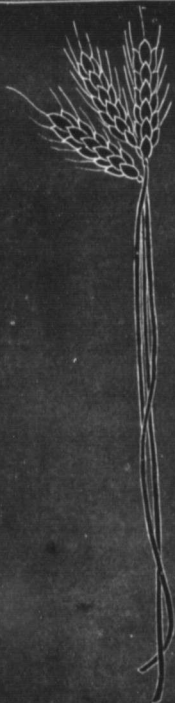


VOLUME XXII.



NUMBER 7.



THE  
**D·A·G·**  
REVIEW

April

1910

# Repairs and After Cost

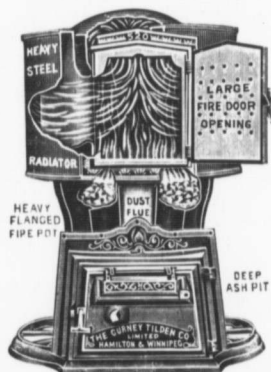
**P**ROBABLY the largest item of repair expense in maintaining a furnace is the matter of fire-pot repairs. Every few years the fire-pot in an ordinary furnace is liable to burn out, and in a large percentage of cases it does burn out. Not so with the New Idea—It is a solid, substantial, one-piece fire-pot, scientifically made with heavy flanges that strengthen the pot and increase radiation. Actual tests of various types of fire-pots years ago convinced us that this was an exceptionally durable construction, and experience has shown that we were right.

During the past twelve years we have made and sold thousands of New Idea Furnaces and the average number of fire-pots repaired or replaced during that time has been less than two per year, and where we have investigated

the reason for even these being required, we have invariably found very bad misuse or abuse in some form or another.

We have always claimed, and the above actual facts prove, that the New Idea has the longest lasting fire-pot made. Do not be misled by flowery talks and pretty pictures circulated by the makers of cheap furnaces; endeavor to get the actual records and you will find it hard to discover another fire-pot that will show a record that the makers would publish.

And that isn't all—The rest of the New Idea is equally good and durable.



The New Idea  
Warm Air Furnace.

## Gurney, Tilden & Company

Limited.

HEAD OFFICE AND WORKS

HAMILTON, ONTARIO



# The Bond Hardware Company, Limited

**STUDENTS' HEADQUARTERS**

FOR

**SPORTING GOODS**

ALSO

Everything in Hardware "Our Prices Always Right"

**GUELPH - - - ONTARIO**

# Bank of Montreal

ESTABLISHED 1817

Incorporated by Act of Parliament.

CAPITAL (all paid up),	- - - -	\$14,400,000.00
REST,	- - - -	12,000,000.00
UNDIVIDED PROFITS,	- - - -	358,530.20

**HEAD OFFICE : : MONTREAL**

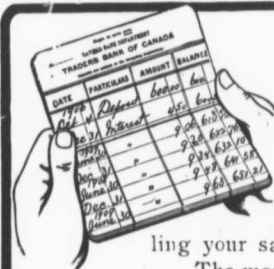
**BOARD OF DIRECTORS:**

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- E. S. CLOUSTON, General Manager.**

The Bank of Montreal has Branches and Agencies all over the Dominion and in Foreign Countries. Its customers are guaranteed prompt and courteous attention.

H. LOCKWOOD, Manager at Guelph.

Please mention the O. A. C. REVIEW when answering advertisements.



**Interest Accumulates**

every hour, day and night, on your deposits in the Savings Bank Department of the Traders Bank. In time the interest amounts to as much as the original savings, thus doubling your saving power.

The money is not tied up, either, for you can draw out what you want at any time without delay or bother.

A Bank Pass-Book is a first-class start on the road to independence, if not wealth.

---

**THE TRADERS BANK OF CANADA**  
**GUELPH BRANCH**

**OFFICIAL CALENDAR**  
**OF THE DEPARTMENT OF EDUCATION**

FOR THE YEAR 1910.

**April:**

1. Returns by Clerks of counties, cities, etc., of population, to Department, due.
4. High Schools, third term, and Public and Separate Schools open after Easter Holidays.
13. Annual Examination in Applied Science begins. (Subject to appointment).
15. Reports on Night Schools due (Session 1909-1910).
20. Notice by candidates for the High School Entrance Examination, to Inspectors, due.

**May:**

2. Toronto University Examinations in Arts, Law, Medicine and Agriculture begin. (Subject to appointment).
4. Inspectors to report number of High School Entrance Candidates.
6. Arbor Day. (1st Friday in May).
23. Empire Day. (1st school day before 24th May). Notice by candidates for the Entrance Examinations to Faculties of Education, Normal and Model Schools, and Commercial Specialist Examinations to Inspectors, due. (Before 24th May).
24. Victoria Day. (Tuesday).

25. Inspectors to report number of candidates for Entrance Examinations to Faculties of Education, Normal and Model Schools, and Commercial Specialist Examinations. (Not later than 25th May).

21. Assessors to settle basis of taxation in Union School Sections. (Before 1st June).

**June:**

1. Collectors in Unorganized Townships to report to Sheriff uncollected rates for previous year. (On or before 1st June). Assessor in Unorganized Townships to return assessment roll. (Not later than 1st June).  
Public and Separate School Boards to appoint representatives on the High School Entrance Boards of Examiners. (On or before 1st June).  
By-law to alter School boundaries or form Consolidated School Sections—last day of passing. (Not later than 1st June).
10. University Commencement. (Subject to appointment).
15. Senior Matriculation Examination in Arts, Toronto University, begins. (Subject to appointment).
17. Provincial Normal Schools close (Second term). (Subject to appointment).

Please mention the O. A. C. REVIEW when answering advertisements.



ARE YOU SATISFIED  
WITH A 20 ACRE CROP  
FROM A 40 ACRE FARM?

**Y**OU know it costs as much in time, labor, seed and implements to raise a poor crop as it does to raise a good one. You know also that unless your land is kept constantly supplied with lime, nitrogen and phosphates and the ingredients of barnyard manure it becomes worn out and loses its fertility.

You know further that it costs more, and trebles your labor, to spread manure by hand than it does to use a well-made manure spreader.

Maybe you don't know that one load of manure evenly spread by a mechanical spreader is worth four loads scattered by hand—

And that your crop, whether rotation or continuous, will be increased from 20 to 40 per cent by the use of an

## I. H. C. Manure Spreader

Made in two styles as follows:

**The Corn King**, Return-Apron Spreader.

**The Cloverleaf**, Endless-Apron Spreader.

I. H. C. spreaders are made of the best material—wood and steel. They have powerful steel frames and steel-bound boxes, which damp manure cannot rot.

I. H. C. spreaders are easily drawn. They can be adjusted to spread a thin or heavy coat with equal evenness.

I. H. C. spreaders are so simple in operation that a boy can do the work which used to require a strong man.

An I. H. C. spreader will save in time and labor more than enough to pay for itself in one season.

Your increased income from better crops will be clear profit.

Scientific experiment has proved that this profit will vary from \$4.00 to \$20.00 per acre.

You cannot afford to be a half-crop farmer and there is no reason why you should be one.

