

Vol. XX.

No. 2

The
O. N. G.
Review

NOVEMBER

1907

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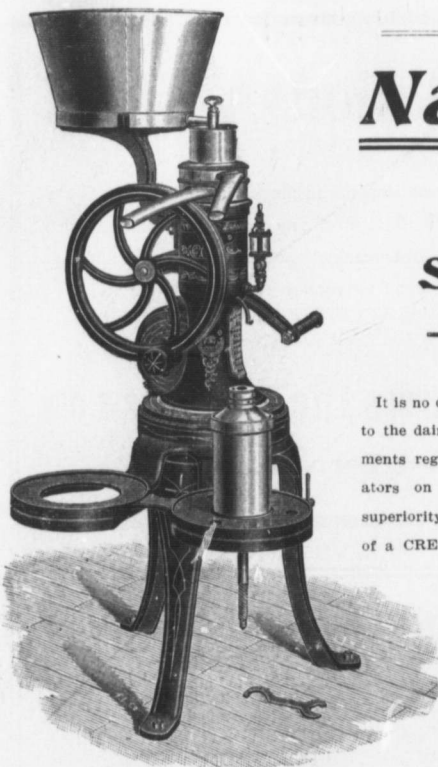
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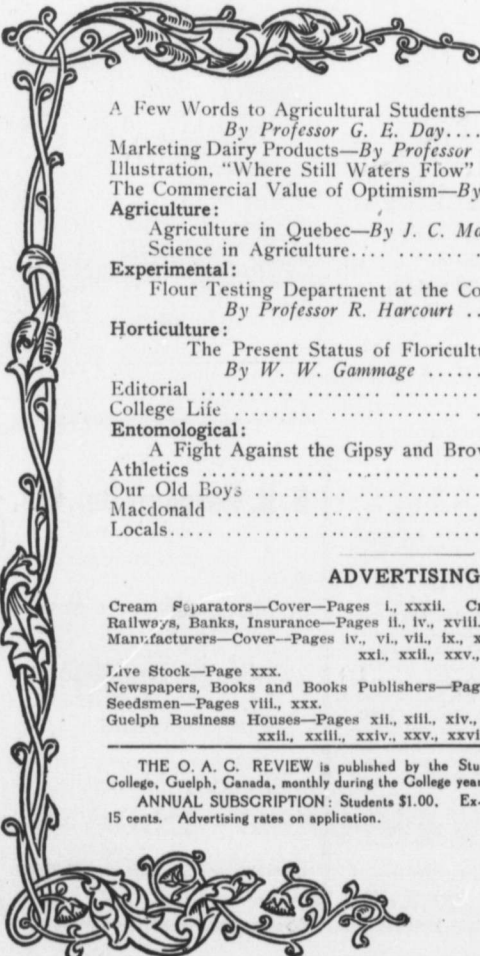
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CONTENTS

Vol. XX.

NOVEMBER, 1907.

No. 2.



A Few Words to Agricultural Students— <i>By Professor G. E. Day</i>	Page. 59
Marketing Dairy Products— <i>By Professor A. H. Dean</i>	62
Illustration, "Where Still Waters Flow"	66
The Commercial Value of Optimism— <i>By Laura Rose</i>	67
Agriculture:	
Agriculture in Quebec— <i>By J. C. Macdonald, B.S.A.</i> ,.....	69
Science in Agriculture.....	72
Experimental:	
Flour Testing Department at the College— <i>By Professor R. Harcourt</i>	75
Horticulture:	
The Present Status of Floriculture in Canada— <i>By W. W. Gammage</i>	81
Editorial	85
College Life	87
Entomological:	
A Fight Against the Gipsy and Brown Tail Moths	91
Athletics	94
Our Old Boys	102
Macdonald	107
Locals.....	111

ADVERTISING.

Cream Separators—Cover—Pages 1, xxxii. Creamery Appliances—xv.	
Railways, Banks, Insurance—Pages ii, iv, xviii, xxii, xxvi, xxvii.	
Manufacturers—Cover—Pages iv, vi, vii, ix, xi, xiv, xv, xvi, xix, xx, xxii, xxiii, xxv, xxvi, xxvii, xxxi.	
Live Stock—Page xxx.	
Newspapers, Books and Books Publishers—Pages vi, xiv, xviii.	
Seedsman—Pages viii, xxx.	
Guelph Business Houses—Pages xii, xiii, xiv, xvi, xvii, xix, xx, xxi, xxii, xxiii, xxiv, xxv, xxviii, xxix, xxx, xxxi.	

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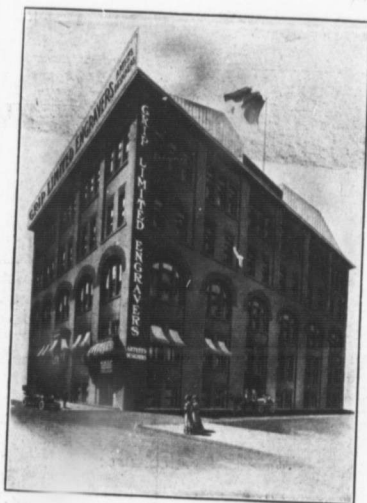
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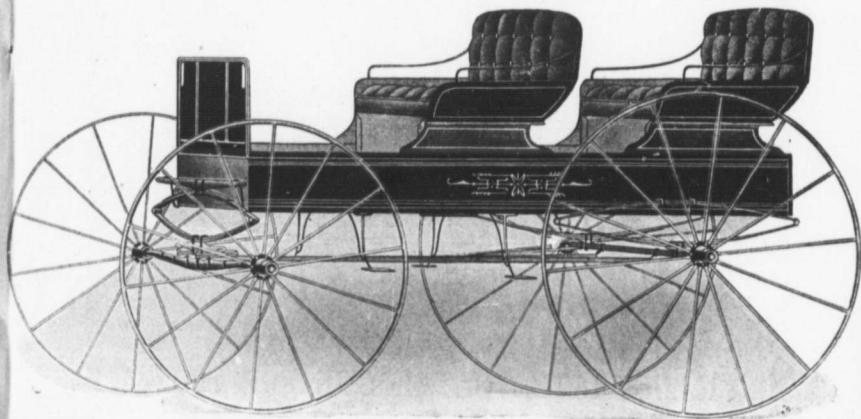
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The O.A.C. Review

THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XX.

NOVEMBER, 1907.

NO. 2.

A Few Words to Agricultural Students.

By PROFESSOR G. E. DAY.

IN both Canada and the United States, there is a most deplorable tendency on the part of people who should know better, to regard farming as a business rather beneath the dignity of a person of any degree of culture or social standing, and it is important that we should carefully look into this matter, with a view to discover what ground there is for this commonly prevailing impression, and who is responsible for its existence. Is there anything in agriculture itself which tends to degrade and to render a man unfit for the highest duties of citizenship? We can scarcely admit that such is the case, because the first citizen of what we believe is the world's greatest empire is a man who owns large herds and flocks, and who takes a very lively interest in all things agricultural. It would be an inspiration to those engaged in agricultural pursuits, and a revelation to those who regard agriculture as a sordid, vulgar occupation, could they visit the royal farms at Windsor, and learn from the lips

of those who are well qualified to know, the intense interest which the late Queen Victoria took in her herds and flocks, and in the general management of the farms. Hers was no mere perfunctory interest, but she took an active part in the direction of the farm affairs. Possessing good business ability, she recognized the enormous economic importance of the agricultural industry, and possessing sound judgment, she recognized the importance of encouraging the industry by according it an extra share of royal favor. What the sovereign delighted to honor, was not likely to be despised by loyal subjects, and so we find throughout Great Britain, that while it may be considered bad form for the members of nobility to engage in certain branches of trade or commerce, the possession of lands, flocks, and herds, always adds to the social status of the possessor.

The thoughts just presented would admit of considerable enlargement if space permitted, but even from this

fragmentary view of facts, it should not be hard to draw a very important deduction, namely, that the kind of people engaged in an occupation can make or mar the reputation of the occupation. As has been pointed out, there is nothing in agriculture to drag down the man engaged in it. It is one of the oldest, as well as one of the most honorable of callings. No man, not even a despotic sovereign, possesses such untrammelled freedom as the farmer—freedom of speech and action undreamed of in almost any other walk of life. In addition to this, the farmer has charge of our country's greatest source of wealth, the output of our mines, forests and fisheries piling into comparative insignificance beside the products of the farm. But, in spite of all its advantages, agriculture can never rank with other callings, unless the men engaged therein prove themselves the equal of other men. If the farmer regards anything approaching intellectual culture as unnecessary in his business, and fails to realize the importance of equipping himself for all the duties of citizenship, he need never hope that his calling will command the respect of the community at large, which is its due.

The young men who attend an agricultural college show by the fact of their attendance at such an institution, that they realize something of the importance of mental training as part of their equipment for life's battle. In this intensely practical age, however, there is a marked tendency to judge all subjects upon the curriculum of an agricultural college from the standpoint of dollars and cents, and it is possible to go to extremes along this line. The young

man (and the old man, too, for that matter) is apt to say: "Why should time be spent upon such subjects as mathematics, English, including grammar, composition, and literature, and a number of other subjects which are not likely to enable me to make another dollar out of my farm?" These men are apt to regard time spent upon such subjects as wasted, and their measure of a man's success in life is the amount of property he manages to accumulate during his lifetime. It is true that the ability to make a comfortable living, and to turn to the best account the natural resources of one's disposal, is a very important consideration, and must not be overlooked in the education of the individual, but, if education does nothing for a man but enable him to make money, then it is a dismal failure. Man is a many-sided creature, and his education must touch him at many different points, if it is going to make a better man of him. The self-cultured money grabber is not the most desirable citizen, and who would wish to change places with him, no matter how many millions he had accumulated? The most wealthy man is not necessarily the most useful citizen, nor does he necessarily derive the most pleasure from his life. We must not forget that upon a school curriculum many subjects are especially designed as a sort of mental gymnastics, and do for the intellect what physical training is designed to do for the body. Some subjects train the judgment and reasoning powers, and some touch those finer and more subtle sensibilities, the aesthetic, artistic, poetic and many other qualities which are difficult to classify, but which combine to remove man the

farthest from the brute creation and make him human. Must the man who intends to follow farming leave all this side of himself unexploited and be trained only to chase the "Almighty dollar?" Heaven forbid!

Sordid ideals on the part of the men engaged in any calling, will surely degrade the calling, and this brings us back to where we started. Whether agriculture attains and holds the place which is hers by right, depends entirely upon the men who engage in the occupation. That agriculture is worthy of the best that is in a man, has been demonstrated beyond question many times, and the young man who is training himself to be a farmer must not let the making of money blind him to what he owes to himself, to the community in which he lives, and to the country of which he is a citizen. A calling is judged by the men engaged in it, and while the farmer never has cause to be ashamed of his calling, he has every reason to be careful that his calling has no cause to be ashamed of him.

THE WEST.

Oh, mighty West! Oh, nation newly born,
 With swelling hearts we celebrate the morn
 That gave thee birth.
 On thy vast plains extending far and wide,
 We long have looked and calmly cast aside.
 'Tis but a day since o'er thy boundless waste
 The bison roamed where cities now are placed;
 Still can I see beneath the starry gleam
 The Redskin's tent close by a running stream.
 Proud Nature's child! companion of the wind,
 Though thou art gone, thy name is left behind.
 That boundless wealth which thou so proudly spurned
 Is now thy foe, and is against thee turned.
 From every side the sound of marching feet
 Proclaims a host that will not brook retreat.
 Fair heritage! Bright trophy newly sent,
 As we our eyes cast o'er thy broad extent
 This we proclaim since nation's first began
 No fairer prize was e'er conferred on man.
 This nation guard, Oh Thou who rules the skies,
 Let justice rule, and honor be the prize;
 Create a people loyal, brave and free,
 With noble hearts and love of liberty.
 Oh mighty West, home of a coming race,
 If such thy goal, thou soon shall take thy place.
 Soon shall all war and deeds of darkness cease
 To usher in a universal peace.

W. C. Owen, '08.

Marketing Dairy Products.

By PROFESSOR H. H. DEAN.

In this issue we begin a series of articles on Dairying to extend throughout the year. These articles will deal with the operation of creameries in different parts of the province—with the curing of cheese, with the demands of the markets, and with other topics of vital interest to Dairymen and to REVIEW readers in general. The writers will be Dr. Publow, Mr. Fred. Dean, Mr. A. J. Ruddick, Mr. J. W. Mitchell, and other prominent dairymen.—Editor.

FOR these many years have dairy writers and speakers been emphasizing the importance of cheap production and skillful manufacturing of dairy goods, but few have studied the market end of the dairy business. It is very important to produce milk, cream, butter and cheese cheaply and of the best quality; it is important to manufacture dairy produce as cheaply as possible, and of the kind required in the markets of the world; but it is also important to have these goods marketed in a business-like way, in order to reap the profits on capital invested in and labor bestowed upon production and manufacture.

Let us look at the methods now followed in marketing dairy communities and see if an improvement is not possible.

Marketing Milk.—The usual method of marketing milk is either for the producer to retail it, or more frequently, the producer sells to a private person or some company who retails it. The man who simply produces a grade that will "pass," receives as much for his goods as does the man who takes extra care in producing a clean, cool article. Whether the market be village, town, city, cheesery

or creamery, there is little or no inducement for the careful, conscientious, painstaking milk producer. Someone asked the writer recently if cleanliness was next to Godliness in the dairy business. He replied that cleanliness was the more important in dairying, because a person who was not clean in dairying was almost sure to go to the Devil sooner or later.

Municipal or company control of the sale of milk would doubtless solve the problem of marketing milk in towns or cities. We should prefer the former, as the municipality controls the streets, and can effectually prevent senseless competition which sometimes ruins milk companies. The municipality can well afford to furnish the people with milk at cost. There is as much reason for a town or city controlling their milk supply and taking as much interest in furnishing good milk to the citizens at a cheap rate, as there is for assuming full control of water supply, street car service, gas and electric light, roads and sidewalks. The milk supply is more important than any of the foregoing, because the health of the citizens especially that of the children, depends largely upon the milk supply. Thousands of children die annually, for lack

of a proper and healthful supply of milk. This is largely the result of inefficient methods of handling and marketing. By proper municipal control the maximum price might be paid to the producer, a milk of sanitary soundness be supplied to the consumer at a minimum cost.

Cream is considered an expensive luxury, and it frequently proves to be such because it turns sour, or becomes bad in flavor before it can be used. There are also the fads of "ice cream" and "whipped cream," by means of which many people ruin their digestion. If people were supplied with good, wholesome, pasteurized cream, testing about 20% fat, there would be less trouble with spoiled cream in the household, and less demand for the more or less unwholesome forms of manufactured cream. Here again the municipal or company plant supplied with proper dairy machinery for pasteurizing and cooling, and a prompt delivery in sterilized vessels would be a great advantage. The use of the paper milk or cream bottle, which is used but once, would be a great improvement, on sanitary grounds, over present method of delivery.

Cheese.—It was thought in 1873 that when the Dairy Boards of Trade, or cheese markets, were established in various centres throughout Ontario, that the question of marketing cheese had been solved, for a number of years they seemed to meet the wants of the cheese producers. Latterly, for various reasons, there is more or less distrust of the "call" system. We noted recently that one of our largest and best markets, carried a resolution to allow sale of cheese on the "curb" or street after the regular meeting of the market. Previously this had been

considered the chief stronghold of selling on the open market to the highest bidder. The mover of the resolution, said he had found that those who sold privately were able to obtain better prices for their cheese than did those who sold on the board. We have also seen during the past summer one of the Eastern Ontario cheese markets turned into a veritable "beer garden" at each time of meeting. Charges of "graft" have been openly made and strongly denied. It has been whispered quite loudly that certain salesmen were receiving "pocket money" from certain buyers, if they (the buyers) were able to get the cheese from certain factories in which these salesmen were interested. For some time it has been freely stated that the cheese boards are merely "feelers of the market," and that the weekly meeting is largely a farce so far as selling cheese on the open market is concerned. Selling cheese subject to Montreal inspection has also caused a great deal of friction. All these things point to a very strong feeling of unrest as to methods of marketing Canadian cheese. What the remedy is, it is difficult to say. We feel sure that, up to the present, no better plan has been derived than the Dairy Boards of Trade, conducted in an honest, straightforward manner. To make these successful, the salesman must agree ("and stick to it") not to sell, except on the market, to the highest bidder. If the buyers know that they cannot get the cheese except on the board, they will bid the highest price which the market will warrant, and the salesmen will know they are being paid the very highest price which the state of the market will allow. Sales on the "curb" are made in such a way

that the salesmen never know whether or not they are receiving the full market value. It is not in the best interests of the sellers of cheese to allow the Dairy Boards of Trade, or cheese markets to go to the wall. Buyers of cheese, are, as a rule, good fellows, and do business with "a square deal," but they are also very human. Once the cheese markets are abolished, buyers, who are comparatively few in number, will be able to "fix" the market to suit themselves, and we shall have the Standard Oil Trust methods on a small scale, in a very short time. Our advice to factorymen and farmers interested in the cheese business is to uphold the markets, reduce the number so as not to have buyers running all over the country to secure a few cheese, and insist on payment for the cheese at the point of shipment. If the cheese were sent weekly to a central cold storage, where the buyer could see a large number of cheese in a short time and where the cheese would be perfectly safe in the case of a sluggish or falling market, it would simplify matters a great deal. However, the average owner or salesman of cheese is very much afraid that he will not get justice if the cheese leave the factory before being paid for.

Butter.—My space is so nearly taken up that I have only room to offer a suggestion on marketing butter. Why intelligent people will continue the present methods is more than I can understand. Thousands of dollars are lost annually on dairy butter in this Province. Not only this, but it is so unsatisfactory to all parties concerned. The producer receives a poor price for it, the merchant says he wishes he were rid of the nuisance of handling

it, and the consumer, in many cases, prays that he may be delivered from it.

