canadian-bred sires and dams, which are of choicest breeding. Stock, all ages, for sale. Some imp. in dam. Guaranteed as represented. W. W. BROWNIDGE, Milton, C.P.R. Ashgrove P. O., Georgetown, G.T.R.



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are unsurpassed for quality and breeding. Young stock, all ages, for sale reasonable. Satisfaction guaranteed. Long distance telephone in residence. J. J. WILSON, Importer and Breeder, Milton P.O. and Station, G. T. R. and C. P. R. When Writing Mention this Paper.

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Bred from imported and Canadian-bred sires and dams, and bred on prize-winning lines. My brood sows are large, choice animals. Young stock of both sexes. Some sows bred to imp. boars. HENRY MASON, SCARBORO P. O. Street cars pass the door.

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Boars ready for use. Choice sows to farrow in March and April. Shorthorns of both sexes. JOHN RACEY, Lennoxville, Que.

For Sale—Ohio Improved Chester Whites, the largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not akin; express charges prepaid; pedigrees and safe delivery guaranteed. Address E. G. GEORGE, Putnam, Ont.

Yorkshires—Boars ready for service; sows ready to breed, and bred; young pigs just weaned and ready to wean. Cotswold and Shropshire rams, yearlings and lambs, registered. GEO. M. SMITH, Hayville, Ont.


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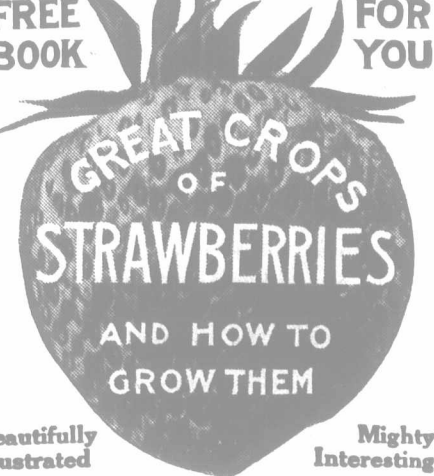
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Every day we have evidence that the weakling has no place in the busy, hunderd life of to-day. It takes nerve and strength to go up against the obstacles we are now forced to encounter, and this the weakling lacks. Look about you and see the successful man of to-day; it matters not whether he be a Merchant, Lawyer or Laborer—with head erect, eye clear, strength in his every movement, he is ready to tackle any problem with that enthusiasm which assures success.

I can make just such men of weaklings, I care not how long they have been so, nor what has failed to cure them. Let them wear my

Dr. McLaughlin's Electric Belt

every night as I direct, and in place of a weak-nerved, debilitated being, I will show you a strong man—full of vigorous life, with nerves like steel and ready to look any man in the face and feel that he is equal to the best of them and can do what they can do.

You will say this is promising a great deal. I know it, and can show you evidence that I have done it for thousands of weak men, and every one of them has spent from \$50 to \$500 on drugs before he came to me as a last resort. Are you weak or in pain? Are you nervous or sleepless? Have you Rheumatism, Weak Back, Kidney Trouble, Weak Stomach, Indigestion or Constipation? Are you lacking in vitality? I can give you the blessing of health and strength. I can fill your body with vigor and make you feel as you did in your youth. My Electric Belt is worn while you sleep. It gives a soothing, genial warmth into the body. This is life—vigor.

The men who had given up hope, who thought there was no cure for them, until they came upon Dr. McLaughlin's Electric Belt. Now they are full of life and overflowing with joyous spirits. Pains are gone, weakness has gone, and full vigor is in every action.

Do you want to feel like that? Then wear the grand, life-giving appliance for two months at night. It will charge every nerve with electric life, and you will feel rejuvenated and invigorated. It puts steam into your run-down body, drives away pain, and renews youth.

What's the use of dragging your legs about like a wooden man? Feel like a man of spirit. Away with the pains and aches; off with this wretched feeling as if you were seventy years old and had one foot in the grave. Come and let me put life into your nerves; let me give you a new supply of youthful energy. Let me make you feel like throwing your chest out, and your head up, and saying to yourself, 'I'M A MAN!' Let me give you back that old feeling of youthful fire, vim and courage. I can do it, so that in two months you will wonder that you ever felt so slow and poky as you do now. Act to-day. Life is sweet, so enjoy every minute.

Vermilion Bay, Ont., Oct. 18, 1907.

Dr. McLaughlin:
Dear Sir,—I have just received your letter, and was pleased to hear from you and to know that you are still improving your Belts. I thought they were perfect, as they have done so much for me. I have worn the Belt for three months, and can say that I am a new man. You may use my name if you wish, and I will tell anyone the great good the Belt has done for me.
Yours very truly,
THOMAS KIRCHEM.

St. Catharines, Ont., Oct. 21, 1907.

Dr. McLaughlin:
Dear Sir,—Before buying your Belt I had Sciatica so bad that I was unable to walk across the floor. Being persuaded by my family to try one, although I had no faith in it myself, I consented to get one, more to stop them from bothering me, as I had given up all hope of ever being able to walk again. After using the Belt one hour I was able to walk across the room, and in three days I could walk outdoors. Now, I claim I am soundly cured, giving Dr. McLaughlin's Belt all the credit.
Yours truly,
CHAS. HOBBS, P. O. Box 425.

The life of the nerves is electricity. If they are weak it is because they lack electricity. Electricity is the nourishment which the stomach generates for the support of the nerves and organs, and when it is unable to generate this force it must have artificial aid. This is electricity—artificial electricity as applied by Dr. McLaughlin's Electric Belt.

My method of curing disease is to go down to the very foundation of the trouble and remove the cause. When I have removed the cause, Nature will do the rest. If your nerves are weak, I restore to the stomach the power it has lost, which, in turn, gives the necessary strength to the nerves. Electricity is a relief from the old system of drugging. It does by natural means what you expect drugs to do by unnatural means. It is nature's way of curing disease, for it gives back to the nerves and organs the power they have lost, which is their life.

My Belt is easily and comfortably worn next to the body during the night, and gives out a continuous stream of that strength-building, nerve-feeding force which is the basis of all health.

If you haven't confidence in electricity, let me treat you at my risk. I will give you the Belt on trial, without one cent of risk to yourself. Give reasonable security, and I will take your case, and you can

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