An I. H. C. spreader will give you the full return from your land, whatever the size of your farm.

Call on our agent in your town and talk the spreader over with him, or, if you prefer, write nearest branch house for catalogue and other information.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg.

INTERNATIONAL HARVESTER COMPANY OF AMERICA  
CHICAGO, U. S. A.



TRADE

MARK

THE  
I. H. C. LINE

LOOK FOR THE I. H. C. TRADE MARK. IT IS A SEAL OF EXCELLENCE AND A GUARANTEE OF QUALITY.

# "VANCO" BRAND

## Spray Chemicals

have a uniformly high strength which you can seldom, if ever, get in home-made mixtures or other commercial sprays. They are prepared by expert chemists, from the purest chemicals, combined in exactly the right proportions to make safe and effective sprays.

We make all our Sprays right here in Canada, and ask for business not on promises, but on records of Government analyses and practical tests.

## "VANCO" Lime Sulphur Solution

contains a maximum amount of active sulphur, without any useless sediment. With it you can eradicate scale, scab, blight, mildew, aphids, bud moth, and all parasitic sucking insects and fungi.

One barrel makes 12 for spring or 50 for summer spray. Price \$8.00 per bbl., f.o.b. Toronto.

## "VANCO" Lead Arsenate

kills leaf-eating insects more effectively than Paris Green, sprays easier, sticks better, and never burns the foliage. It contains 15% to 16% Arsenic Oxide and only 40% moisture average.

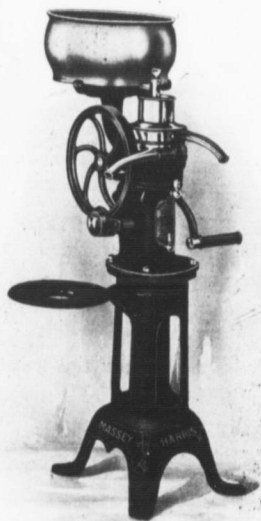
Price, 10c. to 13c. a pound, according to quantity.

**CLUB YOUR ORDERS AND SAVE ON FREIGHT.**

Write for our Booklet on the use of  
Lead Arsenate and Lime Sulphur Sprays.

**CHEMICAL LABORATORIES  
LIMITED**

**120-130 Van Horne Street, Toronto**



**A Good  
Cream Separator  
is a  
Paying Investment**

Dairy experts the world over are unanimous on this point.

**The Massey-Harris is a  
Good Separator**

**HERE'S WHY:**

*Skims Close with hot or cold milk because of the Improved Bowl—proven by repeated tests the best ever put on a Cream Separator.*

**EASY TO FILL—**

Because of the waist-low supply can.

**EASY TO TURN—**

Because of the scientifically designed machine cut gears and the easy-running bearings.

**EASY TO CLEAN—**

Because there are no "hard-to-get-at" corners or holes in the Bowl

**NO DANGER FROM  
EXPOSED GEARS—**

Because all gears are enclosed, yet are readily accessible.

**DURABLE—**

Because made from the highest grades of materials, carefully finished, and because of the easy-running bearings which reduce wear to the minimum.

**SIMPLE—**and not likely to get out of order.

**The Self-Balancing Bowl**

*Is a feature which adds much to the efficiency, easy-running and durability of the machine,—it runs without vibration and with the least possible friction on the bearings.*

—The—  
**Dominion Bank**

Capital Paid Up	\$1,000,000
Reserve Fund	\$5,400,000
Deposits by the Public	\$44,000,000
Total Assets	\$59,000,000

**A GENERAL BANKING BUSINESS TRANSACTED.**

Drafts bought and sold on all parts of the world.

**SAVINGS BANK DEPARTMENT.**

Special attention paid to savings accounts. Interest allowed on deposits of \$1.00 and upwards.

Every convenience will be afforded students for the transacting of their banking business.

**A. R. SAMPSON, Manager, Guelph Branch**

**The Royal Bank of Canada.**

INCORPORATED 1869

Capital \$4,800,000

Reserve \$5,500,000

**Savings Bank Department**

Deposits of \$1 and upwards are received and interest allowed at current rates.

OUT-OF-TOWN ACCOUNTS SOLICITED

GUELPH BRANCH

TOVELL'S BLOCK





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THE O. A. G. REVIEW is published by the Students of the Ontario Agricultural College, Guelph, Canada, monthly during the College year.

ANNUAL SUBSCRIPTION: Students \$1.00. Ex-Students in Canada, 50 cents, others \$1.00. Single copies 15 cents. Advertising rates on application.

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"Government Standard"  
CLOVER AND TIMOTHY

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shows up best in comparison with others every time



Our Motto: "Quality First."

Our HIGHEST QUALITY BRANDS are

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We offer lower priced "Brands" Red Clover, "Tiger," "Wolf" and "Lynx," Alsike Clover, "Eagle," "Hawk" and "Stork," Timothy, "Martin," "Beaver," "Seal" and "Ermine." All our Seeds comply with the requirements of the Seed Act, and are unsurpassed, if equalled, for High Purity and Germination and are sent out in sealed bags.

Ask your dealer for  
**STEELE, BRIGGS'**  
"High Purity" Seeds

and secure the highest quality obtainable. Our Special "Brands" are sold by leading merchants everywhere. If your local dealer don't keep them send to us direct. Note our "Brands" of Quality.

## Steele, Briggs' Seed Co.

LIMITED

TORONTO, Ont. HAMILTON, Ont. WINNIPEG, Man.

# THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XXII.

APRIL, 1910.

No. 7.

## Making Money Out of Waste

### Saving an Important By-Product

MORLEY PETTIT, PROVINCIAL APIARIST.

**A** MODERN producing business depends for success on its attention to by-products. It abhors waste. Pork packing, for example, in the early days, saved nothing but the meat. Today it wastes nothing but the squeal.

The business of agriculture is no exception. Every by-product is cared for by the successful farmer so soon as he learns to turn it to profit. One important by-product, however, is still largely neglected. It is the nectar of flowers.

The flowers of Ontario secrete an usually sufficient nectar to produce hundreds of tons of honey which is now being wasted, and whose quality has no superior in the world. These flowers are distributed over waste land, farm land and wood lot, and are borne by willows, maples, elms, lindens, locusts, fruit trees and many other blossoming trees; practically all the leguminous plants of the farm; buckwheat, and many of the weeds such as thistle, goldenrod and bonaset.

Our chief cultivated honey plants are alsike and buckwheat. One apiary of one hundred colonies, in a section of Ontario where some seed-alsike is grown but no buckwheat or other fall

forage plants, stored in 1909, eight thousand pounds of honey. The seed close to the apiary was a splendid yield while one and a half miles away it was not worth threshing, showing that the bees had not found it necessary to go that far for nectar, and the fertilization of those blossoms had been neglected. In other words, a circular area of about one and a half mile's radius, say four thousand five hundred acres of farm land, where some alsike is grown for seed, yielded eight thousand pounds of honey in a good average season. This means that every hundred acre farm produced about one hundred and seventy-seven pounds, or enough honey to spread the family pancakes, and warm biscuits, and johnnie-cake, and porridge for a whole year. It also means that the farmers in that area had hundreds of dollars' worth of alsike seed which those outside, with no difference but the absence of bees, did not get. This is no isolated case, but is duplicated all over the Province wherever bees happen to be kept.