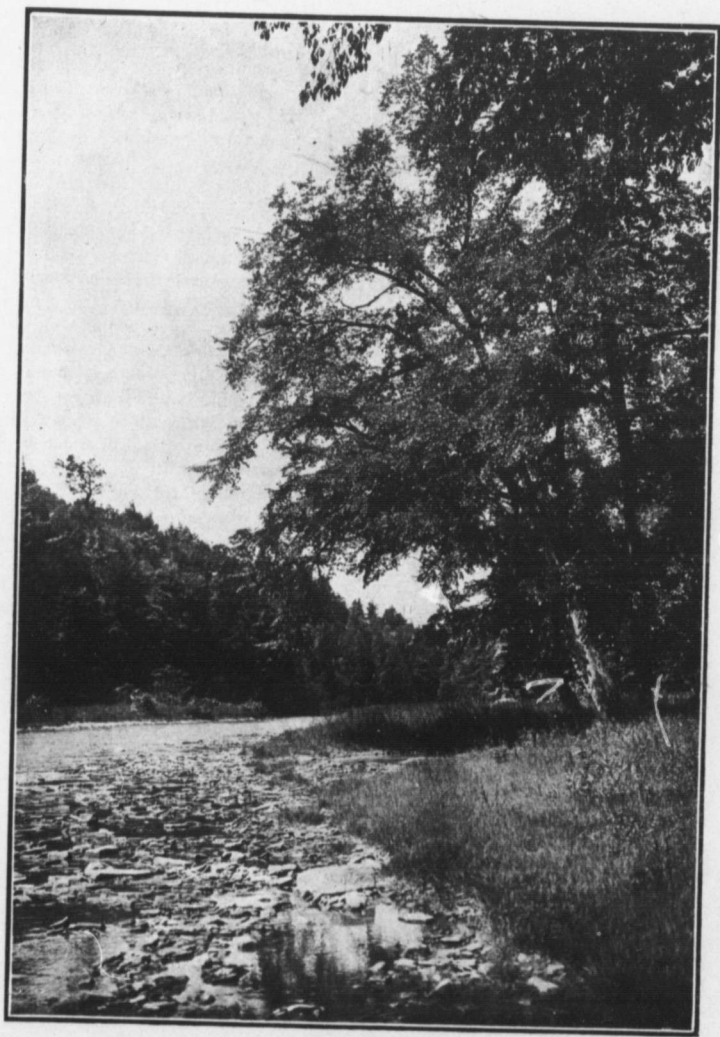
The remedy lies in the hands of the farmer, and the merchant. By adopting the creamery system, the farmer's wife is saved the drudgery of butter making and the merchant is able to get an article that suits his customers. As one man said recently, he knows when he sends out a pound of creamery butter there is no danger of it being returned with the remark that it could not be eaten, as is frequently the case with dairy butter. He further said that he would much rather see a customer come into his store with a creamery cheque, than with a basket of butter. Another merchant said recently that one-third of the butter brought to his store was unfit for table use. This butter, he said, usually comes in on Saturday, when he is busy. He has to hire extra clerks to look after it, and he wished he could get rid of it. Many a farmer's wife has longed to be rid of the labor of churning and taking butter to market. How much better a farmer or his wife feels with a cheque or money in the pocket, as compared with the feeling when a heavy basket of butter has to be lugged on to the train or into a store. If so many are anxious to get rid of the present system, why then is it continued? Simply because we haven't "spunk" enough to make a change. The farmer is afraid the creamery man will "do" him. The merchant is afraid that some other fellow will get the trade of a customer if he refuses to take the butter into his store. We are reminded of two men of whom, it was said, "one was afraid and the other dassn't." While the plan might savor of a "combine"

or a "trust," the only practicable remedy seems to be for the merchant to refuse to handle dairy butter. This would compel farmers to patronize creameries. This may seem unjust, but there is no other remedy that we can see, so long as merchants continue to accept all kinds of butter, paying the same price for good, bad or indifferent; the effects of such a policy will be bad—bad financially, and bad morally, because someone is robbed every time such a transaction takes place.

Finally we believe that milk, cream, butter and cheese should have a fairly constant market value, the same as sugar, tea, cotton, linen, boots and shoes, and other staple articles. Do we find these goods varying in price to the same extent that dairy and other ordinary farm food products do? Why should the price of butter vary from about fifteen to thirty cents per pound? There is just as much food value in a pound of good butter at one time as at another. So of milk, cream and cheese there is practically the same amount of dairy produce consumed each month. The speculative element is largely responsible for

the present variation in price. By a proper co-operation on the part of farmers, together with proper cold storage facilities to store the surplus at any one time, producers of dairy products would be reasonably sure of fairly uniform prices. Does this sound chimerical? If it has been done in other food products, why not with dairy goods? Good milk is worth eight to ten cents per quart; a pound of good cheese is worth at least ten to twelve cents per pound; a pound of good butter is worth twenty-five cents per pound. Add to these prices the cost of marketing, and we have approximately what the consumer would have to pay for dairy produce, and we venture to say the consuming public would be much better pleased than with the present system of "higgling" the market. When a purchaser goes into a first-class store to buy staple articles, he or she does not begin "beating down the price," as they know it is useless. Why may not the same principles be applied to the marketing of dairy products? It can be done through the principle of co-operation, and in no other way, so far as we can see at present.





"Where Still Waters Flow."

The Commercial Value of Optimism.

By LAURA ROSE.

A MAN who has two sons in business in Vancouver took me to call on them the other day. Talking of the two boys later he said he had told Harry he would have to brighten up and look a little more cheerful when he went forward to wait on a customer. The part to comment on is, the younger brother had put the father up to saying this to the older one. "Why, father," he said, "Harry will drive away all the business we have if he wears a look like that. People don't want you to wait on them as if you had just returned from a funeral."

I do not know anything that will carry a man over steep, and rough and shaky places better than keeping a cheerful assuring face to the public, even though it be but a mask. A good bluff is to be preferred to whining discontent, and very often will tide one over, until matters take a change for the better and the ground becomes once more firm under the feet.

The unwritten early biography of many of our prominent business men could tell of the well-brushed suit covering an empty stomach, or the smiling face, but heavy heart, when the expected customer or client left, but left nothing behind him. 'Tis the men of grit and smiles who win out under such conditions.

Keep your successes to the front and your failures to yourself. If you

want to grumble at your luck, do it when alone in the dark with your head under the blankets. It is the only place a business man dare open the safety-valve of the pent-up feelings and toss and groan over his seemingly unsurmountable difficulties. But with his morning bath he must wash away all traces of worry and meet the world with a face full of cheerful courage and determination.

As one sheep follows another to where the pasture is good, so is it human nature to follow successful men. If a man desires and is trying to attain the greatest success in his special line, he will not seek the companionship of the unsuccessful. He turns to where the prospect looks the brightest and where things are moving. We like to get our stock from the man who has made a success in rearing the best and is justly proud of his achievement; we like to trade at the stores where the crowd goes because the salesmen are polite and the goods to be relied on. Nothing succeeds like success, and success in the beginning means having faith in your own ability and undertakings and letting the public know it. It is a man's greatest and most valuable asset in starting out for himself. There's a lot of sound truth in the saying, "You must blow your own horn." Many a clever man is not doing his greatest good just because he is overly modest

or sensitive about letting his abilities be known. we admire the man with assurance when he has something to back it up. He inspires confidence in us, and we like to follow him around.

To no class of people should optimism be more preached than to farmers. Pessimism—the looking on the dark and seamy side of their business, has been their greatest curse. The ceaseless grumbling at the never-ending grind of work and at the small returns from the same, has been one of the chief reasons for turning the boys against agricultural pursuits, and making girls vow they'll not marry a farmer anyway. I am a strong believer in the law of compensation. A farmer works hard, but he has not the heavy business strain on his nerves. If he does his part faithfully and well, he can throw the blame of failure on Providence. His profits may not be as large as his town friends, but he has considerably less expense to defray, or appearances to keep up.

The farmer should be a cheerful

man. If he would open his eyes and ears to the world of nature it is his blessed privilege to live in, he could not help but get his mind attuned to pleasant thoughts.

To see things growing, to hear the hens cackle—especially with eggs at the present price—to watch the pair of colts kick up their heels and canter across the fields with the style which foretells the \$600 team, these are the things the farmer should note—these are the things that puckers the mouth of the growing lad, and for very joy makes him fill the stable with his merry tune.

If we have not been born with a happy, hopeful disposition (and the person can't say thankful prayers enough who has), we can set about cultivating one. Its commercial value cannot be overestimated.

Our failures have brought their own good lessons to ourselves, but we need not flaunt them before the world. It means business to keep our successes to the front.



Agriculture.

Agriculture in Quebec.

BY J. C. MACDONALD, B. S. A.



A few weeks ago a well known Ontario farmer whose wide observation qualified him to express an opinion on the matter, said to the writer that nowhere in this broad Dominion are there such opportunities for the tiller of the soil as in the Province of Quebec. Remarkable as the statement appears at first, the more it is considered, the clearer becomes the conviction that in the main it is correct. In the valley of the St. Lawrence are to be found some of the richest clay soils that in spite of repeated croppings are yet capable of yielding excellent crops. Soils quite as fertile are to be found in other provinces, which will give good returns, but are sooner exhausted. The climate, though severe, is equable, the influence of the gulf and river extending over a considerable part of the Province. Proximity to markets is the third, and, perhaps the greatest factor in favor of the Quebec farmer. Montreal has been and will continue to be, the metropolis of Canada. Not only that, but the banks of the St. Lawrence will provide sites for other populous cities by reason of the fact that power is convenient and means of transportation are the very best. Quebec is rich in "white coal," having within her borders one-fifth of the water power of the North American continent. Manufactures mean a dense population and a consequent demand for farm products.

Agriculture in Quebec is not a growth of a single century, as in Ontario; it is the slow and steady development of several centuries. There is in it something of the stability that characterises British farming with not a few of the resulting fruits of such conservative methods. Quebec has originated a distinctive breed of horses, and also a type of dairy cattle, both of which possess considerable merit. What other Province of the Dominion has accomplished as much in this direction? In fruit-growing many new varieties of apples, plums and pears, suitable to the northern climate, have been

propagated, so that the area of successful production has been extended far to the north, and eastward to the shores of the gulf. La Fameuse apple had its first home in the French settlements nearly three hundred years ago, and in its various forms is to-day unrivalled as a dessert apple. Musk melons of a special variety grown on the slope of Mount Royal, have long had a reputation with the connoisseurs of New York, and command the highest prices. So much for the advantages that have come from long-continued effort in certain directions.

Dipping into figures, it is interesting to note that according to the census of 1901, the number of acres occupied was 14,444,175, of which about half was improved. As settlement creeps northward up the valleys of the Gatineau, the St. Maurice and the Saguevay, the area of cultivated land is expanding at the rate of about 200,000 acres each year. The French-Canadian is a successful colonizer, and will, in time, subdue much of the wilderness of Northern Quebec.

In the French districts hay is the principal crop, the product being sold to dealers for export to the United States or Great Britain. A change is coming over the Province, however, and instead of draining the fertility of the farm in this way the habitant is taking up dairying. In 1891 the value of the dairy products from the factories was \$2,918,527, while in 1901 it was \$12,874,377, an increase of three hundred and forty-one per cent. in ten years. Eastern Townships butter is quoted highest on the Montreal market, and the quality of Quebec cheese approaches nearly to that of Ontario. The sister industry of bacon production has been neglected in spite of the fact that the packing houses cannot secure sufficient supplies. Within the past two years the Dominion Department of Agriculture has made purchases of breeding hogs in Ontario and sold them by auction at different points in Quebec Province. Time will show the good results of this effort.

While the Governments, Dominion and Provincial, are doing much to assist the farmers, the latter are showing a readiness to help themselves through the medium of their organizations. About six hundred farmers' clubs are in active operation, each receiving a grant of from \$25 to \$50 from the Department of Agriculture. Eleven lecturers are employed to address the meetings of these clubs. Several dairymen's associations and a pomological society render valuable services to the industries which they represent. The Province has also seventy-four county agricultural societies, and several local horticultural societies.

Great strides are being made in the establishment of pure bred herds, particularly of Ayrshires and Jerseys. Lovers of the Jersey will recall the fact that the famous St. Lambert family of Jerseys was founded over a quarter of a century ago, by Mr. R. H. Stephens, at the Village of St. Lambert. Holsteins are being introduced into the Province in large numbers, becoming keen rivals of the Ayrshires in the dairying districts. The Quebec branch of the Holstein Association includes many French-Canadians in its membership list, showing that the black and whites are in general favor.

Agricultural education is still in its infancy, the opening of the new

Macdonald College at Ste. Anne de Bellevue marking the dawn of the new era. Very good work, though on a limited scale, has been done by the agricultural schools at Oka and Ste. Anne-de-la-Pocatiere, as well as by the dairy school at St. Hyacinthe. The school at Oka, though under the control of the Trappist Monks, is recognized by the Government of Quebec, and receives financial aid, according to the number of pupils in attendance. On the 800 acre farm a thorough system of cultivation is carried out, a specialty being made of fruit-growing. Oka wine and cheese find ready sale in Montreal at fancy prices.

It would be useless to attempt a description of the Macdonald College in a brief article such as this. It is unique in that it starts on an equal footing with older colleges in respect to its equipment and patronage. Money has not been spared in the effort to secure the best buildings, and at the same time there is nothing wasteful or extravagant. Its endowment will be sufficient to secure its maintenance without Government assistance, while its affiliation with McGill University will give it a prestige in the academic world. Several of the professors are graduates of the O. A. C., and Principal J. W. Robertson was himself connected with the O. A. C. for several years, so that the spirit of the older institution may be expected to find an exemplification in a wide field of operations at Ste. Anne.

WHEN MILKING TIME IS DONE.

When milking time is done, and over all
This quiet Canadian inland forest home,
And wide, rough pasture-lots the shadows come,
And dews, with peace and twilight voices, fall,
From moss-cool watering trough to foddered stall,
The tired plough-horses turn,—the barn-yard loam
Soft to their feet,—and in the sky's pale dome,
Like resonant chords the swooping night-jars call;

The frogs, cool-fluting ministers of dream,
Make shrill the slow brook's borders; pasture bars
Down clatter, and the cattle wander through,—
Vague shapes amid the thickest; gleam by gleam
Above the wet grey woods emerge the stars,
And through the dusk the farmstead fades from view.

C. G. D. Roberts.

Science in Agriculture.

THE past few years have witnessed a wonderful development in the industrial life about us. In almost every line of endeavor a degree of perfection has been attained, the mere thought of which some years back would have been regarded as a fantasm. This development has been largely the result of the advent of science into the industrial, commercial and professional world. Years ago the scientist, after finding an inspiration for work from the green fields of life and business about him, retired to the seclusion of his laboratory to construct facts and realities upon a flimsy theoretical foundation. Obviously such work had little practical value, as it was performed apart from its parent facts. Of late years, however, scientists have worked in close touch with those whom they desire to serve. The scientist and the practical man have been working in harmony towards a common end, and as a result the achievements aforementioned have been wrought.

While the rapid development of recent years has been common to almost every industry, it has not been so marked or rapid in agriculture. True, great changes have been made, and improvements effected in methods of farming, yet the importance of our calling in comparison to other industries tends to minimize this development. Agriculture is a great, profound and complicated business, on

which is based the prosperity of the nation, and every legitimate means should be utilized to place it in the position its importance merits.

The question arises, why has the development of agriculture been so slow? There are various opportunities of acquiring a knowledge of the fundamental principles of our profession. Agricultural colleges and experimental stations are doing a great work in this regard. The former are turning out men who, if they have gone through college with the right kind of ideas and pursued the proper methods in securing an education, can demonstrate that farming, when pushed with intelligent effort, is attended by a material degree of pleasure and profit. The latter are disseminating among farmers information acquired from practical experience and experimentation which farmers to-day could ill afford to acquire for themselves. Why, then, in the face of those facts, has farming not witnessed the same degree of prosperity and advancement as some other lines of enterprise?

Farmers, as a class, are slow to realize the importance and value of an agricultural education. They cannot understand that agriculture can be classified into groups of rules until it becomes practically a science. They cannot conceive the true principles on which the business of farming rests. They look upon the advent of modern agricultural science into

their business as an intrusion. They show a prejudice against the Agricultural College graduate, and laugh at the idea that there are underlying agriculture principles that can be penetrated only by the arc light of careful scientific investigation, and a thorough knowledge of which is necessary for the best success in their business. It is men such as these, and unfortunately they comprise the majority of the farming classes, that hamper the development of our industry. And in nearly every instance these men exhibit their adversity to agricultural education and science by the evidence of thriftlessness and lack of prosperity about their farms.

We have intimated that the great strides that have been made in almost all lines of enterprise have been due largely to the intervention of science, and that the lack of an equivalent development in agriculture has been due to the tendency of farmers to debar, or at least hamper, the application of scientific principles to their business. Let us see wherein the benefits of the application of science to agriculture lie, and find the reasons for farmers adopting new methods. Such will do more than anything else to lighten up some of the dark places and make for progress. Farming is not now the simple, easy, art it once was. Our pioneers settled down and conducted their operations upon virgin soil, rich in the elements of plant food. They drew lavishly upon the fertility of this soil, as though it possessed unlimited resources. Naturally they succeeded. But such conditions could not prevail. With the depletion of the soil, caused by continual cropping, we are confronted to-day by an entirely

different problem, one that interests not only farmers, but everybody, for upon its solution depends the future food supply of the race. True, we have not drawn to the limit upon this mine of fertility, the farmers' capital, but the time has come when we can no longer draw upon it ignorantly. Our prosperity demands that we should husband the resources of the soil. We must use the soil as an instrument of production, and maintain its fertility unimpaired for generations to follow. This can be done only by acquiring a thorough scientific knowledge of the soil and the extent and manner in which the various crops draw upon its fertilizing constituents.

Again, in the industrial strife in which all industries are involved, the application of an exact knowledge to the processes of each can alone insure its success. The application of science to agriculture has served to put it where it is, and it has created a widespread demand for agricultural education. This is a progressive age, an age of specialization. Science and the resultant efforts of manufacturers have cheapened production and made old methods unprofitable.

Competition is ever increasing. Products from all countries fight for supremacy in the world's markets, and the farmer's only protection lies in his superior skill and his ability to follow his pursuit with the greatest degree of profit. It is obvious then that the farmer with his varied interests should acquire a broad knowledge in sciences relating to the soil, plants and animals in order that he may be able to reduce the cost of production and not be crowded out by his competitors.

What has science done for us? Through its agency we have been able to produce new varieties of fruits, grains, etc., and increase their productiveness. It has formed the basis for the improvement of all our types of domestic animals so that they are more valuable for specific purposes. A knowledge of the physiology of plants and animals and the use of feeding standards, devised from the best of human intelligence, and skill behind a world of science, has enabled us to produce animals, which for quality and cheapness in cost of production, are unequalled.

It has taught us how to combat animal diseases and insect pests, and thus protect to greater advantage our industry. Many of the remedies for these pests are simple, yet it required long and patient study to discover them, and a degree of skill and intelligence to apply them successfully.

Moreover, a person possessing this knowledge of the principle involved is in a position to discover the first attacks and apply the remedy before serious damage has been done, whereas he who is devoid of such knowledge is frequently subjected to serious loss before the cause is eradicated.

Science has taught us how to handle a soil in order to conserve moisture and maintain fertility. We find that a soil is not a mass of inert matter, but the house of many lower forms of life, which are continually at work breaking down mineral and vegetable compounds and liberating plant food. These processes are wholly within our control. We can hinder or help them, according to our treatment of the

soil. In agriculture, as in all lines of business, people demand and are willing to pay for luxuries. The profit lies in supplying this demand. The choicest grades of cheese and butter are made possible only from a knowledge of bacteriology. Flavors are due to the actions of specific germs, while texture and quality result from certain scientific principles in their manufacture. The highest grade of fruit can only be produced from a knowledge of soil and climatic conditions, a knowledge and appreciation of the variability of fruits and the ability to handle the squads of insects that relish the results of our efforts to produce a good article. These few instances exemplify the benefits to farmers consequent on the application of science to agriculture. They serve to show the intimate relation that modern science holds in all phases of our industry. Furthermore, they demonstrate the advisability of farmers acquiring a correct knowledge of the laws and reasons underlying the traditions in which they have been trained. True, many technically uneducated men are successful farmers. But they do not enjoy that twofold success which attends the well educated man, prosperity, and a degree of genuine happiness and satisfaction from their intelligent works. Agricultural education is the avenue through which the higher ideals of the farmer must be reached, and when we have traversed that avenue we have dignified our labor, made rural life attractive and rendered it possible to engage in farming as a successful business proposition. G. H. C.

Experimental.