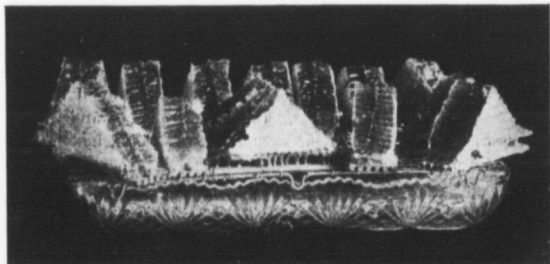
To cite another case reported in 1908 from a different part of the Province: It was an area of eight thousand four hundred acres. Ten thousand dollars' worth of alsike seed was sold, be

sides a quantity of red clover and alfalfa. The honey sold for three thousand five hundred dollars, and was considered only half a crop. From the land sown with seed the value produced from honey and seed would exceed the price of land per acre. My informant, who is a reliable business man, concludes his letter tersely with these words: "This shows a great source of wealth."

But why this great secretion of honey-producing nectar? And what has it to do with the seed crop? Every nectar-bearing flower depends more or

farmer who does not look after his nectar; his fruit and seed crop suffer severely, and an important by-product is wasted.

It is not necessary to explain here how "bees are the marriage priests of the flowers." Many agencies are employed by nature to carry pollen from flower to flower. Nectar-loving winged insects play a most important part. None of these are so directly under human control as honey bees. Others may or may not do the work properly, according to weather conditions, and the numbers in which they chance to



A DAINTY DISH.

Courtesy of W. Z. Hutchinson, Flint, Mich.

less on insects for the fertilization of its seed. It offers them sweet nectar as an inducement to come and do their work. If they fail to accept the offer the flower is the loser, as seed fertilization will be restricted or utterly fail. Nectar is of no value to the plant aside from its mission of insect bait. It rises from day to day when weather conditions are favorable, like water in a spring. If no insect happens along to take it at the right moment, it evaporates or is washed out by dew and shower. As the raw material from which honey is made it is quite valuable. Hence a double loss befalls the

inhabit a given territory, but it is within the power of every farmer to place hives of bees in his orchard, or close to his clover fields, in such numbers that they are sure to visit every flower. Being right at hand, they will take advantage of even an hour's sunshine in unfavorable weather, to get out and fertilize the blossoms which wild insects might never find. This is right in line with the control of natural agencies so valuable in scientific agriculture.

Looking at the other end of the business the market for honey is only in its infancy. The general public scarcely

know that honey exists as one of the daintiest table delicacies. Why is this? It is because no "Sweetheart of the Clover Blossom" smiles down at the public from the street car gallery of art; no fair maid in large proportions looks wistfully from the passing bill board sighing for "A Husband Who Will Always Come Home to his Honey"; though it might tempt the average man more than some of the inducements offered.

One of the most powerful manufacturing concerns can think of no

a little printers' ink were used? An increased production with judicious advertising would put the market in an even more healthy condition, with honey as an all-year-round staple. When buyers can pick up a carload in one neighborhood and go over into the next and do the same, they can afford to go after it in a way that they can not now. Several individual producers are in a position to ship one or two cars annually, but there is plenty of room for growth in this line. Of course the next feature is co-operative



PROFESSOR H. A. SURFACE, OF PENNSYLVANIA STATE UNIVERSITY, AND HIS STUDENTS IN AGRICULTURE.

Courtesy of A. I. Root Co. Medina, Ohio.

higher praise for its product than the statement,—false, by the way—that it is "better than honey." The honey producer, quite sure of his goods, remains modestly silent. Why should he not, forsooth? His capital investment is turning him annual dividends of 50% and over. His product is not perishable; if he does not get a fair price this year he can store it in a dry, warm place, with no expense or risk for cold storage, until prices rise a little. As a matter of fact the market is cleaned up annually before maple syrup comes in. When this is the case with no advertising whatever, what would happen if

selling, but that is another story too long for this article.

The Ontario farmer has yet much to learn about handling his nectar crop. No enterprising harvester company has patented delicate tools that would collect it from the flowers. He must depend on domesticated insects for that. And let me say in passing, bees are not such terrible things to have about as many seem to think. They will defend their homes, like any patriotic citizens, and sometimes, also like the patriotic citizens, think their homes are in danger when they are not. But after all, they have not done one thou

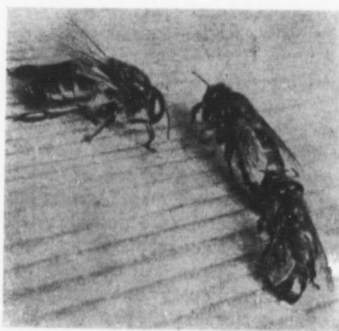
sandth as much damage to human life and limb as the horse, and do more valuable work in proportion to their size.

However, the farmer does not need to manage his own fertilizing, any more than he needs to make his own shoes. If he does not care to have bees on the place he can encourage his neighbor who does, by cheerfully giving the nectar of his blossoms as a small return for his big crop of clover seed or buckwheat or fruit, which would be far less certain without the neighboring apiary.

Hives of bees at present are ridiculously cheap, for those who know how to handle them—and dear enough for those who have no experience, and are liable to lose them all next winter. There is so little difference between the price paid for a colony in the spring, and the profit one with experience can reasonably expect from it the coming summer, that scarcely any bees are sold in Ontario except in cases of death or business changes. We are frequently asked if the College has bees to sell. The answer always is "No, get

them as near home as possible, start with not more than two or three colonies, and always have them examined by an experienced person, preferably one of the government inspectors of apiaries, to be sure they are in good condition and free from disease."

While O. A. College does not sell bees or distribute any apiary material, it provides a course of lectures in Scientific Apiculture to the students of the first year, by a man who has been acquainted with bees from infancy, and has learned to know them like the boy on a successful dairy farm knows cows. A college apiary is likely to be established soon, for experimental work and practical instruction. Local inspection of apiaries for the eradication of foul brood is being pushed by the Ontario Department of Agriculture. Co-operative experiments in Apiculture are being taken up in earnest by the Agricultural and Experimental Union. The work will continue to grow about as fast as the industry advances in the Province.



DRONE, QUEEN AND WORKER BEE.

## “Ye Ancient Gayme of Chesse”

B. BIGGAR, '13.

**C**HESSE is but a game, a relaxation, an intellectual pastime, yet it has devotees in every clime. It numbers amongst its enthusiasts the greatest names that have from time immemorial gone to make history; it tells of statesmen, sculptors, warriors, poets, painters, philosophers, and divines: it possesses a literature and language of its own, makes enemies friends, and is welcomed wherever there is human habitation, whether on the ocean, in the fortress or by the peaceful fireside.

Chess is commonly supposed to be a very difficult game to learn, but this is a great mistake; the value and moves of the several pieces may be learned in half an hour, and constant practice for a week will evoke sufficient skill to afford pleasure to both pupil and tutor; six months' constant practice with a good player should go to make a fairly competent player as players go nowadays. Of course, the word competent by no means signifies "expert,"—an expert chess player, like an expert violinist, can never be absolutely perfect, and constant practice alone can change an intelligent novice into a brilliant exponent of the game.

The origin of the game is doubtful and is almost lost in obscurity, a fact which has rather invited than repelled learned speculations on the subject. The invention of the pastime has been variously ascribed to nearly a score of nations and races, including the Greeks, Romans, Babylonians, Scythians, Egyptians, Jews, Persians, Chinese, Hindus, Arabians, Castilians, Irish and Welsh, whilst some have

gone so far as to fix upon particular individuals, as King Solomon, Shem, Xerxes the Great, Attalus (who died 200 B. C.), the mandarin Hansing, and many others too numerous to mention. Of all these, however, only two have strong enough proofs to justify any arguments at all—the Chinese and the Hindus. The supporters of the former claim that chess, called in their tongue Chong-Ki (which means the Royal game) was invented in the reign of Kao-Tsu (afterwards Emperor of Kiangnah) by a mandarin named Hansing, who was in command of an army invading the Shensi country and who wanted to amuse his soldiers when in winter quarters, so that they might no longer clamour to return home. This was in 174 B. C. Another theory maintains that the above story is true, but states that the name was not Chong-Ki but Choke-Choo-Hong-Ki, which means, "the play of the science of war." Unfortunately these theories, whilst being somewhat romantic, can not be guaranteed. The view, however, which has been most seriously put forward, and which has obtained the most credence, is that which attributes the origin of chess to the Hindus. Sir William Jones, who was a profound Sanskrit scholar, in an essay on chess (*Asiatic Researches*) argues that Hindustan was the cradle of chess, the game having been known there from time immemorial by the name of Chaturanga, that is, the four members of an army compiled of elephants, horses, chariots, and foot soldiers. Van der Linde, the great Dutch enthusiast and author, agreeing with the above the

ory, adds that the Buddhists—whose religion has been prevalent in India from the third century—held that war and the slaying of one's fellowman for any purpose whatever was criminal, and that the punishment of the warrior in the next world was much worse than that of the simple murderer, so that they therefore ministered to the combative propensities of human nature by inventing the bloodless warfare of chess as a harmless imitation of, and a substitute for, the carnage of the battle field. Altogether, therefore, we find the best authorities agreeing that chess existed in India before it is known to have been played anywhere else, a fact which naturally leads them to fix upon that country as its probable birth place.

As to how chess was introduced into Europe nothing is really known. The Spaniards very likely received it from their Moslem conquerors; the Italians not improbably from the Byzantines, and in either case it would pass northwards to France, going on thence to England. Some say that chess was introduced into Europe at the time of the Crusades, the theory being that the Christian warriors learned to play it at Constantinople. This supposition is negated by a curious epistle of Cardinal Damianus, bishop of Ostia, to Pope Alexander II., written about 1061, A. D., which, if we assume its authenticity, shows that chess was known in Italy before the date of the first crusade. The Cardinal, as it seems, had imposed a penance upon a bishop whom he had found diverting himself at chess; and in his letter to the Pope he repeats the language he had held to the erring prelate, viz.: "Was it right, I say, and consistent with thy duty to sport away thy evenings amidst the

vanity of chess, and defile the hand which offers up the body of the Lord, the tongue that mediates between God and man, with the pollution of a sacrilegious game?" Following up the same idea the statutes of the Church of Spain at that time say "Clerks playing at dice or chess shall be (ipso facto) excommunicated."

However, this was at the time of the Norman Conquest, and chess is no longer thought to be a vice, nor is one held to be in peril of the "fiery furnace" or eternal damnation hereafter through playing the game. Concerning chess in England there is the usual mangle of the legendary and the possibly true. Carlyle in his "Early Kings of Norway" relates that as Canute was playing at chess with Earl Ulfr a quarrel arose which resulted in the latter upsetting the board, with the further consequences of his being murdered in a church a few days afterwards by Canute's orders. This story is generally treated as a fable and when one calls to mind the nobleness of the great-minded Dane, it certainly seems very inconsistent with his character. In any case, the origin and subsequent development of the game are wrapped in mystery. We cannot tell what form it originally took, nor what changes it underwent in the course of years. But like many other ancient games it has survived to the present and probably occupies a far more important place in the recreations of modern man than it ever did in the past. It possesses the elements of strife necessary to imbue it with interest for the average man, and in addition constitutes in itself a mind-training far more efficacious than many of the subjects taught in our schools and colleges to-day.



## Milking Machines

W. J. ELLIOTT MONTANA AGRICULTURAL COLLEGE.

THE milking machine has been in use for the past three years at the Montana Agricultural College, where on the whole it has given splendid success. With a herd of twenty-five milk cows, we would strongly urge a farmer to install the milking machine, but with less than this number, we doubt if it would be a paying proposition. When we started with the milking machine the question with us was simply this: "Will it pay the ordinary farm to install the milking machine?"

During the time of its use, we have found odd cows that do not take kindly to this mode of milking, but on the whole the results were very favorable. We believe that the best results of all can be obtained where the milking machine is started on heifers with their first calf. These young animals seem to take to this method of milking very readily and appear to give the natural flow of milk with a good per cent. of butter fat. Of course there is always a question that presents itself, and that is, "Would the heifers have done better by hand milking?" Unfortunately it is not possible to milk by hand and at the same time milk by machinery, and therefore that question must remain unanswered. Yet, taking everything into consideration, we recommend the milking machine for large herds.

It will depend somewhat, however, on the man who is handling the milker. Every one knows that it is possible to hire men who have no adaptability for handling the ordinary machinery of the farm; such men would not be successful with a milking

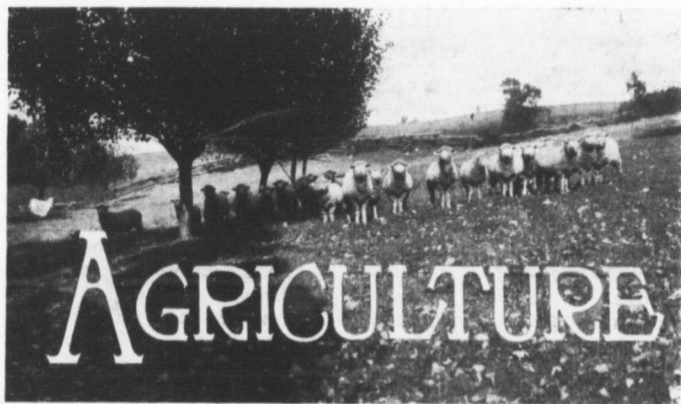
machine. It will take a man who has some mechanical ideas, although the milking machine is not difficult to operate: He must study each individual cow and watch closely the effect of the milking upon the milk flow and per cent. of fat.