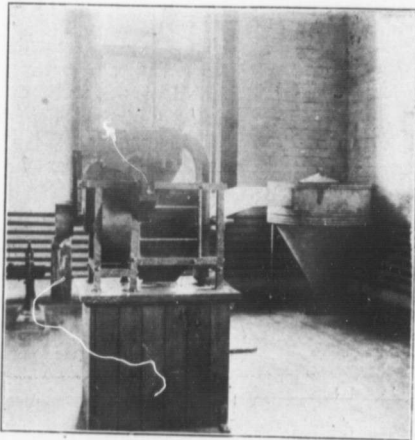
Flour Testing Department at the College.

By PROFESSOR R. HARCOURT.

FEW people realize the wide differences that exist in the quality of the numerous kinds of flour on the market. The average housekeeper may buy a pastry or a bread flour, but does not know the variations in strength of the flour used for the latter purpose, nor of the difficulties the miller has to contend

ity of the gluten. The production of flour of even granulation is entirely a milling problem; the color of a flour is influenced by the nature of the wheat used and by the milling process, but it is practically under the control of the miller; while what is known as strength in flour is almost entirely dependent upon the inherent qualities

of the wheat, or, in other words, on amount and quality of the gluten. It is true good wheat may be spoiled in the milling, but this is seldom or never the case where the miller knows his business. As the gluten content of wheat varies very widely in different varieties and in wheat grown in different localities, and in different seasons, it is probable that the wheat delivered at the mill, whether by wagon or by railroad cars, differs very widely in the qualities required for the production of a strong flour. Millers soon become familiar in a general way with the quality of flour that may be



The Scouring Apparatus for Cleaning Grain Before Milling.

with in producing a grade of flour that is uniform in strength from month to month.

The quality of a flour for bread-making purposes is dependent upon even granulation of the particles of the flour, color and the quantity and qual-

ity of the gluten. The production of flour of even granulation is entirely a milling problem; the color of a flour is influenced by the nature of the wheat used and by the milling process, but it is practically under the control of the miller; while what is known as strength in flour is almost entirely dependent upon the inherent qualities of the wheat, or, in other words, on amount and quality of the gluten. It is true good wheat may be spoiled in the milling, but this is seldom or never the case where the miller knows his business. As the gluten content of wheat varies very widely in different varieties and in wheat grown in different localities, and in different seasons, it is probable that the wheat delivered at the mill, whether by wagon or by railroad cars, differs very widely in the qualities required for the production of a strong flour. Millers soon become familiar in a general way with the quality of flour that may be made from certain varieties of wheat, or from the wheat grown in different localities, and generally mix or blend the stronger with the weaker wheats and this way produce a grade of flour of fairly uniform quality throughout the year. But

without accurately conducted tests, experienced as the miller may be in judging flour by feel and by doughing tests, he cannot be absolutely sure of the result.

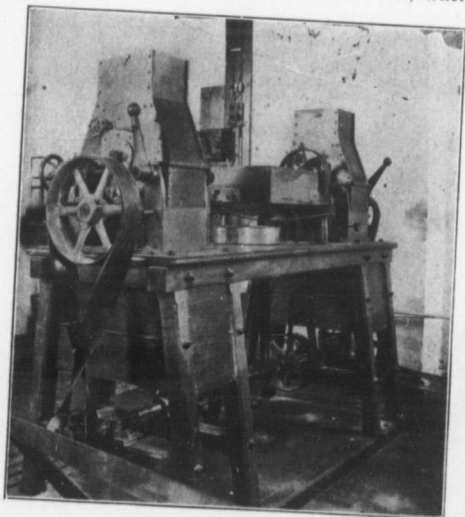
Owing to differences in climatic conditions and possibly to other influences, wheat grown in one season may produce flour of a very different quality from that of another. One year the flour may be characterized by low yield of bread, another by poor expansion in the loaf, slow fermentation, etc., all of which are due

tent, overcome this natural variation, but it is quite probable that the flour on the market this year will not be as uniform in quality as might be desired, unless extra pains are taken to ascertain the strength of the wheat being ground.

Because of these variations in the strength of flour, the problems of the baker are increased. If flour was always of the same nature and strength, the making of bread would be a comparatively simple matter; but, where the flour differs so widely

in quality as it is very apt to do, especially at the time of the change from the old to the new wheat, the problem is not a simple one. This is at least partly due to the fact that comparatively little is known about the make-up of the different parts of a flour. We do know that flour contains carbohydrates, fat, ash materials and gluten, and that we are probably correct in stating that the strength of a flour is in some way dependent upon the quantity and quality of the latter substance, but there are still many points in connection with the gluten and carbohydrate content of a flour that we do not understand.

Two fresh, sound flours may be equal in color and in quantity of gluten, and yet act altogether differently when baked. Some of the causes of this difference may be explained as a result of a chemical examination, but the fact remains that there are many peculiarities about



The Milling Plant.

to inherent qualities of the wheat, and entirely beyond the control of the miller. From all accounts the wheat grown in the Western Provinces this past season is of a very varied quality, and it is natural to expect that the flour will also be widely different in quality. The mixing of the wheat in the elevators will, to a certain ex-

the way a flour "works" that cannot be fully explained by the scientific knowledge possessed to-day. It may seem strange that a material that is so generally used and in such enormous quantities has not been more fully studied, but frequently the most common things around us are, after all, the least understood.

Recognizing the assistance a thoroughly up-to-date flour testing plant would be to the miller and the baker in the practical part of their work, and the need of more scientific investigation into the question of "quality" in flour, and the problems of bread-making, the executives of the Canadian Master Bakers' Association and the Dominion Millers' Association waited on the Provincial Minister of Agriculture and asked that such a plant be installed somewhere in the Province. The Minister at once granted their request, and directed that the necessary appliances be purchased and installed in the Chemical Laboratory of the Ontario Agricultural College. This has been done, and the plant has now been in operation for a few months. The plant is essentially the same as that used by some of the larger milling companies on this continent, and consists of a scourer and dust collector, a mill for grinding the wheat, electric proof and bake ovens, appliances for testing gluten, measuring the volume of the loaf of bread, and all necessary utensils for the proper carrying out of the work.

The scourer is about two feet wide and two feet high, but, small as it is, it has a two-screen shoe for the separation of foreign matter, a fan twelve inches in diameter, and a scouring cylinder eight inches long,

and is connected with a small dust collector. By means of this machine we can clean the grain as thoroughly as it is done in the large mills.

The flour mill consists of two pairs of six inch rolls, a corrugated pair, and a smooth pair. These are connected with feed rolls, and by means of a side lever may be brought together or apart as the operator may desire. On the centre of the machine there is an arrangement for sifting or bolting the flour. This may be started or stopped while the machine is running, without affecting the rest of the mill. The sifter carries three screens, which may be replaced by others of smaller or larger mesh, to suit the nature of the wheat being ground or the product desired. They are so arranged that the coarse bran layers are retained on the top sieve and the flour sifted out of the bottom one. There is no purifier attached to the mill, consequently we cannot separate fine light particles of flour or specks of bran as completely as might be desired; but by careful attention to details, we have been able to prepare a good granular flour of excellent color. No attempt is made to separate the flour into the different grades commonly prepared in the larger mills.

The electric proof oven is four feet by four feet by one foot in size, and contains three shelves. It is lined with asbestos and wired in two circuits, so that when both switches are thrown in, the oven may be warmed up quickly, and when one switch is withdrawn the temperature may, with very little difficulty, be held at any desired point.

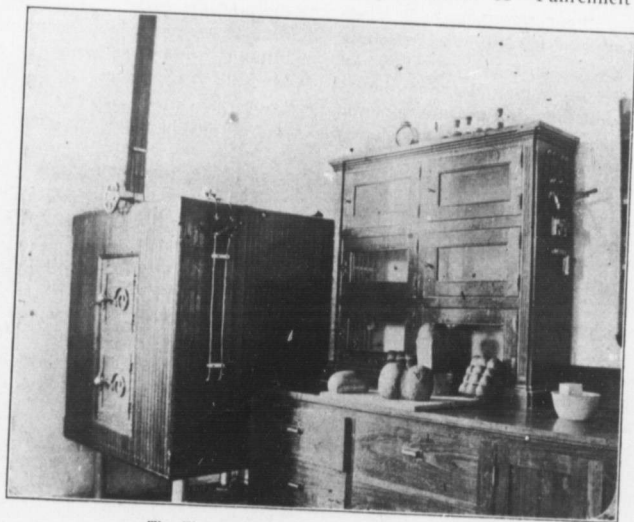
The electric bake oven is three feet square, inside measurement. The

walls are lined on the inside with Russian iron and between this and the outer oak walls there is four inches of abestos, thus insuring almost complete insulation. The wiring of the oven has been done in such a manner to spread the heat from the electric current evenly throughout the oven, and is of sufficient quantity to cause the temperature to be quickly raised to the required point.

For measuring the expansion, or

the space not occupied by the loaf must of necessity give the volume of the loaf.

In our comparative bread-making tests, nothing but water, salt, sugar and yeast are mixed with the flour. Twelve ounces of the flour to be tested is mixed in a bowl with sufficient water containing the other ingredients to form a slack dough. This is placed in the proof oven at a temperature of 80° Fahrenheit until



The Electric Bake Oven and Proof Oven.

size, of the loaf, it is placed in a box of known capacity, and all the vacant space filled with small seed. At the bottom of the box there is a slide which may be drawn and let the seed fall down into a box with a long neck arranged in such a way that an accurate measurement of the seed may be made. The difference between the cubic contents of the first box and the amount of seed required to fill

sufficiently risen to indicate that it is ready for kneading. The kneading is done in the hands, thus overcoming the loss of material that might be incurred by working on the table. After a second kneading, the dough is allowed to stand until ready for the pans. It is then placed in the pans and baked for one hour at a temperature of 360° Fahrenheit. The bread is then allowed to cool, after which

it is weighed, the volume of the loaf determined, and then cut and judged for quality. In these comparative tests, the yeast is used in what might be considered excessive quantities. The object is to cause the dough to rise as high as possible, and thus bring out the strength of the flour. The expansion, or the size of the loaf, is afterwards determined, and this, together with the texture of the bread forms the basis of the judgment on the strength of the flour. The pans are made narrow so as to cause the loaf to take a high form in order to afford a better opportunity of judging the power of the dough to expand. The use of electric proof

and bake ovens renders it possible to have almost complete control of the temperature, and, consequently, to carry out these comparative baking tests under uniform conditions. The flour tests also include a determination of the per cent. of wet gluten and the amount of water the flour will absorb.

When this work is done by an experienced person, the slightest difference in the quality of flours may be determined. In every case a standard flour of the same grade or blend as the flour to be tested is baked, and the results are reported in per cent. of the standard. The following is a sample of the reports sent out:

	Standard Patent No. 1.	Sample Tested No. 2.	Sample Tested	Standard Bakers	Sample Tested	Standard Blend	Sample Tested
Gluten.....	32.33	32.40	32.0	34.00	35.00	28.75	27.00
Absorption.....	62.00	64.00	62.00	65.00	62.00	55.00	57.00
Yield of Bread.....	100.0	100.0	100.4	100.0	98.0	100.0	100.0
Volume of Loaf.....	100.0	92.0	100.0	100.0	98.0	100.0	95.0
Color.....	100.0	100.0	100.0	100.0	99.0	100.0	100.0
Texture.....	100.0	99.5	100.0	100.0	100.0	100.0	100.0
Quality of Loaf.....	100.0	99.5	100.0	100.0	99.0	100.0	100.0
Average Values ...	100.0	99.5	100.1	100.0	99.1	100.0	99.1

It was not the wish of the committees that asked for the installation of this flour testing plant, nor the intention of the Minister of Agriculture, when he granted their request, that the work should be done free of charge. After consulting several members of the executives of the two associations, we have decided to place the fee at two dollars per sample for grinding the wheat and testing the flour, and one dollar for testing the flour alone. Although only twelve ounces of flour are used in the baking test, we ask for three pounds of flour and five pounds of wheat. This is done in order that there may be

sufficient to duplicate the work, if such be deemed advisable.

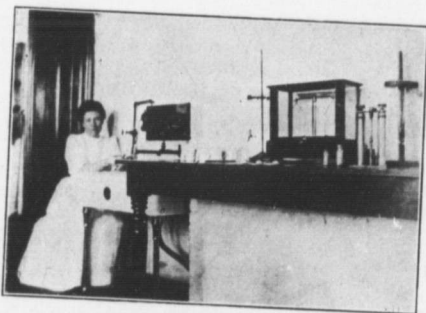
We are now in a position to aid the miller by determining for him the strength, or the quality, of the wheat he expects to mill. If he intends grinding a mixture of Western spring wheat with the softer Ontario winter wheat, we can assist him in finding out what will be the best proportions to mix these grains to give him the desired results. We can also be of service to him in testing his output of flour from time to time to see that it is uniform in quality. In these and many other ways we can directly aid the miller in his work. Further,

there are many problems in connection with the milling business that we may help him to solve. For instance, it is contended by many that hard and soft wheat should not be mixed before grinding, but rather that they should be ground separately and then the flours blended. This is a point which we expect to take up at once. Another point we expect to investigate is the milling quality of the different varieties of wheat grown in Ontario. We have tested the flour

Ontario winter wheat with the hard spring wheat of the West, will also be studied.

To the baker we can be of assistance in testing flour that may not be "working" satisfactorily, and make plain whether the fault lies in the flour or in his process of manipulation. We may also be able to furnish him with some information regarding how a particular flour should be handled, or in providing him with definite information upon which to base a complaint to the miller. We also hope to help him solve some of the deeper problems of the bread-making processes by gaining a fuller knowledge of the chemical differences in flour, and their direct effect on the making of bread.

To both the miller and the baker we promise to give all work sent to us careful and prompt attention, and we trust that the use made of this flour testing plant will prove that the executives of the two associations were warranted in asking for the installation of the plant, and that the Minister of Agriculture will not regret having granted their request.



Washing Process for Estimation of Gluten.

ground in our own mill from the different varieties grown on the Experimental plots at the Ontario Agricultural College during the season of 1905 and 1906, and some very interesting results have been obtained. The problem of blending the soft

that the use made of this flour testing plant will prove that the executives of the two associations were warranted in asking for the installation of the plant, and that the Minister of Agriculture will not regret having granted their request.



Horticulture.

The Present Status of Floriculture in Canada.

By W. W. GAMMAGE.

This article, the second of the season, deals with the youngest and most rapidly growing phase of horticultural work in Canada. The author is one of our most successful florists, and from his pen we get the florist's view of the practical end of his business. No such thorough review of this industry has at any time appeared in any Canadian paper, a circumstance which gives this article an added interest. In the December REVIEW the subject of "Scientific Investigation in Horticulture," will be presented in a paper by W. T. Macoun; of Ottawa.—Editor.

THE history of commercial floriculture in Canada dates back approximately a hundred years. The first men engaged in it were naturally Scotch and English gardeners, who had emigrated to this country, most of them having no definite object in view than the bettering of their condition. Their love for the vocation they had followed led them to continue it in this new country.

In those early days the demand for flowers was very limited in volume, and those who engaged in the business did so more from love of the calling than for the profits derived. The demand grew with the population, but it was not until 1875 that it justified some few men devoting their whole time to the commercial growing of flowers and plants. But from this time on the demand has grown far more rapidly than the population, as the consumption of all luxuries does in a settled and prosperous country, until now the industry is one of no mean magnitude. In Ontario alone there are a number of establishments where from ten to one hundred men are employed, and where the

annual turnover amounts from tens to hundreds of thousands of dollars. Nor is the growth at all likely to cease, for the industry has witnessed its very greatest growth in the last five years, and nothing at present points to a cessation of it. Capital has become interested, and there are numerous cases where a company has been formed in order to erect and equip the most modern and economical greenhouses for handling the very best quality of stock.

With this evolution in demand, and its supply, there has been a coincident evolution in the business. It is not so long ago that the florist found it necessary to run his business in connection with vegetable gardening, fruit growing and allied industries. This he could more easily do because his training made him efficient in all these lines. Business competition has now, however, compelled him to specialize into plant or cut flower growing, or even subdivide one of these. This has developed the increasing number of places devoted to carnation, roses or palms and ferns, etc. To such a point is this carried that growers who handle "American

Beauty" roses alone are common, especially in the United States, while carnations and rose growing are looked upon by growers as distinct trades. The wages of these specialists are good, due to the demand for their special skill.

Twelve years ago a representative body of Canadian florists met together and formed the Canadian Horticultural Association, its aim being to carry forward and lift up all that tends to increase the love of horticulture. This society has held annual conventions with an increasing interest and a steadily-growing membership. While there are yet a few who regard its work with indifference, the good work it has done for commercial floriculture in Canada cannot be too highly praised. The conventions in themselves are educational, for papers of vital interest to the well-being of the trade are read by men successful in their enterprise. No florist who listened to the discussions of the last convention could fail to get ideas along all lines of his work from the construction of houses to the retail marketing of the product. Social communication has cleared up the secrets, of which the trade was full not many years ago. To the organization may be also credited the tariff changes for the benefit of the trade. It has never forgotten the duty it owes to floriculture in general also, and has always encouraged and supported amateur horticultural societies in their efforts for civic betterment.

It is inevitable that in such an industry as the growing of crops under glass many difficult problems should arise. To control plant diseases and insects is one of the greatest of these; not alone the old standards, stem rot

of carnations, mildew of roses, red spider, mealy bug, aphids, etc., but also the numerous new and destructive insects that continually make their appearance and disfigure or destroy a crop before the grower is aware of their presence. In flowers we have a commodity that sells on its appearance alone; to take the best pieces every leaf and petal must be symmetrical and unstained. For this reason, preventive measures must be adopted in the majority of cases. These are, of course, different for each disease—the old diseases can be anticipated and prevented, but the new ones can sweep the crop until the grower learns to combat them. And it is here that the experiment stations can advantageously give their aid.

Another problem of considerable importance is that of finding the cost of production. So many factors enter into this that even yet most florists are content to grow all crops rather than attempt to locate sources of profit and loss. Keen competition is now compelling attention to this subject, and the florists must get down to business methods in this, as other business men have done.

Is there a florist who has not wasted a fair pile of money in new introductions and novelties, in the effort to sift out the good from the useless? Every year thousands of dollars are squandered on new varieties of plants, that are too often utterly worthless. Some experiment stations have done excellent work by testing these to eliminate the unfit, and in this matter they can now do a great deal by testing introductions and publishing information concerning those of commercial value.

The need of a census was voiced at the last convention of the society, and a committee was appointed to bring the matter before the proper authorities. Its advantages would be briefly as follows: The Government and the florists would both become acquainted with the magnitude of the industry and its problems; the society, when urging some needed tariff reform, would have something tangible on which to base its requests; and it will be easier to get work done by our experiment stations when such figures would be available. The industry is undoubtedly rapidly growing, and such a census may furnish the solution to problems arising from its growth and specialization.

As an educational factor, flowers are coming to their own. During the last five years it has been realized by educationalists that the training of caring for flowers gave a broad-mindedness and a wide-humanity to the pupil that the old system of books could not give. In fact, flowers embody all that is best in nature study, and, unlike a large amount of our nature study, growing a flower from seed to bloom is a sequence, of which every part is valuable in itself, but priceless as a part of the whole. The training of thought to the beauty of nature has a moral effect for which we have long been striving. The influences of flowers tend to the uplifting of all that is worthy in mankind. The moral effect of active horticultural societies on their communities is so marked as to have attracted attention and sympathy from those men and women who devote their lives to the uplifting of their fellow-creatures. The flower garden for the public school is only one instance of a valu-

able educational application of horticulture, and the wisdom of the Government in introducing it has already been shown.