There is economy of time in milking by machinery, as one man with a two-horse gasoline engine and eight cow milker can care for thirty cows per hour; and when we consider the fact, that in the West, competent help is very hard to secure and very uncertain when secured, then the milking machine is certainly a boon for the dairyman.

The cost of equipment is not exorbitant, as a six-cow milker with vacuum tank, pump, etc., may be installed for about \$350. Many letters are received asking if the milking machine does not injure the cows and make them give bloody milk. We have never found the least indication of anything of this kind and if we can judge by the appearance of the cow, she likes the machine milking fully as well, if not better, than hand milking.

The milk has also been tested in a sanitary way and while the ordinary milk of commerce contains some 30,000 germs per c. c., machine drawn milk contained as few as 8,000 to 12,000 per c. c.

Taking it altogether, where there is the proper man to care for the milking machine, we consider it very much superior to hand milking, particularly so with regard to economy of time, and also with regard to the independence it lends to the hitherto, drudgery of dairying.



## Profitable Demonstration Work for the Ex-Student

J. B. SPENCER, B.S.A.

**D**URING the past three decades while agriculture as a whole has been keeping pace with the rapid march of the other industries of Canada, one branch of it has fallen behind. Wheat growing areas have expanded, horses, cattle and swine have increased in numbers and improved in quality, but for some reason, difficult to understand, sheep raising has more than lagged; it has actually receded from the position it occupied many years ago. In face of the fact that large flocks have been established in western provinces, the numbers in Canada have gone back some two hundred thousand since 1880. In a general way two chief causes are blamed for the indifference of stock raisers towards the sheep—1st, the expansion of dairying, and 2nd, the roving dog, and to these may be added the advent of the wire fence, but even

then the principal backward "pull" has not been mentioned. While Canadian farms were held principally by men born in the Mother Land, sympathy was given the "Golden Hoof," but with the passing of these former servants and tenants born and reared amidst the mutton flocks of the Old World, there disappeared many of the shepherds of Canada. To men devoid by nature of the instincts of the shepherd, and by experience untrained in the care of sheep, a flock of these profitable animals may easily become a burden and a nuisance. The natural timidity of the sheep calls for the protection of man, and where the owner or attendant repels instead of attracts the flock by his presence the good terms between proprietor and property necessary for both, is never allowed to develop. The flock is then likely to become a nuisance, fleeing as

if pursued instead of answering the call of the shepherd, as one sees exemplified on the farms of the few flockmasters of the present day. No other class of stock responds so readily to the master's voice as a flock on good terms

of the lambs before cold weather. In a measure this suits the buyers very well as it gives them a winter's supply of "lamb," frozen lamb; actually frozen lamb,—the sort that the English buyer pays less for than for any other class



IDEAL TYPE OF MUTTON SHEEP.

with its shepherd. To witness this in Canada it is necessary to visit the pure bred flocks.

The average mutton raiser gives little attention to his sheep. He seldom sees them during the summer, and gives them little consideration during the winter months. His object is to get a crop of lambs to dispose of along with the rush in the autumn, and to be able to market a fleece from each adult during the summer. Quality in either is not provided for, with the certain result that profit is more a matter of climatic influence than management. Trace almost any flock of lambs marketed in October and November to its source and the conditions described will be surely discovered.

It is a remarkable fact that the great bulk of Canadian lambs are marketed off the grass, and grass alone, in autumn. Because of the neglect of the simple operation of emasculation, owners get into a feverish haste to get rid

of meat. Often it is not as good as frozen Australian or New Zealand mutton for the reason that it is both lean and thin, much like bacon from unfinished pigs, and known in the English trade as "skin and grief." Canadians ought to be able to get good mutton or lamb at any season of the year. We have only mutton breeds, except on the ranges of the west, and our feeders know well how to make good beef and pork, but still house holders of our cities have to accept from fall to summer frozen mutton of poor quality, or none at all. It is true many do not know what good mutton is, nor will they ever learn until there is brought about a decided change in the system of preparing and marketing sheep for the block.

Our wool occupies a poor position even in regard to our own mills. In many cases no care is given to the condition of the wool. During the winter the fleeces are allowed to become fouled

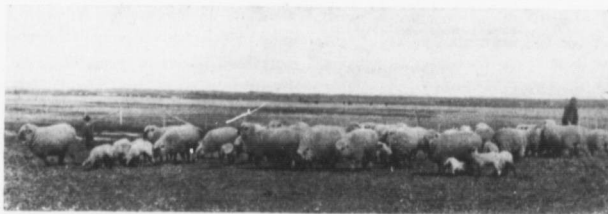
with chaff, dust, etc., and in the summer and autumn with burrs. Shearing is frequently done in unclean places and the trimming off of foul locks be fore rolling up the fleece is neglected. The wool is too often marketed through the village store where a uniform price for all classes is paid, so that when the warehouse of the wholesale is reached the whole stock is of a low average quality, so low, in fact, that the Canadian mill man would rather buy in England the exact grade he needs, pay a small duty, if necessary, to get it, and not bother with the mixed and dirty home-grown product.

It is, therefore, not surprising that the sheep industry in Canada has not kept pace with the other branches of the live stock industry. It has been, and is, neglected by the average farmer. The owners of pure bred flocks hold up their end fairly well because they are shepherds, but the every-day mutton raiser leaves much to be desired.

The situation places a duty upon the ex-students of the College. It is not enough that he tells his neighbors how

promise. If he is near a good city market his lambs should come in February or March, to be sold off during the summer. If otherwise situated May lambs are early enough, as no extra feeding is needed and the flock will go immediately to grass—the best and safest milking food, and this will insure rapid growth. No male lamb should escape the surgeon's knife, and no lamb need be sold in the autumn during the "glut" period. Let them be weaned in August, fed well during the fall on such foods as rape, clover, etc., and after winter sets in a month or two of grain feeding will "fit" them as cattle and pigs are fitted, in which condition they will bring a considerable premium over the top quoted market prices, and the demand will keep away ahead of the supply as it always does for products of the highest quality. Given such mutton, and the city householder will buy it just as frequently as beef, instead of very occasionally as at present, by way of change.

The quoted price for Canadian wool



SHROPSHIRE SHEEP IN SPRING.

the job should be done. If he has any inclination whatever to raise sheep he should establish a flock of lusty ewes and head it with a carefully selected, well-bred ram. Such a combination should give a crop of lambs of first rate

is not attractive, but it represents only the value of the average, and not that of a good, clean fleece. Many an owner of a pure bred flock has long since ceased to send his clip to the general market. By virtue of its condition it

is attractive to the millman, to whom it is sold direct at a price never quoted in the market reports. It is more valuable, not so much because the wool is from pure bred sheep, but because it has been produced under the care of a shepherd.

Ex-students have awaiting them in

many districts an opportunity to demonstrate that sheep raising is not only pleasant and easy, but also highly profitable. Unless such demonstrations are made thousands of farmers will never understand that sheep are anything more than of little or no account for the average Canadian farm.

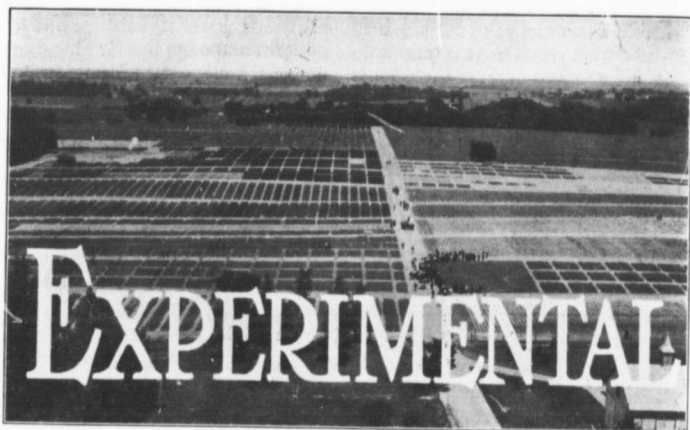
### THE WHITE CANOE.

There's a whisper of life in the gray dead trees,  
 And a murmuring wash on the shore,  
 And a breath of the south in the loitering breeze,  
 To tell that a winter is o'er,  
 While, free at last, from its fetters of ice,  
 The river is clear and blue,  
 And cries with a tremulous, quivering voice  
 For the launch of the White Canoe.

Oh, gently the ripples will kiss her side,  
 And tenderly bear her on;  
 For she is the wandering phantom bride  
 Of the river she rests upon;  
 She is loved with a love that cannot forget,  
 A passion so strong and true  
 That never a billow has risen yet  
 To peril the White Canoe.

So come when the moon is enthroned in the sky,  
 And the echoes are sweet and low,  
 And Nature is full of the mystery  
 That none but her children know,  
 Come, taste of the rest that the weary crave,  
 But is only revealed to a few:  
 When there's trouble on shore, there's peace on the wave,  
 Afloat in the White Canoe.

—Alan Sullivan.



## Experimental Research With Tobacco

W. A. BARNET, U.S.A., MANAGER DOMINION EXPERIMENTAL FARM, ESSEX CO.

**W**HILE tobacco is the principal crop experimented with some of the leading varieties of corn and cereals are being tested. The rotation adopted is clover, corn, tobacco and cereals—principally wheat. The increasing demand for Canadian leaf and the prevailing high prices during 1908 and 1909, lead us to predict a broad extension in the area devoted to the crop. The following experiments give ample proof that the farmer in Southwestern Ontario can make a handsome profit out of tobacco as a complement to corn growing and hog raising.

### Plant Bed Experiments.

The object of this work was to find the best method of rearing hardy, growthy plants. The beds were established according to the following methods: hot bed covered with glass; cold bed with glass covering; cold bed with

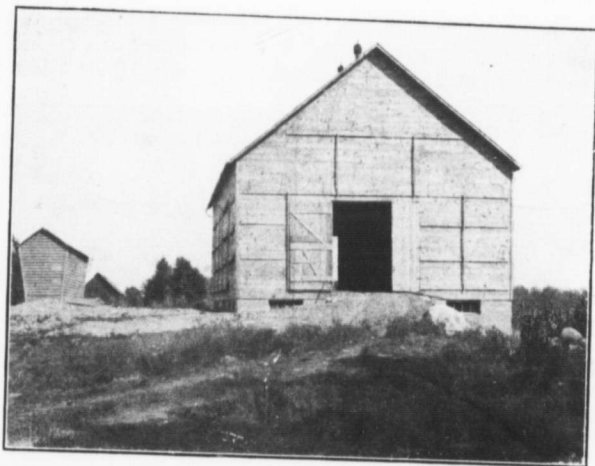
cotton cover-top; cold bed with different proportions of plant bed fertilizer applied; the same kind of cold bed with glass covering, but without any fertilizer. All the beds received the same care, and were sown on April 16; the soil did not vary in physical composition.

Summarizing the results, the plants grown in the cold bed under glass were about two weeks earlier than those grown under cotton. The temperature ranged from 9 degrees Fah. higher in the morning to 27 degrees Fah. higher in the evening, under the glass, as compared with the cotton. For slow growing varieties the glass covering was the surest method, particularly during a cold, backward spring like that of 1909. There was no appreciable difference in the thrift and robustness of the plants under cotton as compared with the glass covering.

### Field Tests of the Different Varieties of Cigar Tobacco.

The following kinds of cigar leaf were tested on plots of one acre in extent; Comstock Spanish for binder purposes, while Cuban and Hazlewood were tried as filler types. These latter two varieties were topped at 10 to 15 leaves, according to the strength of the plant. In the two latter kinds the leaf was quite small, being characteristic of the variety, while the yield was

The soil was thoroughly worked up before planting and farmyard manure at the rate of 10 to 12 loads per acre was applied. The planting was carried on from June 5 to June 11. The smaller growing varieties were planted 3 feet between the rows and 17 inches in the row; while a smaller area was planted at 21 inches in the row. The closer planting was preferable in the case of Comstock Spanish, Hazlewood and Cuban, since the yield was larger



ORDINARY CURING BARN.

875 lbs. per acre. After the complete sweating or fermentation, the aroma and particularly the flavor should excel all other cigar filler types. The Comstock Spanish gave a leaf thin in texture, and yielded 1,000 lbs. per acre. A more promising filler type variety tested was the Big Havana. The estimated yield for this season was 1,550 lbs. per acre. Other varieties of cigar tobacco tested on a smaller scale were Connecticut Broad Leaf, Connecticut Havana and Big Ohio,

and the leaf of better quality. The harvesting was completed from Aug. 21 to Aug. 25; the greater part of the cigar tobacco was cut just when the top leaves were showing the greenish yellow spots.

#### Curing and Grading.

All the above varieties were air cured in the ordinary air curing barns (see illustration No. 1). The barn was kept rather tightly closed during the first stages to prevent too rapid drying out. When the leaf developed the

yellow cast and the brown color began to appear the ventilation was increased and the humidity decreased by opening the ventilators. The cigar tobaccos have air cured a very uniform color, and the thin texture and the elasticity of the tissue bear the closest examination.

The following grades were made in stripping: The first known as "wrap per," included the best leaves, all damaged, discolored ones being kept out. The second grade included the top leaves, known as "fillers." The third grade comprised the sand leaves, and all damaged members not included in the above classes.

#### Fertilizer Experiments with Improved Broad Leaf Burley.

An acre of even soil texture was divided into six plots of equal size. They were prepared in the same manner, planted June 9, with the same type of plants. To each plot different combinations of sulphate of potash, sulphate of ammonia and superphosphate were applied broadcast at the rate of 375 lbs. per acre of the first, 625 lbs per acre of the second, and 375 lbs. per acre of the last mentioned. They were applied to the different plots in the following combinations with and without barnyard manure:

Plot 1. Barnyard manure, 15 tons per acre. Complete fertilizer.

Plot 2. Barnyard manure, 10 tons per acre.

Plot 3. Check plot, no manure, no fertilizer.

Plot 4. Sulphate of potash, sulphate of ammonia.

Plot 5. Sulphate of potash, superphosphate.

Plot 6. Sulphate of ammonia, superphosphate.