In regard to the future development of the industry, there is much that may depend on the aid given by the Government along experimental lines. A great deal of work along this line has already been done, especially with regard to the methods of building, heating and operating various types of greenhouses; the chemical study of soils for various greenhouse crops; the value of various flowers, fruits and vegetables for greenhouse forcing; the forcing of crops by etherization, and by electricity, under clear, tinted and frosted glass; the electrification of the soil; soil sterilization; and the use of various fertilizers. These experiments and investigations have all had a great effect, both direct and indirect in encouraging the industry. In all these experiments, we have found the universities and colleges have ever been ready to give help, and many a florist has benefited by general bulletins and specific advice. As the industry becomes more specialized and the amount of training and business method required becomes greater, the florist will make greater calls than heretofore on the assistance of the experimental stations, for aid in combatting insects and fungous diseases, in solving problems of soil temperature and aeration, air humidity and ventilation, selection of stock, carnations and roses especially, and in the general problems of economy that must arise as differentiation into specialties increases.

The greenhouse business had its birth and youth in the nineteenth century; its great growth must come

in the twentieth. Never before has the standard of living been so high; luxuries undreamed of not long ago are necessities. Already in Illinois more capital is invested in floriculture

than in fruit culture. If expansion continues as it has done, and all things indicate that it will, then the florist must in future become a power in horticulture and in the nation.

NOTES.

At the Macdonald College—From St. Anne de Bellevue we hear of plans for greenhouse experiments more valuable to the florist than any yet conducted in Canada. Separate houses for carnations, violets, etc., have been planned and erected for studying soil temperature and aeration under various circumstances with these commercial crops. Work of this kind is undoubtedly worth consideration by any agricultural college; it must come inevitably, and the colleges which aim to give the best and broadest horticultural courses will be the first in the new field.

The florists of Illinois used their association to good purpose when they secured through it the appropriation of \$15,000 from the state legislature to be used in the scientific investigation of florists' problems. This appropriation is the first of its kind, due, largely to the fact that among the States of the Union, Illinois has the largest amount invested in floriculture under glass. There can be no doubt, however, that it will be followed by similar grants for the purpose, both in Canada and the United State.

TIME.

I saw Time in his workshop carving faces;
 Scattered around his tools lay, blunting griefs,
 Sharp cares that cut out deeply in reliefs
 Of light and shade; sorrows that smooth the traces
 Of what were smiles. Nor yet without fresh graces
 His handiwork, for oftentimes rough were ground
 And polished, oft the pinched made smooth and round,
 The calm look, too, the impetuous fire replaces.

Long time I stood and watched; the hideous grin
 He took each heedless face between his knees,
 And graved and scarred and bleached with boiling tears.
 I wondering turned to go, when, lo! my skin
 Feels crumpled, and in glass my own face sees
 Itself all changed, scarred, careworn, white with years.

Frederick George Scott.

The O. A. C. Review.

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Editorial.

At the present day there is a great demand for men and women who can provide entertainment and furnish instruction for public gatherings. The person who can perform either or both of these functions well is a public benefactor, but the so-called entertainer often falls short of performing his mission either to the enjoyment or to the profit of his audience.

Public Entertain- ments.

There is a place for the humorous in all society but a small amount of the frivolous goes a very long way. In rural districts it is especially true that paid entertainers are very often brought in from neighboring or more remote cities to furnish a part or the whole of a programme for a concert under the auspices of a church, school or other organization and the

selections given are of a most trashy and uninspiring nature. Often the committee ask for the humorous and they have dealt out to them in unlimited quantities the most silly, simple little stories and songs that ever came from composer's pen. Such a choice of selections may meet the approval of a fraction of one per cent. of the people but it is nothing short of an insult to the intelligence of the average Ontario farmer, who should accept nothing but high class entertainment.

There is another person, the public lecturer, who frequently falls far short of what he should be. He is expected to give an hour's lecture in a more or less popular strain on some subject and after he has talked for an hour and perhaps two hours it is found that he has given but very little information and has spoken, no new

truths. If the total time spent be figured as, say, an hour and a half for three hundred persons it means four hundred and fifty hours lost.

It behoves committees then, when engaging paid talent for either country or college programmes to secure such artists as will amply repay their audiences for the time and trouble used in going to hear them and if the average audience would exact a higher standard of entertainment the tendency would soon assume an upward course.

When the historians of the future chronicle modern college life one important event they

**A Blow at
Hustling.**

will notice, will be the annual hustling of Freshmen by Sophomores. This custom is a well established one, and in most colleges and universities goes on unchecked or in spite of attempted checks upon it. And the results have been in more than one case disastrous. It has happened on several occasions that some man has been permanently injured, and cases of even fatal accidents are not unknown. Nothing can be more deplorable than for a man in the bloom of youth to be permanently disabled when such is altogether preventable. The way in which rushes are conducted makes the possibility of serious injury far too great, and it is to be hoped that soon such methods of barbarism will fall into disfavour.

A notable step in this direction has been taken by the students of the various Toronto colleges. Consequent upon the broad hints thrown out by President Falconer in his address to the students, the annual

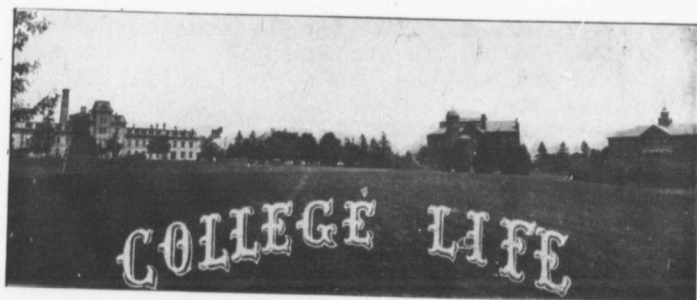
"hustling" of Freshies did not take place. Instead they were tendered a reception by the Sophomores and in this way they made the acquaintance of the senior section of the student body. The Sophomores of Toronto have established a worthy precedent, one which we hope will be followed by every body of responsible students everywhere.

Last month an account of the Alberta O. A. C. Boys' Association was given, now word

**Ex-Students
Associations.**

comes of the formation of a "British Columbia O. A. C. Ex-Students' Union." This union already has a membership of 45 ex-students of this College, representing nearly every class since the foundation of this institution.

The union has made the Review its organ, and membership in the union brings with it the O. A. C. Review. This is as it should be. In no other way can ex-students keep themselves in such close touch with the College as through the Review, and for this reason only every ex-student, no matter where or how situated should be a subscriber to his old College journal. It is the intention of the management of the Review to pay still greater attention to the ex-student section than in the past. At the same time it is also their intention to work for many more ex-student subscriptions than have been received in the past, and it is to be hoped that these words will prove fruitful. The magazine needs a larger subscription list, and the larger this list, the larger sphere shall we be able to fill. Ex-students, send along that fifty cents.



The Work of the Literary Society.

THE Union Literary Society, under the leadership of W. A. Brown, '08, have decided to make some changes in the programme for this year. The usual formal debate while still being adhered to in the Union meetings will be replaced in the meetings of the sub-societies by a mock parliament. The reasons for this change are two. First, so great is the membership of the societies, that if the old plan of debates be followed, the main object of our literary societies, namely, to give each member some training in platform speaking, will not be accomplished. Second, by adopting the mock parliament which was in vogue a few years ago, it is hoped to enliven the meetings, which in the past two or three years have been considered by many as too formal and devoid of humour. Whether this change will be successful remains to be seen, but it must be borne in mind that whatever plan the leaders may decide on, the success of that plan must and always

will depend upon the support afforded by the members, and therefore in due proportion to the enthusiasm we put into our literary societies will be their success or failure.

Another change which it has been decided to make is in the date of the public-speaking contest. It has been customary for this contest to take place about the middle of March, a time when the forthcoming examinations, with all their troubles, are engaging everybody's attention. By holding this course in January, when the short course students are present, the contestants will have the advantage of an appreciative audience, and at the same time the congestion of work always associated with the close of a college year will be somewhat relieved. An arrangement has also been made whereby the Philharmonic Club has agreed to take complete charge of the provision of the musical talent for the meetings of the Union Literary Society. This is undoubtedly a step in the right direction, and

should be productive of good results.

The literary societies have again organized, and the following officers are in charge for the term:

Alpha—

President—A. E. Slater.

Vice-President—N. D. McKenzie.

Secretary—F. C. Beaupre.

Programme Committee — L. A. Bowes, R. J. Allan, H. W. Newhall.

Delphic—

President—C. Murray.

Vice-President—H. C. Duff.

Secretary—H. J. Guillet.

Programme Committee—A. Jull, G. Manton, C. Ferguson.

Maple Leaf—

President—C. H. Schartow.

Vice-President—L. H. Gandier.

Secretary—D. Gordon.

Programme Committee — A. C. Baker, P. Light, C. Schuyler.

The Philharmonic Society.

The Philharmonic Club of the O. A. C. and M. I. has been organized for the year, with the following officers in charge:

Macdonald Institute—

President—Mrs. Fuller.

Committee—Miss Sylvester, Miss Duncan.

O. A. College—

Hon. President—J. W. Eastham.

President—A. McLaren.

Vice-President—R. L. Moorhouse.

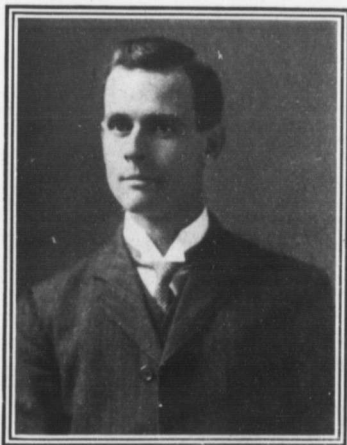
Secretary-Treasurer—R. C. Treharne.

The object of the Philharmonic Club is to develop the musical talent of the student body, and with that object in view the society has been divided into four departments, as follows: The General Students Chorus for the practising and developing of college songs and yells; the Glee Club, for practising

part songs; the Dramatic Club and the Philharmonic Mixed Chorus. By this arrangement it is hoped to gain better results than have been obtained in the past.

Our New Resident Master.

Since our October number went to press Mr. R. R. Graham, B.A., of the '08 class, has been appointed Dean of Residence, vice Mr. D. H. Jones, who has resumed his studies for the B. S. A. degree. In our new resident master



R. R. GRAHAM.
Dean of Residence.

er we have a person well qualified to undertake the position so ably filled by Mr. Jones. Mr. Graham is a native of Ontario, having been born on a farm at Mitchellville, Leeds County. For some six years he was engaged in school teaching, for four years at public school and for two years at high schools. In 1902 he graduated from Queen's University, and in 1905 he entered the O. A. C., taking two

years in one. During his stay here Mr. Graham's quiet, courteous disposition, intellectual ability and strict impartiality have won for him the admiration and respect of the faculty and student body. He enters upon his new duties with the assurance of the co-operation and confidence of all at the O. A. College.

Union Literary Meeting.

The first meeting of the Union Literary Society was held in the Massey Hall on Saturday evening, Oct. 12th, when the following programme was rendered:

Instrumental Quartette . . . Misses
Sullivan, Hanna, Crane, Pebbles
Address—"Agricultural Education"
Hon. President, Prof. W. R. Graham
Violin Solo Mr. J. D. Tothill
Debate.

Resolved—"That the Chinese are better equipped for Economic Competition in the Twentieth Century than the Anglo-Saxons."

Affirmative—Messrs. F. H. Denniss
and F. A. Clowes.

Negative—Messrs. H. A. Wolverton
and J. D. Gilmour.

Duet Messrs.

A. McLaren and A. L. Moorhouse
Reading Mr. G. Hibberd

In opening the meeting, the President, Mr. W. A. Brown, in a few well-selected words, outlined the work which they hoped to carry through and thanked the members for the honor which they had conferred on him by electing him to that position. In his address on Agricultural Education, Prof. W. R. Graham struck the key note of all modern education. In a plain, forcible address he emphasized to the students the need of accurate and sharp observation in all their work, the value of summing up cor-

rectly and in a minimum time some new subject or phase of a subject and the application to practise of the same. The debate which was very evenly contested, was won by the negative.

The persons participating in the literary part of the programme were handicapped by a severe want of attention at the back of the hall. It is greatly to be regretted that several of the Macdonald Institute students and a few of our own so far forgot themselves as to lose sight of the fact that respect was at least due to the other persons present. If, to these students referred to, our meetings are not characterized by a high enough standard of literary ability or are not sufficiently interesting, there yet remains to them the consolation that their attendance is not compulsory.

Lecture in the Massey Hall.

On Friday evening, October 11th, the students of the O. A. C. and M. I., together with some of the faculty, gathered in the Massey Hall and were favored with an illustrated lecture by Miss Hill, of Toronto, on the Durbar and the coronation of our King. The lecture was profusely illustrated by splendid slides and conveyed to the audience a really good idea of the magnificent and gorgeous character of those ceremonies. Such lectures as these break the monotony of our every-day work, and are also greatly appreciated for their educative value.

Reception at the Macdonald Hall.

Under the auspices of the O. A. College and Macdonald Institute Literary Societies, a very pleasant evening was spent in the form of an "At Home," which was held in the capacious and comfortable corridors and reception rooms of the Macdonald Hall, on Friday, Sept. 27th.

Shortly after 8 o'clock the guests arrived and were received by Mrs. Fuller, and the reception committee, and soon all present were engaged in exchanging pleasant words, and smiles. The programme consisted of promenades and some well-rendered musical selections. Dainty refreshments were served and a very pleasant evening was spent by all present.

Y. M. C. A. Notes.

The first Tuesday evening meeting was held in the Massey Hall on September 26th. Mr. H. F. Laflamme, travelling secretary of the Student Volunteer Movement, addressed the gathering, his subject being the introduction of mission study. Mr. Laflamme, who has had seventeen years experience of mission work in India, very forcibly urged that some knowledge of mission work was essential to an all round education. The attendance and interest shown in this first meeting were very gratifying and speak well for the success of future meetings. On the following

Thursday evening Mr. Paton, a gentleman who has spent fourteen years in the far east, gave an address on China. The lecture was amply illustrated by good lime light views, and gave a general insight into China and the Chinese. This lecture was also well attended and much appreciated.

We are pleased to report that the interest in and attendance at the Bible and Mission Study classes for this year is greater than ever. This must be very gratifying to the officers of the Y. M. C. A., who have worked hard through the summer in their endeavor to ensure that this year's work along this line should be productive of greater and better results than have been obtained in previous years.

A Correction.

It was stated in our last issue that Mr. R. W. Wade was formerly Assistant Professor of Animal Husbandry at the Arkansas Agricultural College. This is not correct. Whilst at Arkansas, Mr. Wade was Professor of Animal Husbandry.

THE FALLING LEAVES.

Lightly He blows, and at His breath they fall,
 The perishing kindreds of the leaves, they drift,
 Spent flames of scarlet, gold aerial,
 Across the hollow year, noiseless and swift.
 Lightly He blows, and countless as the falling,
 Of snow by night upon a solemn sea,
 The ages circle down beyond recalling,
 To strew the hollows of Eternity,
 He sees them drifting through the spaces dim,
 And leaves and ages are as one to Him.

C. G. D. Roberts.

Entomological.

A Fight Against the Gipsy and Brown-tail Moths.

AT the annual meeting of the Entomological Society of Ontario, held at the O. A. C., during the recent Thanksgiving holidays, a number of very interesting discussions took place on such destructive insects as the Codling Worm, Fruit-bark Beetle, Oyster-shell Scale, Woolly Aphis, Varigated Cutworm and several other pests. There were also a number of valuable and interesting addresses given by such well-known men as Dr. Fyles, of Ouebec; Dr. Walker, of Toronto; Mr. Lyman, of Montreal, and Mr. A. H. Kirkland, of Boston, Mass.

Mr. Kirkland, in his address, dealt with so great and so unprecedented a problem that I venture to give the following account of it, written from memory. My great regret is that every reader of the Review could not have been present to hear Mr. Kirkland himself, that he might feel the inspiration of his striking personality, and get in his own words, aided by a few excellent lantern views, the story of his work in Massachussets fighting the Gipsy and Brown-tail Moths. As I have already indicated the subject of Mr. Kirkland's address was "The Work in Massachussets to Control the Gipsy and Brown-tail Moths."

The Gipsy Moth, being the first of these two pests to arrive in Massachussets, was first described. This moth, we were told, was brought to

Massachussets in 1868 by a famous Frenchman, who conceived the brilliant idea of crossing it with the delicate Silk-Worm Moth, and thus by producing a hardy type of silk-worm confer a lasting benefit upon his adopted country. But alas! The moths would not cross, and the Gipsy species escaped. No anxiety was felt about this at the time, and in fact it was not until 1888, that is twenty years later, that the moths had increased to such an extent as to alarm the State into taking steps to fight them. By this time there were such enormous numbers of the moths that the caterpillars were destroying every bit of green foliage in certain districts of the country, for, unlike most caterpillars, they devoured every green plant they met, with the exception of tobacco. Accordingly money was granted by the State Government and the localities affected, a large number of men were set to work, and the moths in the somewhat limited district were gradually got under control. At the end of ten years it was thought by many that there was no more danger, so all grants of money were stopped. The entomologists warned the Government of the folly of their course, but in vain. For five years nothing was done. At the end of this time—that would be in the year 1903—the moths had again become numerous, in fact much more numerous and widespread

than in 1888, and once more the State had to take the matter up in earnest. They saw now that the warnings of the entomologists had been justified; so having learned their lesson, they chose Mr. Kirkland, a very able and practical young entomologist, to superintend the whole work. A large sum of money was voted for his expenses and many assistants assigned to help him.

One of the problems Mr. Kirkland had to face was how to prevent the moths from spreading. If he could do this he might hope to get them gradually brought under control. Now the female Gypsy Moth is wingless and cannot fly from place to place, and, as the caterpillars do not crawl a very great number of yards in their lifetime, they must be distributed by some external means. It was found after a time that the chief way in which they were spread was by caterpillars dropping from trees into passing vehicles or animals and being carried by them along the highways from place to place. In one district, fifteen miles away from where the caterpillars were known to be, it was suddenly found that a large colony had got started in a certain farm. On investigation it was discovered that the young man who owned this farm used to go to see a fair lady in the badly infested region, and while he was in the parlor the caterpillars were dropping from the trees into his rig. The consequence was that without his knowing it he was carrying his foes to his own farm, where they crawled out of the rig and found abundance of nourishing food in the trees nearby. Once Mr. Kirkland rode two miles in an automobile through an infested park and then examined the automo-

bile to see how many caterpillars were in it. He found eighteen. This shows how easily the moths can be spread. The knowledge thus gained led him to attempt to destroy every caterpillar and every egg mass along all the highways. How great a task this was can only be imagined when one mentions that several thousand miles of road had to be policed, so to speak, in this way.