As shown by the above table the experiment was planned to find out:

First, the necessity of using barnyard manure; Second, the influence of chemical fertilizer; Third, the demands of the crop and the particular elements lacking in the soil.

The information to be gathered from the field observations was as follows:

The check plot, where no fertilizer or manure was applied, gave very poor results, indicating that the soil required either fertilizer or manure. The potash and ammonia plot gave a very large yield, indicating that the Burley plant required a large supply of these two ingredients and that the soil was deficient in them. Quite a large per-



HOUSE FOR THE FLUE CURING PROCESS, SHOWING FLUES.

centage of leaves on this plot measured over 40 inches in length. The complete fertilizer and manure plot was a very close second, and the close observer could not detect any advantage in this plot over the former. The manure plot gave better results than the check plot, indicating that the soil required manure. The other two plots numbered 5 and 6 did not show the luxuriant growth and the healthy appearance we would like to see. Number 5 gave a larger leaf than No. 6, in



dicating that potash was a very essential ingredient in the production of a successful crop of Burley.

The following table gives the yields per acre, the cost of the fertilizer and manure, the value of the crop at 15 cents per lb., the present market price, and the net receipts from each plot. The cost of the fertilizer was figured from prices furnished by a leading fertilizer company. Farmyard manure was valued at \$1.00 per ton:

Number of Plot.	Yield per Acre.	Value of Crop Per Acre.	Cost of Fertilizer Per Acre.	Cost of Manure Per Acre.	Net Value of Crop Per Acre.
1. . . . .	2424	\$363 60	\$29 18	\$15 00	\$319 42
2. . . . .	1722	258 30	.....	10 00	248 30
3. . . . .	1188	178 20	.....	.....	178 20
4. . . . .	2328	349 20	26 00	.....	323 20
5. . . . .	1416	211 40	12 93	.....	198 47
6. . . . .	1434	215 10	19 43	.....	195 67

A close examination of this table will reveal some interesting points which have been partially discussed in the notes on the field observations.

While a heavy application of fertilizer was applied in most cases, still the largest net returns were obtained in these instances. It will be interesting to note that Plot 4 gave more economical returns than Plot 1, although the former gave a larger yield per acre. However, final conclusions must not be drawn from a single experiment; the grower should experiment for himself to find out the needs of his particular soil.

#### Flue Curing Experiments.

Three and a-half acres of Virginia leaf, known as yellow tobacco, were planted with three of the leading varieties, namely: Little Oronoko, Yellow Oronoko and Warne (See illustration No. 3).

One of the special features connected with this tobacco was the method of curing. The object was to develop a lemon yellow color, and at the same time have a rich oily leaf of fine texture, not prominent in the veins, in



FIELD OF VIRGINIA LEAF.

short, a bright wrapper for plug purposes.

To this end special kilns, 20 feet by 20 feet, were built. Two furnaces 6 feet in length, with a 12-inch iron pipe connected to each distributed the heat evenly throughout the building (See illustration No. 2).

The curing process was completed in from three to five days through the use of artificial heat. The degree of heat maintained varied with the condition of the tobacco and the prevailing climatic conditions. It is sufficient to state that the same method cannot be applied successfully in every particular case.

The following formula was the one adopted by the expert in charge. This formula was based on the temperature; but the condition of the tobacco was watched as closely as the thermometer.

Yellowing the leaf, 80° Fah. for 24 hours; 90-100° Fah. for 6 hours.

Sapping the leaf, 110° Fah. for 15 hours.

Setting the color, 120° Fah. for 16 hours.

Drying the leaf, 130° Fah. for 6 hours; 140° Fah. for 12 hours.

Drying the stem, 150-160° Fah. for 12 hours.

Drying the stalk, 180-200° Fah. for 12 hours.

The results obtained this season were quite encouraging; a fair percentage of the best grades being obtained from the different curings. The following classes were made at the stripping time: First, wrappers, consisting of the most perfect leaves; Second, cutters, leaves deficient in color and inferior in quality to wrappers, includes the mixed bright red and the dark red types lacking in body; Third, smokers, comprising sand leaves and those lighter in body than cutters. The gross return from this tobacco was \$230 per acre. There was no outlay for manure and the cost for fuel and fertilizer did not exceed \$10 per acre.

#### Seed Selection.

Over 500 plants from the different varieties were selected and a paper bag placed over the flower at the proper stage of development to prevent cross fertilization (see illustration No. 3). By this method uniform pure seed, true to type, was produced for general distribution amongst the farmers.

#### HEPATICAS.

The trees to their innermost marrow  
Are touched by the sun;  
The robin is here and the sparrow;  
Spring is begun!

The sleep and the silence are over;  
The petals that rise  
Are the eyelids of earth that uncover  
Her numberless eyes.

—Archibald Lampman.



# Horticulture

## Thinning Fruit

W. H. FRENCH, OSHAWA.

[The two articles appearing in this department are addresses which were delivered at the Short Course in Fruit Growing at the O. A. College, Jan. 25 to Feb. 4, 1910.—Ed.]

**T**HE idea of thinning fruit is new with us here in Ontario, although it has been carried on for several years with marked success in the Western States.

My three years' experience leads me to believe that thinning is fully as important and profitable as either good fertilizing and working, or the spraying of the orchard. Judicious pruning will help, but cannot take the place of thinning.

We may ask, why do we thin? In the first place the remaining apples are larger, more uniform and better colored. In the second place thinning encourages annual bearing. The tree does not have its vitality lowered by overcropping, from which it takes two or three years to recover. Scientists tell us that the bulk of the tree's energy is expended in the developing and maturing of the seeds and core of the apple; the pulp is nearly all moisture with a little humus. I am satisfied I lost ten prime Baldwin trees during

the very cold winter we had a few years ago, by letting them overbear the previous season.

The fertility of the orchard is not wasted in growing culls, there being practically no cider apples and but few No. 2. We may also add the time saved by not having a quantity of inferior fruit to pick, sort, and draw in the rush of the season.

I commence to thin during any spare time I have when the young apples are about the size of strawberries. I just snip the fruit off with the thumb-nail, first taking any that are imperfect and then the smaller ones. If some of the fruit is in thick clusters, thin these severely so as to leave the load fairly even over the whole tree. On account of the way I am situated I thin largely for size. This is what I require. Both the surface and subsoil of the land my orchard is on is very light and dry. If the land was of better quality I would thin more for distance.

In the season of 1907 I thinned one hundred trees. I commenced in a block of ten Snows, ten Wagners and forty Golden Russets, which were all well laden; I removed one-third of the fruit from all but two, leaving these two for comparison. In another lot of forty Northern Spys there were six very heavily laden. I left two of these unthinned; from two I removed one-third of the fruit and from the other two I removed two-thirds of the crop. The remaining thirty-four trees were well filled. I took off one-third from all but two; these two were left unthinned for comparison. Part of them I finished at one picking and part I went over twice.