But it was not enough merely to control the highways and prevent spreading, he must also attack the caterpillars in their strongholds, even in large woods, sometimes more than fifty acres in extent. Mr. Kirkland gave a vivid account of how this was done in a sixty-acre forest. In this, during the previous year, every leaf had been eaten off the trees, even the pine-needles having been devoured by the omnivorous insects. With a large gang of men and several very powerful spray machines, he went to the forest. Roads were made in every direction for the spray waggons. Then when the flowers and green herbage had nicely begun to show in the spring and every blade of grass and green leaf was covered by the freshly emerged caterpillars, he sprayed the whole ground and bases of the trees with a flame of fire, produced by using oil in the spray tank and igniting the oil as it came out in a fine mist. In this way he destroyed countless millions of caterpillars. But some still remained, so every large tree was bandaged with burlap. The caterpillars being accustomed to feed at night and hide by day, would crawl under the burlap and in this way large numbers could be destroyed each day. Besides this the whole forest was sprayed with arsenate of lead. To send the spray up into the tops of the

trees he used powerful gasoline engines, or sometimes had his men climb the trees and drag the hose up with them. As many as four hundred feet of hose were sometimes attached to a single spray waggon. In this way the forest was saved for its owner.

The work of fighting the moths, however, was not all done in summer, but all winter long gangs of men and boys were employed to go through every wood and orchard and along every road with creasote and destroy the egg clusters wherever they could find them. An egg cluster often contained as many as five hundred eggs, hence the importance of destroying these. Moreover, forests were thinned out and trees pruned in winter to make spraying easier in the summer. By these methods the lecturer said the moth had been gradually checked, and is now under control, although not annihilated.

To aid in keeping down the pest and possibly make mechanical means unnecessary, Mr. Kirkland has resorted to the device of bringing numerous insect parasites to his aid. In Europe the moth is controlled by parasites. Accordingly men were sent to Europe and elsewhere to get parasitized caterpillars and ship them to America. Forty men are now abroad engaged in this work, and already more than 100,000 parasites have been set free among the caterpillars. Great benefits seem likely to occur from this method of fighting the insect.

But by a sort of cruel fate Massachusetts has been doomed to be visited by another moth, in some ways worse than the Gypsy Moth, namely the Brown-tail Moth. The most striking peculiarity of this pest is that its caterpillar is more or less covered with

barbed hairs which easily break off and are carried through the air. When these alight on a person the barbs cause them to pierce the flesh, especially in the more tender parts, and terrible agony is caused by the irritation set up. It is practically as if one had been poisoned. We were told that a bee sting was as nothing compared to the pain from one of these barbed hairs.

Wherever Brown-tail Moths have gone the summer resorts have been abandoned by tourists. As an example of the dread which is felt in coming in contact with the caterpillars of this moth, Dr. Fletcher described how he saw many of Mr. Kirkland's assistants, whose duty it was to handle some of these caterpillars, with gloves on their hands, cotton batting in their ears and a bandage of the same material over their mouth and nose. Even with these precautions he said many had to give up the task, being unable to stand the pain. The Brown-tail Moth, however, has also been brought under control by practically the same method as that employed against the Gypsy Moth.

From the above account and from the fact that Mr. Kirkland has a force of 1,700 men under his charge, and that \$750,000 were expended last year in fighting these pests, we can begin to imagine what a tremendous task the State of Massachusetts has had to face. No more brilliant achievement in entomology has ever been accomplished in any land than this by Mr. Kirkland. Seldom, moreover, has so great a service been done for any country as Mr. Kirkland has done for that State by his knowledge of insects and his ability to put that knowledge into action.

L. Caesar, '08.

Athletics.

The Annual Field Day.

FROM the time of the opening of the college every fall there is one day that is eagerly looked forward to by the whole student body. That day is Field Day; then comes the crucial test, the trial of brawn against brawn, grit against grit, skill against skill, and finally man against man, for the mastery. This year our sixteenth annual field meet was held on Friday, Oct. 4th, and was undoubtedly the most successful ever held. The weather was quite disappointing, for the early fall, the sky being clouded and a raw wind blowing, but despite this handicap remarkable form was shown by all competitors. Two records were broken; J. W. Jones threw the 16-lb. shot 36 ft. 7½ in., nearly 2 ft. more than the old record; E. Lewis smashed the record in the 220 in the time of 23 seconds, 1½ seconds faster than the old record. In addition to this, Jones threw the 16-lb. hammer 124 ft. 6 in., thereby establishing a record for the college which is several feet better than that of Varsity, while D. Johnson ran the quarter-mile in 58 seconds, equalling the old college record. Many other records were nearly equalled, and a high standard was kept up in all events. The high quality of the sports was well appreciated by the large crowd of spectators, and hearty ap-

plause greeted all special efforts.

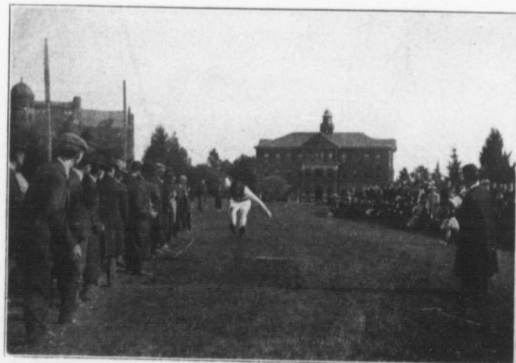
The short runs produced the prettiest and most exciting races of the day. An innovation was made by the addition of the quarter mile run to this group, and to make up for its loss to the long run, a two-mile race was introduced. E. Lewis showed a clean pair of heels to everyone in the 100-yard dash, with Lawson second and J. M. Lewis bringing up the rear. Again in the 220-yard dash E. Lewis won by a wonderful burst of speed in the good time of 23 seconds, closely followed by Clement, and with J. M. Lewis again third. The quarter mile unearthed some fast runners, and the surprise of the day happened when Dan Johnson equalled the college record and took first place from E. Lewis, Clement following one-quarter of a second ahead of N. McKenzie. The 120-yard hurdles was one of the prettiest races of the day, E. Lewis winning quite handily, equalling the college record of 18 seconds, and Jones leading Moore for second place.

In the long run group some new long distance men were unearthed. In the two-mile run Jull, Turney and Brown kept in a bunch from beginning to end, and it was only in the last few yards that Jull was able to leave Turney far enough behind to win. Bray won the first heat in somewhat easy fashion by a game

sprint in the last quarter, but his time did not allow of his getting a place. It is only fair to state that if the first set had known they were running against time they could, no doubt, have made much better time. The mile run produced another surprise. Brown tracked the leader for three laps and then by a game spurt ran away from the rest of the field. Turney finished second, and Fairhead next. Three sprinters walked away with the half-mile, and Clement, Johnson and N. McKenzie finished in

The most closely contested events of the day were the jumps, and different men excelled in the various jumps. E. Lewis, who broke the record for pole-vaulting last year, was expected to have an easy time of it. But Toole, a first year man, kept vaulting right up with the leaders, and he was only beaten out for first place when the bar reached nine feet. Considering the fact that Toole has had no training, was not dressed in vaulting costume, and that this was the first contest in which he has engaged, he did re-

markably well, and should develop into a whirlwind next year. Shaw beat out the rest of the bunch for third place. J. M. Lewis took his only first of the day when he won the high jump. J. W. Jones showed exceptional agility for a heavy man, and easily won second place, while C. H. Hoffman beat out Shaw, taking one point



J. W. Jones on the Broad Jump.

a bunch in the order named. As the result of these runs, W. A. Brown and Turney were tied for the long distance medal with six points apiece, and to settle the supremacy another race of one and one-half miles was run the following Monday. Turney set the pace for the first mile, when Brown began to limber up, and spurted the next quarter in regular quarter-mile style. Turney followed right on his heels, but was forced to quit on the last round on account of cramp of his sore muscles.

for the freshmen. Jones excelled in the hop, step and jump, although closely pressed by both Middleton and Johnson. Jones, by jumping an inch farther than E. Lewis, increased his lead for the championship, while Middleton was an easy third. The standing broad was all third year, Martin and Moore taking first and second respectively, while J. M. Lewis took the third ribbon.

It was confidently expected by all that something special was going to happen in the weight throwing line,

and they were not disappointed. J. W. Jones, a Nova Scotian, from Acadia University, and holder of the Maritime Provinces hammer record, did some wonderful work in this line. The hammer was thrown a distance of 124 ft. 6 in., thereby establishing a record that will stand for years to come, unless Jones himself breaks it next year. Winslow was an easy second with 78 ft., although Middleton was only a few feet behind on his last throw. Another record was established by Jones in the discus with the distance of 91 ft., Middleton and Lewis following in order. The 16-lb. shot event saw another record go by the boards. Jones threw half a dozen feet farther than any other man, throwing 36 ft. 7½ in., two feet more than the old record. Middleton and Hoy took the rest of the points for the juniors.

The freshmen and sophomores both made special efforts to clean up the ribbons in the non-championship events. The light weight shot put Moore first from the first heave, and Hoffman beat out Palmer by one-half inch for second place. The mile walk produced enough excitement to be one of the most important events of the day, and Fairhead got the decision. Palmer, an Englishman, proved the most reliable kicker of the football. Treherne, although probably the most reliable and surest kick in the college, was beaten out for second by Jones. Culp and Martin sprung a surprise in the jockey race by carrying their load on their shoulders, and got away with it, winning hands down. The most eagerly-looked-forward-to race of the day was the mirth-provoking obstacle race, and it is easily seen that this race has lost none of its old-time popularity. The

regular programme of eating dry soda biscuits in a hurry, diving under nets, over waggons, eating bun suspended on a string and thickly-coated with molasses, was in evidence. Howell and Shepherd, both first year men, had no trouble in making way with their buns, while Shaw, with his ordinary mouth, was able to romp in third.

After the hurdles had been run, all adjourned to the lower side of the campus to witness the final in the tug-



E. Lewis, Vaulting.

of-war. Third and second years had been successful in their preliminaries with the seniors and freshmen, although both teams had won only after the very closest contests, and now came together to settle the supremacy. Dr. Reed had full control of the event and performed his duties in a manner that met with the approbation of all. The first pull resulted in a tie, after much see-sawing of an inch either way. Again in the second pull another tie pull resulted, and it was

seen that both teams were evenly matched. The hard work was beginning to tell on the men, and both teams looked anxious. Second year were lucky enough to get a good drop of three inches, and although the juniors pulled well, they lost by half an inch. Another pull resulted in favor of the sophomores by the narrowest possible margin.

The hose and reel contest was not run in as good time this year as last. Fourth year ran first and made excellent time on the down grade, but lost about fifteen seconds trying to couple up a bad joint, thus putting them completely out of the running. The juniors next tried their prowess and beat the time by about six seconds. Next the freshmen tried their skill, and did remarkably well for men with the advantage of so little training, beating the juniors' time by three-fifths of a second, and thus raising high hopes of being ultimately successful. But the sophomores, the last to run, were successful in doing the trick in one minute and forty-five seconds, thereby winning out. The remaining team event, the relay race, was a battle between seniors and juniors, the latter taking a small lead at the start, and holding it to the end, despite the desperate efforts of their fourth year rivals to overcome it. The team from the first year was out-classed from the start, but at that made good time.

After all the events had been contested, and been lost and won, the presentation of prizes took place in the gymnasium. President J. H. Hare had charge of the meeting, and conducted affairs with accuracy and dispatch. Mr. W. H. Day presented the medals, while Mrs. W. P. Gamble

pinned the badges on the breasts of the doubly fortunate ones. A change for the better in the giving of the prizes was made. All the men from each year who had won a ribbon marched up to the stage together, when their own particular year made the air resound with cheers and yells for a few brief moments, and then



The Finish of the Team Race.

kept quiet for the remainder of the presentation. As a result, the programme was carried through rapidly, obviating all annoying yelling and the tedious process of calling certain men up time after time.

The grand champion of the day proved to be J. W. Jones, who won with a total of 33 points. Jones is a heavy man of magnificent physical proportions, and is wonderfully light and agile on his feet. He smashed and established records in the weights with ease, and then turned around and beat some of the fastest men in the college at both jumping and sprinting, thus clearly showing that he is equally at home in more than one line of sport. Next year we will expect him to go after his own records. E. Lewis was the runner-up and made a most creditable showing,

rolling up a total of 28 points. He excelled particularly in the sprints and pole vault, breaking one record and equalling another during the day. Middleton was the next athlete of importance, and would undoubtedly have made a very fine showing but for the fact that in Jones he competed all day against a man out of the ordinary.

The medal for the short run group was won by E. Lewis, and the long run medal was captured by W. A. Brown, both men belonging to the senior year, while J. W. Jones took the medals for both weights and jumps for the sophomores. F. M. Clement proved the best athlete in the first year, and became the possessor of the medal given for the first year champion. Emblems were awarded to both Lewis and Jones for breaking a record apiece that day. All were now thoroughly tired at the conclusion of a strenuous day's sport, and joyfully wended their way to the college dining hall to partake of the athletic banquet. Here, after all had fully satisfied the inner man, the evening was spent in listening to the large and varied programme provided. Professor G.E. Day provided the speech of the evening. His subject was the advantages of an agricultural calling as a life work, and his views were so eminently practical that one became firmly convinced that an agricultural calling offered sufficient scope for even those of the most exceptional brilliancy. The evening was enlivened by vocal solos by Miss Hanna and by Mr. R. J. Allen; Misses Sullivan and Crane responded to an encore for an instrumental duet; Mr. Lawson favored us with a piano solo, while Mr. Howes was heartily applauded

for his skillful delineation of French-Canadian characters. All thoroughly enjoyed the evening's programme, and left after singing the national anthem, with the conviction that Field Day is the most enjoyable day of all the college year.

Formation of the Harriers' Club.

Another step in the right direction for developing the long distance runners of the college has been the establishment of the Harriers' Club. A long-felt want has now been filled, and we hope that long distance running will become a prominent feature of our college athletics. The club intend holding practices two afternoons weekly, and a paper chase will be run every Saturday afternoon.

We would strongly advise all men who are interested in the sport to turn out and patronize the club.

Inter-Collegiate Football Series.

As announced in our columns last month, our college has been admitted to the intermediate series of the Canadian Inter-Collegiate Rugby Football Union, and the first game of the series was played with McMaster University on the college campus, on Saturday afternoon, October 12th. The class of football served up by the colleges is of a very superior quality as our boys soon found out to their cost. McMaster winning out with the score 27 to 5. The whole trouble with our boys was lack of practice, and they went on the field with a team untrained in the inside tricks of rugby. As a result, all their efforts generally proved fruitless, and time after time lack of system resulted in loss of ground. Our line was stronger than its opponents, and held them safely after the first few minutes' play, but

our great defect lay in our back division. Here general slowness and much fumbling resulted disastrously and set at naught the good work of the line. With a little more practice the team will round into shape, for our men as individual players would be hard to beat, but lack the essential team play. Lewis opened the game with the kick off, and for a moment things looked rosy for O. A. C., as the McMaster had muffed the ball and Lewis dropped on it near their line. On a bad fumble college lost the ball, and the Toronto boys securing, rushed the ball up the field to our line and pushed our line backward for a touch. Guelph braced up and forced matters. In a series of long kicks the McMaster backs had the advantage, and on a muff of Johnson's at our line the visitors fell on the ball for another touch. At this period of the game the McMaster men seemed to have difficulty in conforming to the new scrimmage rule, and as a result our team were awarded half a dozen free kicks in this half. Play hung around center for a while, but on a series of long punts McMaster kicked the ball over our dead ball line. From then on they forced matters, and on good kicking scored six more points before half time, giving them a total of 16-0.

After the interval, O. A. C. played much better. Sirett made a pretty steal near the visitors' line, and Treherne kicked back of the posts, but McMaster ran the ball out safely. College again secured the ball in a mixup, and Foster missed the cross bars by a small margin, McCrimmon relieving the danger by a long punt. Clowes distinguished himself by a pretty tackle. After a series of kicks

Johnson was forced to rouge. Almost immediately afterwards McCrimmon kicked the ball along the ground through the whole two teams, and McMaster dropped on it back of our line. O. A. C. claimed off side as the ball had not touched a college man, but their claim was disallowed. This incident aroused the players, and our boys rushed the whole length of the field. Murray, on a pass from Foster, going over for our touchdown, which Treherne could not convert. After this the Toronto players by long kicking, gradually rolled up a total of 27. at the same time holding our team down. In the closing stages of the game Treherne made a pretty run of 30 yards through a broken field, and Foster and MacKenzie made themselves prominent with some fine tackling.

O. A. C. lined up as follows:— Full back, Treherne; halves, Johnson, Hoy, Lewis; quarter, Foster; ends, MacKenzie, Murray; tackles, Sirett, Bowes; guards, Cutler, Cleverly; scrimmage, Moorehouse, Middleton, Clowes.

The return match was played on the McMaster grounds, on Saturday morning, Oct. 19. O. A. C. went down with a reconstructed team, accidents to some of the players, in practice, necessitating their absence. C. Murray had charge of the team in the absence of Capt. Lewis and handled his men in a highly commendable manner. Our wing line simply overwhelmed McMaster in the early stages of the game, and broke through continually. But their good work availed naught, for in Jordan, McMaster had a wonderful kicker, who would kick the ball every time out of the tightest places. His

long kicks counted for gains every time, as our back division were woefully weak in the punting art, although they excelled their opponents at end runs and backing the line. If we had had a good kicker at centre half this year there is no doubt but that the team would have come out with a much better record of games lost and won. But we are not saying that our half line was weak, except in the one particular. Treherne at full back is a fine defence player, but lacks aggressiveness; Hoy, at left half, is perhaps the best man at bucking the line that the College has ever produced, and can always be counted on to do his best work in the later stages of the game when his fellow backs are tired; Jones, at centre, has the speed to break away for long runs, his great strength enabling him to shoulder off tackler after tackler; while Murray, at right, possesses the weight to break the line and the speed for an end run.

The O. A. C. team lined up as follows:—Full, Treherne; halves, Murray, Jones, Hoy; quarter, Knauss; wings, McKenzie, Van Buskirk, McKenzie, Cleverly; scrimmage, Moorehouse, Middleton, Clowes; spares, Shaw, Ferguson.

Varsity Athletic Games.

For the first time in many years our College was represented in the Field Day events of Toronto University. J. W. Jones and E. Lewis were our representatives, and both did well. O. A. C. rolled up a total of 18 points from two entries, coming third among the nine colleges represented; we broke two of the four records broken, and took a place in every event we competed. We surely made good, and if the Athletic Association had entered

a couple more men in some of the events we would have stood an excellent chance of winning the championship. Jones tied for the individual championship, and won a special prize of a gold medal for winning the weights. Next year our men should start training early in the fall for the one or, at most, two events they are most proficient in, so that by the time the sports occur a team of half-a-dozen athletes could be selected and sent down to represent us. Such a team would be able to uphold the fine impression our men made this year.

Jones did himself proud in the weights. In the hammer he threw a distance of 127 ft. with the Varsity hammer, which was found to be light, and 121 ft. 10 2-3 in. with his own hammer, which was correct in weight. This distance beats the old record of ninety-nine feet by nearly twenty-three feet. In the discus Jones broke a record that has stood for years, and added three and a half feet to the old record of ninety-nine feet. In the shot Jones was something of a disappointment, as he did not show anything like his true form. In practice he had been throwing around thirty-seven feet, enough to break the Varsity record, but was only able to get second with thirty-three feet.

Lewis was up against the hardest proposition of the day in the sprints as Sebert and Halbaas are two of the fastest men in Canada. In the 100-yds. Lewis took third in both his heats. Right here it might be mentioned that the starter imposed no penalty for false starts, and if Lewis had had his due he would have received two yards start in the hundred and five or six in the 220. In this latter race Lewis won his first heat

by a good margin, but in the final, Edmunds, the man he had beaten in the preliminary, ran over into Lewis' track. Lewis dare not run out of his marked track to pass him, and so jogged to the tape in third place. A protest was entered, but the judges did not seem to know that it mattered what track you came in on; and disallowed the protest. The pole vault occurred just after the final heat of the hundred-yard dash, and Lewis

was tired. He did not do so well as usual, and was beaten out for first place by a man who is a very ordinary pole vaulter. Both Jones and Lewis did exceptionally well, and are a credit to the College. To us it seems that the students do not yet half realize what these men have done, for they have done much more for our College then if we had won half a dozen football games. And the credit be to Lewis and Jones.

STANDING ON TIPTOE.

Standing on tiptoe ever since my youth,
Striving to grasp the future just above,
I hold at length the only future—Truth,
And Truth is Love.

I feel as one who being awhile confined
Sees drop to dust about him all his bars:—
The clay grows less, and, leaving it, the mind
Dwells with the stars.

George Frederick Cameron.



Our Old Boys.

Ex-Students' in British Columbia.

WORD has been recently received by the "Review" of the organization of a "British Columbia O. A. C. Ex-Students' Union. The organization was the outcome of a suggestion made at the time of the Westminster Spring Fair to gather a bunch of old boys for a banquet during the fair this fall. With this object in view, W. H. Gunn was appointed secretary and instructed to correspond with all ex-students of the O. A. C. now residing in British Columbia. This idea met with a hearty response, and twenty-two ex-students of the college met in Vancouver on Oct. 3rd, at the First Annual Banquet of the British Columbia O. A. C. Ex-Students' Union, as the organization is to be known. At the election of officers our ex-President, Dr. Mills, was elected Honorary President; F. M. Logan, President; T. F. Patterson, Vice-President; W. H. Gunn, Secretary.

In organizing, the union loyally decided to support their college organ, "The Review," and so it was determined that the annual fee of \$1.00 should be collected to cover expenses

and pay for each member's subscription to his college magazine. The list of ex-students in British Columbia as supplied us by Mr. Gunn, contains the names of ex-students of the college during its entire development from its inception, in '74, up to the class of '09. The speeches at the banquet were all reminiscent of old times and the veterans of '74 were able to compare notes with the younger generation in attendance three decades later, and recalled with no less a degree of enjoyment the episodes and pranks carried on in the halls during their attendance at their Alma Mater. The following is the complete list of our representatives in British Columbia, those present at the union banquet being indicated thus *:



Sunny Logan.

- *T. Patterson, '96, Vancouver, B. C.
 *R. D. Craig, '98, Vancouver, B. C.
 *A. Kipp, Mount Pleasant, '96, Vancouver, B. C.
 *Thos. Gadd, '97, Vancouver, B. C.
 *Dr. J. F. Clark, '96, Vancouver, B. C.
 *J. N. Livingstone, '00, Vancouver B. C.
 T. Moffat, '97, Vancouver, B. C.
 D. A. McDairmid, '97, Vancouver, B. C.
 G. H. Halse, '75, Vancouver, B. C.
 *W. H. Gunn, '03, Vancouver, B. C.
 *R. J. Deachman, '05, Vancouver, B. C.
 *I. J. Wade, '74, Vancouver, B. C.
 E. Mahoney, '75, Vancouver, B. C.
 *Dr. A. Knight, '99, Victoria, B. C.
 J. Musgrave, '89, Victoria, B. C.
 C. M. McDonald, '06, Victoria, B. C.
 *F. M. Logan, '05, Victoria, B. C.
 R. B. King, '99, Victoria, B. C.
 T. A. Wiancko, '98, Lardis, B. C.
 Jas. Higginson, '03, Lardis, B. C.
 W. H. Higginson, '03, Lardis, B. C.
 F. Armstrong, '07, Lardis, B. C.
 *E. A. Wells, '90, Lardis, B. C.
 *G. E. Knight, '07, Lardis, B. C.
 J. L. Webster, '85, Vernon, B. C.
 J. Hanson, '90, Vernon, B. C.
 M. S. Middleton, '06, Vernon, B. C.
 *A. N. McKray, '05, Burnaby, Lake, B. C.
 *C. G. Bodwen, '04, Burnaby Lake, B. C.
 *Murray Wilson, '06, Burnaby Lake, B. C.
 L. C. Chadsey, '03, Sumas, B. C.
 J. W. McGillivray, '96, Sumas, B. C.
 J. G. Honsberger, '99, Grand Forks, B. C.
 Dr. A. A. King, '95, Ladner, B. C.
 E. Chadsey, '96, East Chilliwack, B. C.
 G. H. Hadwin, '91, Duncans, B. C.
 *A. P. Suckling, '03, Secamous Junction, B. C.
 W. J. Robinson, '05 Salmon Arm, B. C.
 Norman Shopland, '09, North Sannich, B. C.
 J. De Hart, '95, Kelowna, B. C.
 T. H. Russell, '08, Greenwood, B. C.
 P. B. Johnson, '90, Somenos, B. C.
 *T. R. Pearson, '75, Westminster, B. C.
 P. McCraney, '75, Rossland, B. C.
 W. C. McKillican, '05, Calgary, Alberta.
 J. L. Webster, Vernon, B. C.
 Jas. A. Higginson, Sardis, B. C.
 A. Wiancko, Sardis, B. C.

"What We Hear"

The influence of these Ex-Students' Unions must have a far-reaching effect. Not only will their members be bound very closely together, but the cause of advanced agriculture must also be benefited. The Secretary of this new Union says: "I am sure that

it is just by the forming of these Ex-Students' Unions in all the Provinces that we will keep alive College spirit, and I noticed that in getting together in this way, it is an inspiration and will help to keep the fellows up to the mark.

Dr. Mills, the Honorary President of the Union, says in a letter to its Secretary: "Few, if any, Colleges have, I think, a better record than the Ontario Agricultural College. Our students seem to have the whole agricultural machinery of the Dominion in their hands, and nothing gives me greater pleasure than to hear of their success in different parts of the country."

It may be that there is an ex-student in British Columbia who did not receive any communication regarding the Union. If such be the case we urge them to get into touch with W. H. Gunn, 139 Water Street, Vancouver, B. C.

The number of O. A. C. graduates that are finding positions on the staff of the new Manitoba Agriculture College is steadily increasing. The manner in which the graduates from Guelph have been constantly selected as heads of the different departments is a source of gratification to their Alma Mater; as a recognition of the value of the training she gives them as a foundation for future development. Principal W. J. Black has found the combined duties of Principal and Agriculturist too much for him to do justice to, so W. J. Rutherford, '03, who occupied the position of resident master here during 1902-03, has been allotted the chair of Animal Husbandry, while J. A. Hand, '05, formerly of the editorial staff of the *Winnipeg Telegram*, will assist with the work in grains and crops.

W. J. Carson, '02, as chief of the Dairy Department, has already worked up a large business in dairy products in the city of Winnipeg, and has succeeded in making the Dairy

Department practically self-sustaining.

F. W. Broderick, '05, has recently been installed as chief of the Horticultural Department, and is just getting the work in that branch started. His work will be chiefly with vegetables and hardy bush fruits.

G. G. White, '06, is the latest addition to their staff. He was appointed Lecturer in Chemistry and Physics.

Prof. Harold H. Hume, of the class of '96, is now engaged as Manager and Director of the Glen Saint Mary Nurseries, Florida.

After graduating, Professor Hume spent some time at Ames, Iowa, from there he went to Florida, in 1899, as Horticulturist at the State Experimental Station and Professor of Horticulture at the University of Florida. In 1904 he accepted a similar position with the North Carolina Department of Agriculture and Experimental Station. This position he retained until about a year ago, when he resigned to accept the position described above. As a writer, lecturer and investigator of horticultural problems, Professor Hume has won an enviable reputation. During his connection with the Florida Experiment Station, he edited some eighteen bulletins on various subjects. His work on citrus fruits is recognized as one of the standard works on orange culture.

J. C. Readey, B. S. A., '04, immediately upon graduating, accepted a responsible position with the P. E. Island Agricultural Department, being Secretary of the Board of Agriculture, Secretary of Farmers' Institutes, Lecturer in Agriculture at the Prince of Wales College, and Superintendent of the Government Farm.

Readey remained on the Island for about two years, and during that time made many improvements in the Department of Agriculture. He organized the first institute staff, introduced experimental work on the Government Farm, and co-operative work among the farmers; advocated crop rotation and the keeping of records of dairy cows.

He resigned his position in P. E. I. early in 1906, and moved west to Tisdale, Sask., taking with him as Mrs. J. C. one of Guelph's maidens, who was formerly Miss Goldie.

Beside acting as agent for the Union Trust Lands Company, Readey is farming a section and a half of his own, and is making a speciality of pure seed grain.

A bouncing boy who arrived some months ago will, no doubt, follow in his proud dad's footsteps in forwarding agriculture in the great west.

Chester Jarvis, B. S. A., '99, is now chief horticulturist at the Storr's Experiment Station, Conn. After graduating, Mr. Jarvis spent some time in educational work in Hamilton. He returned to the college in the fall of '04 to pursue advanced work in his favorite calling of horticulture. From Guelph he went to Cornell to further pursue his work. While at Cornell he combined with his studies the duties of Lecturer in Horticulture. Professor Jarvis has given a good deal of attention to the study of the bean and its culture.

Walter Steele, Secretary of the Steele-Briggs Company, Toronto, was a visitor at the college on Sports' Day. "Walter" was an enterprising member of the freshman class, entering in

the fall of '94, but only remained with them for one year. He returned again to continue his studies in '96, but duties at home called him away before the completion of his second year.

Mr. Roland D. Craig, B. S. A., '98, F. E. (Cornell), 1902, has resigned his position with the Forestry Branch of the Department of the Interior at Ottawa in order to take up private work. After graduation, Mr. Craig was for a year or two associated with the U. S. Forest Service, and since 1904 has been connected with the Forestry Branch, and had been in 1905 promoted to the position of Inspector of Forest Reserves. Mr. Craig is now in the employ of a lumber company operating in British Columbia, and at present makes his headquarters at Vancouver. "Roland's" many friends will join the Review in wishing him the success which his ability and experience in forestry matters so well deserve.

One of the O. A. C. ex-students whose influence is making itself felt in shaping the destinies of our Northwest, is E. L. Richardson. Entering the college with the class of '99, he dropped out after securing his associate diploma in '97. Mr. Richardson is a follower of the strenuous life, being Secretary of the Calgary Board of Trade, Secretary of the Alberta Live Stock Association, and Secretary of the Calgary Fair. He visited Toronto, in charge of the Alberta exhibit, at the National Exhibition.

One of the boys who returned from the college to the home farm is A. A. Dysart. Dysart came to the O. A. C.

from Cocagne, N. B., and after taking a two years' course with the class of '04, he returned to the old homestead where he is making a specialty of dairy products.

Chester S. Nicholson, '01-'03, is farming near Mount Forest, and is putting into practice ideas resulting from his two years' course. In the field crop competition "Chess" stands at the head of the list in barley. He is an active worker in Farmer's Institutes, being Secretary of his local branch.

Among our ex-students who has fallen a victim to Cupid's coils and has taken to himself a better half during the past summer is Harris McFayden, '05, who was married on July 13th last to Miss Eileen Davison, of Guelph. After a trip through Eastern

Canada, "Doc" returned with his bride to Regina to continue his work on the Dominion Seed Department.

Another name that is now entered among the list of benedicts is that of J. F. Munro, '06, who was married during the past summer to Miss Starnes, daughter of Professor H. N. Starnes, Horticulturist of the Georgia Experimental Station.

W. S. Summerby, '98, of Russel, Ont., married Miss Florence Devine, of Cumberland, on Sept. 18th. Summerby taught school for a number of years after graduating, but is now farming near his old home.

Our best wishes go out to these old boys who have now "settled down."

MY NATIVE LAND.

Rome, Florence, Venice—noble, fair and quaint,

They reign in robes of magic round me here;

But fading, blotted, dim, a picture faint,

With spell more silent, only pleads a tear.

Plead not! Thou hast my heart, O picture dim!

I see the fields, I see the autumn hand

Of God upon the maples! Answer Him

With weird, translucent glories, ye that stand,

Like spirits in scarlet and in amethyst!

I see the sun break over you; the mist,

On hills that lift from iron bases grand

Their heads superb!—the dream, it is my Native Land.

—William David Lihgthall.

Macdonald.

What is Education?

WE are all familiar with the definition of mind and matter, we can even quote the answers of the wag who upon being asked "What is mind?" replied "no matter," and then "What is matter?" "Never mind." But the more commonplace questions such as, "What is the purpose of all these educational institutions? What is the aim of education?" would be answered according to the various view points of the speakers. The end of education is culture.

There were two great apostles of culture in the last century, Matthew Arnold, in England, and James Russell Lowell, in America. According to Arnold, culture was to know the best that had been said or done or thought in the world; to have one great passion, the passion for intelligence and beauty. According to Lowell, culture is the complete expression of the whole nature. It is not physical, not intellectual, not emotional, not literary, not social, not moral or spiritual, it is all these together; it is the putting forth of the soul, it is the development of self-reverence, self-knowledge, self control.

A frequently repeated criticism of our educational system is that the students return to find the home life insipid, the simple every-day duties

irksome; this dissatisfaction is not the result of education, it is only an illustration of the old saying, "A little learning is a dangerous thing." College life should not tend to separate a girl from her place in the home by some outward polish or some social fastidiousness. The more cultured the individual, the more simple is the life.

The charm of the college girl to-day is the quality of her mind and heart, not the extent of her reading or learning. The woman of culture realizes that every person she meets, it matters not how humble, has something to impart to her and that every happiness and activity and movement has a message to her life.

The secret of being happy is the secret of finding how deep down into the heart may sink the commonest of life's blessings. Happiness is found everywhere yet it prefers the commonplace, greatness has little to do with it. It is common things that quench thirst, not rare things; ordinaries, not luxuries. Extravagance is always the badge of coarseness. Extravagance of language suggests poverty of thought. Extravagance in dress suggests lack of refinement.

To-day there is an unhealthy appetite for change, and high pressure. A spirit of restlessness is in the air.

Pleasure seems to consist in over-doing things, attending some reception every afternoon, going out to some dinner every evening and meeting new faces every night. This clamor for change of scene, change of pleasure, new amusements, is essentially vulgar. It lacks the balance and repose that education seeks to give.

The struggle is not for necessities, but superfluities. We keep on multiplying our baggage until the woman

is judged by her baggage. People are striving to get out of sense what can only be got out of soul. As women go upward toward culture, go toward lowliness and humbleness. When will we learn the dignity of education is culture? the strength of culture is simplicity?

The trival round, the common task
Will furnish all we need to ask
Room to deny ourselves; a road
To bring us daily nearer God.



SENIOR NORMALS, '07.

What Macdonald Graduates Are Doing.

October of each year usually sees the graduates of the past June settled in places of various sort. This month is no exception to the rule, for the class of '07 is already widely scattered, and many of its members are filling responsible positions.

Of the graduates from the Normal Course—Mrs. Muldrew is Supt. of Macdonald Hall, in Ste. Anne de Bellevue; Miss McManess accepted the position of instructor in D. S. at the Renfrew High School, but has

since resigned on account of ill health; Miss Burns took the position of Teacher of D. S. in the Ingersoll High School, but has now accepted the Renfrew appointment; Miss Twiss is teaching D. S. in the Galt High School; Miss Steinhoff is doing substitute work in Stratford; Miss Dutcher has taken up D.S. work in the Watson Settlement House, Buffalo; Miss Kate P. MacLennan has been appointed instructor of D. S. in the Montreal Y. W. C. A.; Miss Elliott is filling a



HOUSEKEEPERS' CLASS, '07.

position with the Ogilvie Milling Co., Montreal; Miss Allan is instructor of D. S. at Macdonald Institute; Miss Mackenzie has taken up the work of teaching D. S. and other subjects in the Halifax Ladies' College; Miss Carlyle is taking a special course in the Chemical Dept., O. A. C.; and Misses Mary McLennan, Ross, Armstrong, Pickett, Northrup and Wright are at home where there is always scope for advancement in a subject so wide and deep as Household Science.

Of the Professional Housekeeper graduates—Miss Mortimer is Housekeeper in the General Hospital, of Vancouver, B. C.; Miss Purdy has been added to the O. A. C. staff in the Chemical Dept.; Miss Murdock is Housekeeper in the Presbyterian Hospital, of Alleghany, Penn; and Miss Bray is likely to take up somewhat similar work.

News From the Class of '06.

Miss Bartlett has accepted an excellent position as instructor of D. S. in St John, N. B.; Miss McMurchie has taken up work in the educational

faculty in Toronto; Miss Gardner is at home, the Farhill (N. J.) School having closed, as state schools opened and took up D. S. work; Misses McCaig, Delury and Bigelow have all secured appointments as instructors of D. S. in Macdonald College, Ste. Anne; Miss Card has given up her position at Raleigh, N. C., and a subsequent interesting fact will be recorded before the year is over.

J. McP.

The Y. W. Reception.

On Saturday, September 21st, invitations bearing the inscription, "The girls of the Y. W. C. A. will pass all the juniors under inspection in the gymnasium at eight o'clock this evening, and if satisfactory will feed them. Dress in your best," were sent out by the Y. W. C. A. to all the new students in Macdonald Hall.

The juniors hearing reports of the invitation across the campus that afternoon discussed the advisability of donning their best frocks fearing the reception they would receive would be too much for the gowns, and also for the girls who wore them.

However, at the appointed hour the juniors appeared, each with a card bearing her name. The seniors received, wearing pretty light frocks, and the aforesaid inspection of the juniors ended in a most cordial welcome.

Before long little slips of paper were pinned on the girls' backs and each was turned into a famous personage, ancient or otherwise, and each had to guess her identity by asking questions which might be answered only by 'yes' or 'no.' Each girl had to hunt for her duplicate to get a partner for the evening.

A short, but enjoyable, musical programme was given in which several of the girls took part.

Miss Watson and several members of the faculty were present. The only regrettable feature was the absence of Dr. Ross, through illness.

Ice cream and coffee were served from a pretty, flower-decked table. At the conclusion of the evening Miss Doak moved a vote of thanks to the seniors on behalf of the new girls for the very pleasant reception they had received and the enjoyable manner in which the first social evening of the year 1907-'08 had been spent.

DAWN.

With folded wings of dusky light,
 Upon the purple hills she stands,
 An angel between day and night,
 With tinted shadows in her hands—
 Till suddenly transfigured there,
 With all her dazzling plumes unfurled,
 She climbs the crimson-flooded air,
 And flies in glory o'er the world.

—James M. Carroll.





Locals.

THE following notice appeared on the bulletin board:

Lost, over at Macdonald Institute, a freshman. Any information regarding the same will be thankfully received by A Division.

Reply—This freshie made an entry into second year English, looked at the professor, at the class, at the floor, then went to sit down, but changed his mind, and in a sorrow-stricken voice asked Professor Reynolds: "Can you tell me where A Div. of the first year is?"

Professor—Can anyone give this gentleman the desired information?

A Voice—The Horticultural Department are canning them for winter "Greens" this morning.

Charming young lady to Mr. Buchanan at Literary Society "At Home":

You're a freshman, too, aren't you?

Professor Dean—The farmer's wife is the hardest-worked "man" on the farm.

Sophomores practising a "yell" for Field Day:

Mr. Old-Winckle, of London, England—Now, boys, you must get that "Bull" out more distinctly.

Poor old "John!"



Polite conversation overheard at second year table:

"Nother dog, please."

"Chase the cow down here, fellows."

"Hey, flip me another piece of that broiled rhinoceros."

"Gimme those spuds!"

"Oh, gee! Look at it wag its tail!"

"Any dog biscuit to go with these sausages?"

"Hey, put some of that yellow goo on this Shivering Jimmy!"

"Gimme your cyanide bottle, quick!"



Mr. Denniss (in debate)—In the words of Longfellow, we find an apt description of China's economic position. (Long pause.) You will have to excuse me, ladies and gentlemen, I have forgotten the stanza!

Lloyd-Jones down at the Kandy Kitchen: "How much are those a pound?"

"Sixty cents."

"And these?"

"Seventy-five."

"And these?"

"Eighty."

(After five minutes' deliberation)—
"Say, give me five of those all-day suckers."

Mr. Le Drew (in Economy Lecture)
—What do you mean by "the struggle for existence?"

A Voice—Pulling mangels at eight cents an hour.

Mr. Newhall in his interesting talk on the Old Country, mentioned that he heard for the first time in his life the English cuckoo. England is not the only place that has this peculiar bird, as Nova Scotia has produced one at least.

The difference between the English and the Nova Scotia cuckoo is this— the English bird sits on the limb of a tree and sings, while the Nova Scotian occupies a barrel and warbles forth his merry song through the bung-hole.

The same gentleman was greatly bothered by the railway porters' love for tips. The following suggestion has been offered in explanation of this peculiar state of affairs: One of the chief characteristics of these gentlemen is their ability to recognize an "easy" man, and they soak him accordingly. This will account for the scarcity of our friend's sixpences.

Mr. Crow—How much sunlight do plants really need?

Moorehouse—Is it sunlight or daylight you mean?

Professor Reynolds (in first year English)—What does the word "unbated" mean in this sentence: "Alone, but with unbated zeal—"

Freshie—Please, sir, he hadn't got his traps bated to catch the stag.

Mr. Moorehouse to Professor Day, in Swine-Judging Class—Don't those pigs squeal a great deal too much?

Professor—Yes, they're just like some boys in this class—they have entirely too much to say.

C. L. Robertson (in Surveying Class)—If you drop perpendiculars from those points to that line they will be crooked.

Mr. Clowes (waxing eloquent in Union Debate)—Now that China is in communication with the other world—(laughter)—they are celestials!

Inquiring Student to Senior—What makes those new fire escape lights red? Is the electricity red?

The following clipping was noticed in Macdonald Institute:

Will you please reply through the "Farming World" to the following inquiry: Do you know a school where a young man may learn how to cook?

Answer—The Macdonald Institute gives a course in Domestic Science, but we do not know whether young men are admitted or not. Write President Creelman, O. A. C., Guelph. (The girls are anxiously awaiting the decision.)

Lloyd-Jones—Please, Mr. Thom, may I go surveying with that other bunch of fellows?

Mr. Thom—That bunch is bad enough now.

Professor Dean—What is your name in seat 66?

Reply—My name is Mr. Everest.

A Voice—You're not telephoning to a lady now, "Si."

Mr. Crow to Sophomores—Have you gentlemen visited the orchard this fall—"officially" I mean?

Important discovery by a freshman—The vertebrae of the horse is pierced throughout its length by the neuralgia carnival, which is continuous with a cavity in the head called the pelvis, and a similar cavity in the tail called the cranium.

Two freshmen talking over the courses given at the "Mac.":

First—What is this Domestic Science, any how?

Second—A sophomore told me that Domestic Science is the science of domestic animals.

Even the calmest of men become worried at times. The imperturbable "Archie" has been much worried about logarithms and drainage plans lately. He is promised an interesting time as soon as he gets further into higher mathematics, but he seems to be fairly interested even now!

First Freshie—And how long do you intend staying at this institution?

Second Freshie—Oh, about two years, I guess.

First—Well, I myself intend to take the full course, and after graduating I think I shall take a post-mortem course somewhere in the States—but life is so uncertain!

Allan (after he had taken one lec-

ture in French and one in German)—I am afraid that I shall get my French and German mixed.

Mr. Reek and another Sophomore had rather an unpleasant experience while on their way to the city a short time ago. Seeing some young ladies a distance ahead "Bill" suggested that they take a short-cut so as to come out just opposite the unsuspecting lassies. But, sad to relate, poor Reek got lost and had to go without his supper that night. He says: "None but the brave and fleet of foot deserve the fair."

Pleasant Sophomore to Freshman—Did you have any trouble getting your promenade card full at the "At Home?"

Freshie—Yes, but I had plenty of promenades just the same.

Soph.—How did you manage that?

Freshie—Well, I used to step up to a girl who couldn't find her partner and volunteer to go with her to hunt him up. Of course, if I saw anything of him I gave him a very wide berth.

Mr. Denniss excels in striking similes. Speaking on the comparative size of Great Britain and China, he said: "Great Britain can be spread on China like spreading butter on bread with a paint brush."

Mr. Thom (explaining a modern system used in surveying)—Even the English use this system!

Mr. Stafford, in reply to the question what he was doing over at the "At Home," said he was walking about meditating. This explains his asking a lady if she would like to put her name on the back of his card.

B Division of the second year are making rapid progress in surveying under the efficient instruction of Mr. Petrie.

First Freshie—Where do they put this corn?

Second Freshie—In the silo.

First—What do they want a 'sylum here for?

Answer—For such ignoramuses as yourself, if they get dangerous.

Mr. Jones (in dining room)—Gentlemen, the city water has been turned on to-day and I would advise your not drinking too much of it.

Sophomore—I thought there was something wrong with the water.

"Scotty" Robertson—I thought it was a new kind of gravy.

Notice put up by a freshie:

Lost—An ordinary student's notebook. If found I should be glad if finder would return to room 47.

(Yet some people seem to think that English should not occupy a place on the curriculum of an Agricultural College.)

Ralston (under "force of circumstances")—I did say such a thing as a bee telescoping myself up into a microscope.

Dr. Reed (in reply to the ovation given him by the sophomores)—Last year I was nasty to you, and as I have won such applause I shall be the same to you this year.

Mr. Shorthill (making an extemporaneous speech on matrimony)—I am sure all of us freshmen are looking forward to matrimony.

(All interested, please take notice).

Mr. Orser (speaking in Literary Society)—I would much rather have a seat in the "congregation" than be up here on the platform.

J. W. Jones to W. R. Graham, on Field Day—If I make 40 in the hop, step and jump, will you give me a pass in my first year poultry?


Professor—I'll give you a pass if you make 33.

Although the juniors had some Fresh (ie) rub-downs and also some of a very senior nature, they weren't a match for the sophomores in the tug-of-war.

Prof. Dean—Are there any questions on the losses which take place in factories?

White (just waking up)—What do you mean by "split" milk?

"Sunny Jim" was hanged according to the decision at the mock trial, but Mr. Neville is still very much alive.



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SOME VALUABLE INFORMATION IS CONTAINED IN THE NEW BOOKLET JUST ISSUED. GET ONE FROM

The Massey-Harris Agent

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The stillness of the night is broken by thumpety, slam, bang, as bed after bed of freshmen, aided by unseen hands, turns a summersault on the floor. But hist! Footsteps are heard coming up the stairs. Out in the hall with stealthy tread the blood-thirsty Soph. endeavors to make his escape in the darkness, when—flash—a match is held in his face and he sees before him the sturdy form of President Creelman. Struck with terror, he awaits the verdict, which now comes in slow and measured accents: "You better go to bed, 'Fine meadow.'" (Fr.)

◇ ◇
 Troubled Freshie to Senior at Literary "At Home"—Say, where are we to get refreshments for these girls? Have we got to take them down town?

◇ ◇
 Teacher in French—Mr. Bailey, translate this sentence: "Ou est ma soeur?"

"Bill"—You are "my sister."

◇ ◇
 Mr. Jones (making an announcement the afternoon before the Literary "At Home")—Every one see that his partner gets refreshments.

Tickled Freshie—I'm glad, Mr. Jones told those upper year men to see that their partners get freshmens. Now we'll have a chance to get acquainted with the "Mac." girls.

◇ ◇
 A number of freshmen, seeing their names down on the work list with Macdonald Hall opposite, put on their "Sunday best," and, with smiling faces, made their way to the scene of their job. But without even saying that he was sorry, their new boss said to them: "Well, boys, we have a little job over here to-day shovelling gravel."

Students, please take notice:

The question, why such a large percentage of college professors are bald, has been solved by the recent discovery of the fact that prunes are infested with the same microbe that attacks the hair of man, causing it to drop out—never to grow again.

◇ ◇
 Wake that fellow up, please.

(After much shaking, Mr. Lloyd-Jones is brought back to a realization of his surroundings).

Professor—You were asleep!

Culprit—No, sir, I wasn't asleep.

Professor—Well, what was I talking about just now?

Culprit—Sand cracks.

(These had been under discussion about ten minutes before).

Professor (after laugh had subsided)—Now, weren't you asleep?

Mr. Lloyd-Jones—No, sir, I was just dozing.

◇ ◇
 A McMaster man in the act of tackling rammed his finger in Jones' eye:

Jones—What the—do you mean?

McMaster—Oh, I was only after the ball, Jones!

Jones—Yes, my eye-ball.

◇ ◇
 Mr. Newhall reads from "Henry IV.":

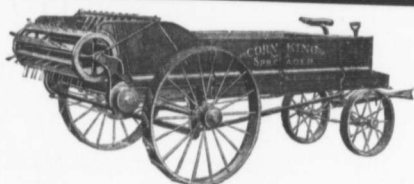
"Whither I go, thither shall you go too," etc.

◇ ◇
 Professor—What act do you suppose accompanied this statement, Mr. Newhall?

Newhall—Oh, I suppose he took her hand.

◇ ◇
 Third Year Composition:

If I am killed there will be a place which will be better filled when I have made it empty.



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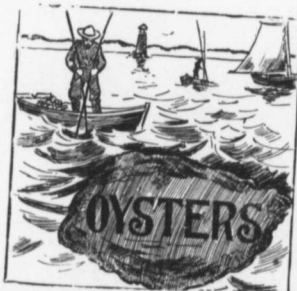
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No acids, lime or other chemicals used.

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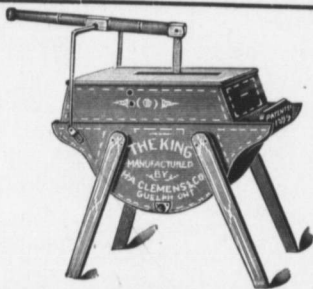
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"Irish" (in sharp retort)—Oh, you just did it for devilment.

Maclaren—You mean he did it for the de'il.

"Irish"—Did you prompt him?"



The Review is a public benefactor. A day or so before the October issue was published Denniss was heard complaining that it was a long time making its appearance. Said he, "I've been waiting for three weeks to see what laundries advertise in the Review, and until it appears I can't get my washee done." If all students would patronize O. A. C. Review advertisers as does Denniss what a happy man the Business Manager would be.

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QUALITY is one of the first considerations in all the goods we handle, and you can always depend upon getting the best from us.

Apparatus for Chemical and Physical Laboratories.

Drawing Materials of all kinds.

Manual Training Benches and Tools.

Reeds, Raffia and Cardboard.

Books on Art, Construction and Basketry Work.

Maps, Globes, Blackboards, etc.

WRITE FOR QUOTATIONS

The Steinberger Hendry Co.

37 Richmond Street West, TORONTO, ONT.

Men's
Goods

E. R. BOLLERT & CO.

Ladies'
Goods

The Faculty, Students of the O. A. C. and Macdonald Institute will find this store ready to serve their wants to the best advantage. We are pre-eminently a Ladies' and Gentlemen's Outfitting and Furnishing Store. No matter what your needs this store is ready to supply them with good goods at moderate cost. We have always been favored with a large business from the personnel of the College. We shall pay special attention for its continuance and increase.

MEN'S SECTION.

Fine Ordered Clothing at Moderate Prices.
Fit-the-form Ready-to-wear Clothing, very good and very cheap.
Best Styles of Hats and Caps at closest prices.
Up-to-date Shirts, Collars, Ties, Gloves, and Fancy Furnishings, not at fancy prices.
Underwear, Hosiery, etc., grand values.

LADIES' SECTION.

Dressmaking at very reasonable rates.
Ready-to-wear Coats, Skirts, Blouses, etc., in great variety of new things.
MILLINERY.—All the Novelties of a first-class Millinery Business constantly received.
The Underwear and Furnishing Stocks are crowded with good goods at low prices.
Belts, Collars, Gloves, Hosiery, Handkerchiefs, etc., etc.

25 and 27
Wyndham St.

E. R. Bollert & Co.

25 and 27
Wyndham St.

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POTASH

FOR FIELD, GARDEN AND ORCHARD

This mostly important **Plant Food** may be obtained of all leading **Fertilizer Dealers** in the highly-concentrated forms of

MURIATE OF POTASH

— AND —

SULPHATE OF POTASH

Excellent results have been obtained by applying potash along with a phosphatic fertilizer in the Fall.

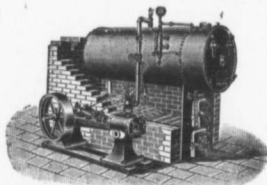
POTASH does not get washed out of the soil, but is firmly retained.

Write for our illustrated Souvenir of Toronto Exhibition, 1907, which will be sent gratis.

**THE DOMINION AGRICULTURAL OFFICES
OF THE POTASH SYNDICATE**

1102-1105 Temple Building, Toronto, Can.

Leonard Engines and Boilers



Are used for **CHEESE AND BUTTER FACTORIES THROUGHOUT CANADA.** They have the largest output of any other manufacture. They are preferred for the reason that the Engines have short Steam Ports, Eváns' Noiseless Governor, and the Boilers are thoroughly manufactured and tested to high-water pressure before shipment.

E. LEONARD & SONS, - LONDON

MINERAL WOOL

— FOR —

*Cold Storage Insulation,
Pipe and Boiler Coverings,
Engine Packings,
Roofing, etc., etc.*

**Eureka Mineral Wool &
Asbestos Co.
TORONTO**

GOOD THINGS TO EAT

You can always rely on J. A. McCrea & Son for strictly

FRESH OYSTERS

LOWNEY'S CHOCOLATES

JACOB'S (IRISH) BISCUITS

CHRISTIES' FANCY BISCUITS

CHOICE SWEET ORANGES

In fact anything special you might want as a little extra treat.

J. A. McCrea & Son
Wyndham Street, Guelph

THE AUTONOLA
The Piano everybody can play
and play well.



BELL PIANOS

AUTONOLA
PLAYER PIANOS
AND ORGANS

CANADA'S BEST.

USED THROUGHOUT THE WORLD—BUILT TO LAST A LIFETIME.

Send for our free Catalog,
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STALL No. 3, GUELPH MARKET

ALFRED HALES

Wholesale and Retail Dealer in

Fresh Meats, Pickled Beef and Tongues

Poultry for the Students a Specialty,

Fresh Pork, Hams, Bacon, Lard, Sausages and Bologna

Shop—Telephone 191

Residence—Telephone 405.

**GUELPH'S
BIG
HARDWARE
STORE
THE
BOND
HARDWARE
CO. LTD.
'PHONE 97**



It is Here

That the students
supply their needs
in Hardware, Cut-
lery and Sporting
Goods.

We keep every-
thing in Hardware
and prices are
always right.

The Canadian Bank of Commerce

Established 1867. Head Office, Toronto
B. E. WALKER, President.
ALEX. LAIRD, General Manager.

Capital [paid-up], \$10,000,000
Rest 5,000,000

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A general banking business is transacted. Bankers for the Dominion Live Stock Association.

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Drafts issued payable at all points in Canada and the principal cities in the United States, Great Britain, France, Bermuda, etc.

SAVINGS BANK DEPARTMENT.

Deposits of \$1 and upwards received and current rate of interest allowed.

Interest added to the principal at the end of May and November in each year.

Special attention given to Collection of Commercial Papers and Farmers' Sale Notes.

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The CANADIAN OFFICE & SCHOOL FURNITURE CO.

Manufacturers of
High Grade Bank
& Office Fixtures,
School, Library &
Commercial Fur-
niture, Opera &
Assembly Chairs,
Interior Hardwood
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CENTRAL Book Store

Opposite where the Street Cars stop.



Text Books, Exercise Books, Foolscap
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Up-to-Date Note Papers and Envel-
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Bibles, Hymn Books

Books by Standard Authors, Poets,
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In fact, everything kept in a well-ordered
Book Store.



C. ANDERSON & CO.

THE LITTLE TAILOR STORE COLLEGE MEN

Are usually particular about their appear-
ance. They demand character in their
clothes.

We make the kind of suits and overcoats
that give a man that "well-dressed" appear-
ance so much desired.

We make the clothes to fit the man;
TAILOR individual style and shape into
them.

ABOUT OUR PRICES

Being on a side street, our store rent is
very small compared with main street rentals.
It is this combination—a big business done
in a small store, with very light expenses—
that makes it possible for us to turn out
such high grade work at prices so much less
than other tailors have to charge you.

Tweed and Worsted Suits \$15 to \$25.

Blue and Black Serges \$18 to \$27.

Overcoats \$16 to \$25.

Trousers \$4 to \$7.50.

R. J. STEWART

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Opposite Knox Church, Quebec Street

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IF YOU WANT A FIRST-CLASS JOB

— IN —

**Plumbing, Gas,
Steam or Hot Water
Fitting**

— GO TO —

FREDERICK SMITH
QUEBEC STREET

Prompt attention to all jobbing.

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GEO. R. WOLCOTT

Sheet Metal Contractor

EXPERT ON HOT AIR HEATING

— *We make a Specialty of* —

Copper, Galvanized Iron, Slate, Felt
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Turnplate Roofing

*Dealer in Stoves, Ranges and
House Furnishing Generally*

12 Cork St., GUELPH

BOXING GLOVES,
FENCING FOILS,
MASKS,
DUMBBELLS,
BASKET BALLS
INDOOR BASEBALLS
WHITLEY EXERCISERS,
And Sporting Goods of all Kinds.
... FINE LINE OF...
RAZORS AND POCKET KNIVES.

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22 WYNDHAM ST.

McKEE'S
Drug and Book Store

Headquarters for
Everything in College
Text Books and Supplies.

We are agents for the famous

WATERMAN FOUNTAIN PEN

Your wants at our Drug and Prescription
Departments will also receive our
prompt and careful attention.

J. D. McKEE, Phm. B.

Phone 66

20 WYNDHAM ST., GUELPH.

WE WOULD

Lay particular stress upon the fact that we are manufacturers of men's and young men's clothing, that we employ one of the cleverest designers in Canada today, and that when you buy from us you buy from the people who make the clothes they sell you—not from agents who have to get a profit, as well as the makers. Ought not we to do better for you than the ordinary retailer can? Our claim sounds reasonable, doesn't it? Come in and see if we can substantiate it. All the Fall and Winter Suits and Overcoats are now ready. Your inspection invited.

Prices \$6.00 to \$25.00

THORNTON & DOUGLAS
LIMITED
LOWER WYNDHAM STREET

Well - Dressed Men

The well-dressed man is the successful man of the day. A good appearance counts for a great deal in these particular times, and a little care about neat and well-fitting garments is one of the best investments a young man can make. Have your clothes made to order by first-class custom tailors.

Talk With
Keleher & Hendley

A Great Stock of FURS to pick from, and we carry the finest. Our maxim is "Straight Goods and Straight Prices," which will win in any market. Fur-lined coats a specialty.

GOLDEN FLEECE

Agents for best makes Hats, Shirts and Ties.

We have a very complete
stock of

Entomological

— AND —

Botanical Supplies

For Students. At Students' Prices.

Alex. Stewart,

— CHEMIST —

NEXT POST OFFICE

THE Memory of Quality Lingers Pleasantly; so why not buy your

FRUITS AND GROCERIES

where quality is the first
consideration?

OUR PHONE IS 169
We Deliver Promptly.

BENSON BROS.

GROCCERS.

IF

You think a furniture store should have what you want, we can fill your order and save you money on every purchase. TRY US.

GRANT & ARMSTRONG

Furniture Dealers and
Upholsterers

GUELPH, - ONTARIO.

Store a few doors above Post Office.



We send Greetings for the fall season
to

THE COLLEGE STUDENTS

We trust that we will have the
pleasure of serving you when ready
for your Fall Shoes.

W. McLaren & Co.

Phone 370 - St. George's Square



Pure

Dry

The salt that *saves* money
and *makes* money in the
dairy—

**Windsor
Salt**

Less of this evenly-dissolving, full-
savoured salt goes farther and does more
perfect work than more of any other salt.

If you use it, you know this. If you
don't, there's better butter coming—
just as soon as you get Windsor
Salt from your dealer.

122



**WE GRIND
OUR OWN LENSES**

This means not only that we give quick and
accurate service, but that here you get exactly
what you should have—not something picked
out of a box, nearly what you want.

When your EYES require attention go to
one whose whole time is given to this work.

A. D. SAVAGE Guelph's Only . . .
Exclusive Optician

[ENTRANCE WITH SAVAGE & CO., JEWELERS]
Headquarters for Microscopes, Field Glasses, Etc.

Premier of Mock Parliament (addressing Finance Minister at Cabinet meeting):

If you don't want to tell a lie, then concoct one or borrow one, but by all means give them a lie.

Minister—Then I'll resign on a question of principle.



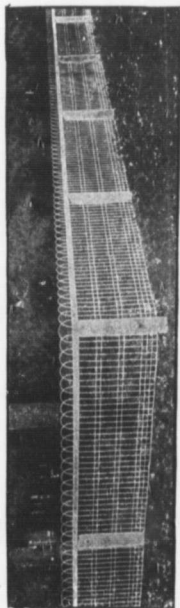
Teacher (in French Class)—Please translate "I beg your pardon," Mr. Brady.

Mr. Brady—I wasn't saying anything.



Professor—What's the Law of Indestructibility of matter?

Mr. Boddy—Matter is indestructible.



PAGE WHITE FENCES
The same style you see above costs only from 16 cents a linear foot. Handsome and durable for lawns, parks, cemeteries, etc. Any height or length. Gates to match from \$2.25. Write for catalog, or inspect this ideal fence. From us direct or any Page dealer.
The PAGE Wire Fence Co., Limited Walkerville, Toronto, Montreal, St. John, Winnipeg 41.

...The...

Metropolitan Bank

Capital Authorized - \$2,000,000
Capital Paid Up - 1,000,000
Reserve and Surplus
Profits - - - - 1,183,713

A general banking business transacted.

Students' Accounts

Receive careful and prompt attention

Guelph Branch:

C. L. NELLES, Manager.

A FEW OF THE MANY

valuable features, from an insurance point
view, for which

THE MUTUAL LIFE OF CANADA

Is noted are:

1. Reasonable premium rates.
2. Liberal policy conditions.
3. Progressive and efficient management.
4. Low ratio of expense to income.
5. Well and profitably-invested funds.
6. Ample assets and reserves.
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GEO. CHAPMAN, General Agent, Guelph

DYNAMOS AND MOTORS

FOR DIRECT AND
ALTERNATE CURRENTS



MADE BY

**Toronto & Hamilton
Electric Co.**

99-103 McNab Street, N.
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UNDERWOOD

The Underwood Unit, Bill or Order Typewriter, is used to facilitate the handling of bills or orders.

The order is made out upon a set of unit forms, as many as may be required for different departments. The original is the invoice; the second, an office copy or price sheet; the remaining copies may consist of acknowledgments, requisitions, shipping memoranda, etc., which are distributed to the various departments after the order is entered.

The Forms may be so designed that each will contain only the information required by its special department. Let us send you a book about it.

United Typewriter Co. Limited

7 ADELAIDE ST. EAST, TORONTO.

DOMINION BANK

GUELPH

Total Assets - \$49,000,000

A General Banking Business Transacted.
Savings Bank Department in connection
with all offices of the Bank.

Deposits of \$1.00 and upwards received.

Bankers for the O. A. C.

Manager Guelph Branch

H. C. SCHOLFIELD

College Pins



DIAMOND HALL has unexcelled factory facilities for the manufacture of all CLASS PINS, PRIZE CUPS and TROPHIES. Upon request, original designs will be forwarded embodying School Colors, Crests, or any other special features desired.

Our prices will be found as reasonable as is consistent with the high standard maintained by this House.

RYRIE BROS., Ltd.

134-138 Yonge Street

TORONTO

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*The Burgess Studio**HIGH-CLASS PORTRAITS**Special Rates to Students*

We are at your service for good
Photographs. Call and see us.

J. W. ROGERS

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Walter E. Buckingham, B.A., LL.B.

BARRISTER

Solicitor, Notary, Conveyancer, Etc.
Douglas Street, GUELPH.

Office Phone, 175.

House Phone, 404.

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PETRIE'S**DRUG STORE**

**For Medicines and
Toilet Articles,
Seed Bottles; Etc.**

Headquarters in Guelph for all kinds of
Photographic Supplies.

Films developed and prints made;
Latest designs in Comic and Picture
Post Cards. Remember the place.

Petrie's Drug Store
Lower Wyndham Street.

PRINGLE THE JEWELER

Entomological Supplies,
Magnifying Glasses, all qualities,
Fountain Pens
Rubber Stamps,
O. A. C. and Macdonald Institute
College Pins

The Busy Book Store

O.A.C. and Macdonald Students
cannot do better than come to us for
all College Supplies. A full line
always in stock.

Buy a Sterling Fountain Pen and
stop dipping.

SCOTT & TIERNEY

Phone 72

Lower Wyndham Street

**Economical - -
- - - Clothing**

The best value for your
money is always got at our
Store. We can clothe you for
little money, and we can give
you as high-grade garments as
are made in Canada. In fact,
all our garments have CLASS
about them. A call solicited.

J. A. SCOTT**Designer of Men's Garments**

'Phone 72

McHUGH Bros.,
26 Lower Wyndham St.

Are prepared to supply students with the finest range of **Pipes, Tobaccos, Cigars, Cigarettes, Pouches, etc.,** at prices consistent with quality.

The finest assortment of goods shown in the city. Come in and see us.

DID YOU EVER
SEE A PRINTER
PRINT LIKE
THIS PRINTER
PRINTS? . . .

J. J. KELSO

Opposite Post Office, - Guelph

Snowdrift
Peoples
Maple Leaf

Three well-known brands of Flour.
 Ask for them and be sure
 you get them.

The James Goldie Co., Limited
GUELPH

Telephone 499

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FOR HARDWARE AND
 SPORTING GOODS AT
 LOWEST PRICES.

G. A. RICHARDSON

Upper Wyndham Street · Guelph

OAK HALL
Clothing Store

CLOTHES PRESSED AND CLEANED

We keep a Practical Tailor to do this work.

PHONE 510

PARCELS CALLED FOR AND DELIVERED

The Guelph Radial Railway Co.

TIME TABLE

Cars leave College Landing for City as follows:

A. M.—6:25, 6:45, 7:05, 7:30, 7:50, 8:10, 8:35, 8:55, 9:20, 9:40, 10:00, 10:25, 10:45, 11:05, 11:30, 11:50.
 P. M.—12:15, 12:35, 12:55, 1:15, 1:40, 2:00, 2:20, 2:45, 3:05, 3:30, 3:50, 4:15, 4:35, 5:00, 5:25, 5:50, 6:15, 6:40, 7:00, 7:20, 7:45, 8:05, 8:25, 8:45, 9:10, 9:30, 9:50, 10:15, 10:35, *10:55.

Returning, cars leave St. George's Square 10 minutes later. *Saturday night only.

—THE—

Dawson Commission Company, Ltd.
TORONTO

Will be pleased to handle your shipments of **Poultry, Butter, Eggs, Apples, Honey, Beans,** and other farm produce, and they can get you as good prices as any other firm in Toronto.

Correspondence solicited.

THE DAWSON COMMISSION COMPANY., Ltd.
TORONTO.

STAMPS FURNISHED.

We can supply you with anything you need in **Tinware, Graniteware, Aluminum** or **Nickleware.** A full stock.

H. Occomore & Co.

UPPER WYNDHAM ST.

*Phone 328.

NEW IMPORTATION OF CLYDESDALE STALLIONS

Mares and Fillies, Hackneys and Shetland Ponies

Your choice of 30 Mares and Fillies, including winners in Scotland, at moderate prices.

For particulars apply to G. A. BRODIE, BETHESDA, Ont.

Stations: Stouffville, G. T. R.
Claremont, C. P. R.
Gormley, C. N. R.

Telephone Service from stations to residence

Smith & Richardson

COLUMBUS, ONT

Importers of Clydesdale Horses

This year's importation is by far the best bunch we ever landed, among them the Toronto and Ottawa Winners.

R. R. Stations—G. T. R.—Oshawa.
Brooklin.
C. P. R.—Myrtle

Long Distance 'Phone at Residence.

Pine Grove Stock Farm

Rockland, Ontario, Canada.

BREEDERS OF

SCOTCH SHORTHORNS and SHROPSHIRE

W. E. EDWARDS & CO., Limited

PROPRIETORS

JAMES SMITH, Superintendent

J. DRYDEN & SON

Maple Shade Farm BROOKLIN, ONT.

Home of the oldest and largest herd of Crulckshank Shorthorns in America.

Shropshire stock founded 1871.

Station—C. P. R., Myrtle, 3 miles.

G. T. R., Brooklin, 1½ miles.



Poultry, Pet Stock, Farm and Garden Books of all kinds.

Fanciers' and Stockmen's
Printing Leg Bands and
Stock Markers.

We have the most complete line of Poultry and Pet Stock supplies in Canada. Catalogue free.

A. J. MORGAN - LONDON

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PHOTOS!

COLLEGE GROUPS

— AND —

INDIVIDUAL SITTINGS

Promptly attended to.

D. H. BOOTH, Photographer

Upper Wyndham St.

Next RYAN'S

THE

ELECTRIC BOILER COMPOUND CO., Ltd.

GUELPH, ONT.

Walker's Electric Boiler Compound

High Grade Lubricating Oils, Greases, Packings, Belt Lacings, Flue Scrapers, Etc.

Crystal Cream Separator Oil

A SPECIALTY

WATERS BROS.,

— Headquarters For —

FRAMES, PICTURES, ETC.

O. A. C.

Note Books, Drawing and Writing Materials, Seed Bottles, Microscopes, Field Glasses, Waterman Fountain Pens, etc.

WYNDHAM STREET

REED BROS.

Successors to A. Matthews

Manufacturers of

HIGH-CLASS MINERALS AND AERATED WATERS

DUNDAS ROAD . . GUELPH

207 Syphon Soda Water a specialty

— GO TO THE —

HUB BARBER SHOP

For a good Shave and Hair Cut

GEO. A. LEADSTON, Prop.

SOCIETY CARDS

Ladies' or Gent's. Printed. 50e per 50; 75e per 100. By mail prepaid. All kinds of Commercial and Society printing.

O. R. WALLACE, Opera House Block,
GUELPH, ONT.

D. M. FOSTER, L.D.S., D.D.S.,

— DENTIST —

Corner of Wyndham and Macdonnell Streets
Over Dominion Bank

Telephone 14

CLOTHES

CLEANED, PRESSED AND REPAIRED

Work done right. Prices right.

Quebec St., opposite
Chalmers' Church **CHAS. A. KUTT.**

R. H. McPHERSON, Barber

HAIR CUT, 15c; SAT., 5c EXTRA

Close 7 p. m.

Upper Wyndham Street, GUELPH

LEE LEE & CO.,

Opera House Block

HAND LAUNDRY

Goods called for on Monday, and returned on Wednesday. We guarantee best work in Guelph.



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At Guelph, Truro, St. Anne de Bellevue, Winnipeg, and the trade generally.

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BROADFOOT'S

Red Cross — Pharmacy

Phone 381 - St. George's Square

CITY SHOE STORE

Try us for Sporting Shoes of all kinds.
Satisfaction guaranteed.

W. L. KEIL,

Cor. WYNDHAM STREET and MARKET SQUARE

MARRIOT & CO.

FLORISTS,

Roses, Carnations, Chrysanthemums, Smilax,
Asparagus, Etc.

Phone 378. St. George's Square.

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The best and most convenient Barber Shop for
O. A. C. Students.

WM. COON, St. George's Square

Street Cars every 15 minutes. Three chairs.
No waiting.

Stewart McPhie W. A. Mahoney

McPHIE & MAHONEY

— ARCHITECTS —

Phones: Office, 215; Residence, 237

Telephone Building - Guelph, Canada

Our Groceries

— ARE ALWAYS —

**Fresh, Wholesome and
Strictly First Class**

17 Lower Wyndham.

Telephone 112

Jackson & Son

Guelph and Ontario

Investment and Savings Society

SAVINGS BANK DEPARTMENT.

Deposits of \$1.00 and upwards taken
Highest current rates allowed.

J. E. McELDERRY, Secretary-Treas.

THE BEST SEPARATOR

That's what you're looking for. But they all "claim" to be best. Common sense tells you they all can't be. If we say to you "The U. S. is the best," we don't ask you to take our "say so." The construction of the machine shows it. Its record for sixteen years proves it. Our new catalogue, No. 143, shows in every detail its construction and tells all about its record. Thirty pictures of the different parts; plain explanations. Please send for it and read it. **Judge for yourself.** Write us to-day for "New Illustrated Catalogue No. 143." It is free.



Clear Skimming
Easy Running
Long Wearing

U.S.

Vermont Farm Machine Co.

Bellows Falls, Vt.

Prompt deliveries of U. S. Separators from warehouses at Montreal, Que. and Hamilton, Ont. No delay. Address all letters to Bellows Falls, Vt.

U. S.

SKIMS CLEANER

than other separators, and produces so much more actual profit that it pays for itself many times over in what it saves. Remember, the improved U. S. holds world's record for cleanest skimming.

Holds World's Record For Cleanest Skimming

IS THE SIMPLEST,

both in operating mechanism and bowl construction, having only two parts inside the bowl. All parts simple and easily gotten at.

WEARS LONGEST,

because it has a strong, solid frame inclosing all the running parts, is carefully and accurately made by skilled workmen from the best materials obtainable. Durability is best proved by the satisfaction it gives to those who have used it ten to fifteen years.

RUNS EASIEST,

because the gears are correctly proportioned, accurately made, run in oil, and ball bearings are used at high speed points. All bearings are finely made and fitted with great accuracy, easily gotten at, and quickly adjusted.

IS THE SAFEST,

All farm dairy sizes have the gears entirely inclosed in an iron casing, which not only protects them and the operator and others from danger of injury, but keeps out dust and dirt that would cause friction and reduce their wearing qualities.

IS EASY TO HANDLE,

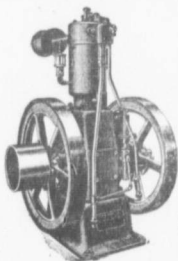
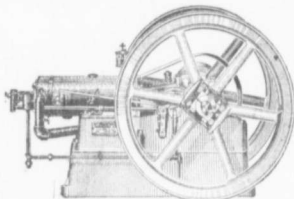
because it has few parts, requires little attention, doesn't easily get out of order, and has the low-down milk receiving can.

IS THE MOST PROFITABLE

for everyone, because with less labor and in less time it extracts more cream from the milk, and because it makes better butter and more of it, and leaves the skim-milk warm, sweet and pure for feeding or other uses.

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Do 10 Hours Work
of 4 or 5 Horses
for 75c to \$1.00



What farmer would not give a great deal to have power equivalent to that of 4 or 5 horses ready for use in a moment, and at a cost of 7 or 8 cents per hour? That is exactly what the farmer has who owns a 4-horse power I. H. C. gasoline engine.

A semi-portable gasoline engine may be converted into a power plant on the farm. It may be transported from place to place about the farm, wherever the farmer requires power for shredding fodder, grinding feed, sawing wood, pumping water, operating cream separator, churn, etc.

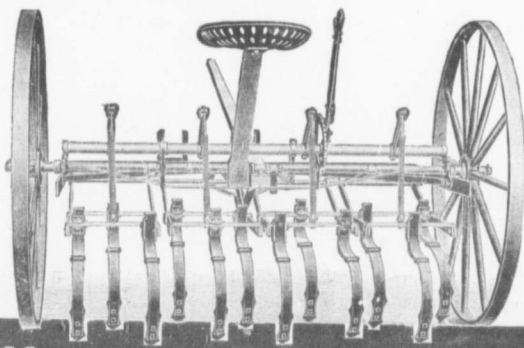
The I. H. C. gasoline engine line includes Vertical 2 and 3-horse power; Horizontal (portable or stationary) 4, 6, 8, 10, 12, 15 and 20-horse power; pumping engines and jacks, spraying outfits, and a 1-horse power air cooled engine.

For further information concerning I. H. C. engines call on the local agent, or write for illustrated catalogue and lithographed hanger.

CANADIAN BRANCHES: Calgary, London, Montreal, Ottawa, Regina, St. John, Winnipeg, Toronto.

International Harvester Company of America (Incorporated)

CHICAGO, U. S. A.



NOTICE THE TEETH

In considering the purchase of a Spring-Tooth Cultivator notice the Teeth very carefully. They are one of the most important parts of this kind of an implement. It depends upon the Teeth as to how well it does its work. See that they are of proper length, proper shape and temper; that the points are reversible, for that means double value to you. Next see that the Frame is simple and strongly built of steel and malleable iron so that it will stand the strain and wear well. Ask our agent about a

FROST & WOOD "CHAMPION" SPRING TOOTH CULTIVATOR

and you will see a machine that embodies all these good points. He will tell you that the Teeth are tempered in oil and tested; that they are made of Crucible Spring Steel, and the reversible points are an especial advantage as when one becomes worn by hard, stony ground it can instantly be reversed, and you have a new sharp point. Teeth can be spread or taken off when used for corn or root crop cultivation. It is an implement that gives perfect satisfaction, because it does perfect work and stands rough wear. Our Free Catalog gives more good points. Write for it, or get it from our nearest agent.

The FROST & WOOD CO., (Ltd.), Smith's Falls, Can.

AN AWFUL LOSS

In Ontario, Quebec and the Maritime Provinces, there are in round numbers

2,370,000 Cows

Assuming the average dairy to contain 10 cows, there are in the business

237,000 Dairymen

Estimating the number who use Cream Separators at 60,000, and allowing 77,000 for cheese factories and milk dealers' supply, there remain of those who are doing their part toward the annual loss of ten dollars per cow

100,000 Dairymen

**Who lose Ten Million Dollars
per year**

A sum sufficient to buy every one of the 100,000 dairymen a large capacity, clean skimming, easy running, durable and old reliable

De Laval Cream Separator

These are the figures. Head off any further runaway butter fat.

The **DE LAVAL SEPARATOR CO.**
173-177 WILLIAM ST., MONTREAL