In looking over the work of the summer I found: 1st. Until one is familiar with the work, and there is much fruit to remove, it is better to thin twice than once, the second thinning following about three weeks after the first. It requires about that time for the result of the first work to develop. 2nd. On my light land, it is not quite enough to thin off only one-third of the fruit; when trees are heavily loaded one-half is better. On good soil I would only thin one-third. I would experiment on a few by removing one-half and comparing results. 3rd. To remove two-thirds of the crop is the extreme limit; fruit is then liable to be overgrown and coarse.

Of the two trees of Spys which were unthinned and so heavily laden, not 20% would pass No. 1; not over one half of the remainder were even good No. 2 quality. In the case of the two trees where two-thirds were taken off, 95% would go No. 1. On account of the desperate weather conditions which prevailed, these were not sorted separately, but even after they were quite

badly frozen, the whole lot sorted about 70% No. 1.

In the season of 1908 the crop was not so plentiful; many of my trees required thinning only once. I had a good object lesson on a block of about twenty trees of Baldwins. These were very high so I neglected going over them. Among these were two trees yielding a very full crop, and when I came to pick them, fully one-third were nothing but culls, and the No. 1's were only 20% of the whole. They were green looking and barely up to the standard, while on the trees close beside them bearing one-third of the crop, the fruit was grand, 70% No. 1. These last mentioned trees also realized as much money with one-half the work. I am fully convinced that had I spent four hours work thinning on the two over-cropped trees, my profit would have been \$3.00 more. Again, these trees had no apples on this last fall; the other eighteen were well filled.

Leaving out the twenty Baldwin trees, I thinned all the other varieties but the Ben Davis thoroughly; I was afraid of the commercial value of these. They were well filled, but not being attended to, one-half were No. 2. Right beside them the other varieties, carrying just a medium load, gave 80% No. 1, with one good thinning.

The only other kind well filled were six trees of Snow apples. These I thinned twice, removing altogether one half of the fruit. These trees did not average quite eleven inches through the body two feet up from the ground. They cleaned up forty-four boxes and three and a quarter barrels of No. 2. Those of you who are versed in boxing apples know that only a superior grade of No. 1 is used. If they were sorted in the ordinary way, I would

probably have had but one barrel of No. 2. I think this result can be attributed to thinning, because all of the orchard had the same cultivation and care.

This last season my orchard, in nearly every particular, was again well loaded. There were only two trees among nearly three hundred so heavily laden I thought best to take off as much as one-half of the fruit. Most of the trees required only one fourth of the fruit removed to make the remainder nearly all No. 1. For private use I gathered from four young trees of Northern Spys twelve barrels No. 1, and three barrels of No. 2 fruit, with not a bushel of culls. The percentage of No. 1 is not over fifty in the average Northern Spy orchard this year in this section.

My fruit for the last few years was sent to the co-operative packing-house of the "Oshawa Fruit Growers." I copied their report in this essay in giving you the grades of the fruit. This last season I bought a quantity of apples. After seeing a report of the selling returns I don't know whether I am glad I bought or not. This fruit was all mixed with the apples from my orchard thus making the sorter's report non-effective.

As to the cost of thinning, one man can, while working on a ladder around the tree, oversee two boys in the center and two women working on step ladders around the base, at an average cost of ten cents an hour each. These five workers should pick off fully as many apples as five good pickers in the fall for the same time. In other words, it costs ten cents to remove a barrel of apples in the summer. An average picker should pick a barrel an hour.

Figuring on the basis of the fruit gathered in the fall, it should not cost more than five cents per barrel to thoroughly thin a heavily laden orchard. To illustrate what I want to bring out, let us take a tree with three barrels of apples on it. We remove one barrel in the summer, that will add five cents per barrel to the cost of producing the two barrels left on the tree. If the tree were so heavily laden that we took off a little more than one-third, or if we went over it twice so as to do the best work, the remaining fruit will increase in size to the extent that five cents will fully cover the cost. I had no trouble in getting emigrant women to help me thin. The weather being warm, the ground dry and no wind, they liked the work.

By removing one-half the fruit in the summer we reduce the work in the fall one-third. When we consider the increased cost of help at picking time, that alone will pay the cost of thinning. With one-third of the work done, we are not compelled to start in the fall before the fruit is thoroughly ripe, and at the same time, we find the thinned fruit has matured and is ready to be picked sooner than it otherwise would have been. I believe any system which will enable us to let the fruit remain on the trees until it has fully matured is of great importance.

In my three years' experience I have not had a single instance when thinning has not paid me handsomely. I am getting a good crop yearly from nearly every tree, whereas formerly, in many instances, I had a large crop once in two or three years.

## Why is Co-operation Not More Successful Among Farmers?

JAMES E. JOHNSON, MANAGER NORFOLK FRUIT GROWERS' ASSOCIATION.

THE key to the great future of success with our farmers lies in true systematic co-operation. It is just as much necessary for farmers to join together for their mutual benefit as it is for any other body of people in the world, and nearly everybody else is working in co-operation with others of like occupation. It is necessary to organize, to have written by-laws, and to elect the most interested growers as officers of the organization. The best business manager obtainable should be engaged, the manager may not necessarily be one of the members.

It is regrettable that farmers' organizations up to the present time have not been more successful, and we must profit by the mistakes that have been made. There are several reasons why farmers' organizations have not been more successful, the chief of which I will explain to you.

1. Because as a class, farmers, up to the present time, have not learned the necessity of running their farms strictly upon business principles, as is customary for a business-man to run his business. The farmer's duty as he sees it, is to till the soil, grow and harvest the hay, grain and other products, and take care of the stock, sell all above what he requires for his own use for cash, and with the cash purchase necessities and try to put aside a little money each year in the bank. Usually he does not keep any other book than the bank pass book furnished to him by the bank. Business men, as a class, do not run their business in this way. They have learned that it is necessary

to keep books, and in these books to have accounts of every branch of their business, so that they are able to determine their profits in each department. Some farmers keep accurate books for their farms. Such ones find it a pleasure to do their farming in this business-like way, and are good organizers of farmers' co-operative associations, and if members were all of this type, as far as the membership is concerned, it would, without a doubt, be quite satisfactory.

2. We should as farmers try to educate ourselves as to business methods, and we will then learn that farm books are necessary to insure success.

3. Jealousy on the part of individual members, generally caused by suspicion.

4. Farmers are more self-supporting than men of any other occupation, and this has given them considerable independence, but they have been accustomed to managing their own affairs, and not paying large profits, salaries or commissions to any one if they know it, and what are considered large profits by the farmer, is looked upon as small profits by the businessman. Therefore, when farmers go into business co-operatively very often they look for a manager who will do their work for the least money rather than one of experience. I know of several instances where a man has accepted a position as manager of an association at a lower rate of commission or salary than he knew he could afford to take, but in order to get a Fruit Growers' Association started he

accepted the position to the detriment of both the association and himself. The manager soon finds that the fruit business is not one of pleasure, and when he demands more pay there is always someone in the association who is willing to do it at the same old price, which causes a change in the management. A manager's position is a hard one, far harder than that of a general in an army, as the general only has his own army to look after, but the manager of a Fruit Growers' Association has his own army to look after, also the enemy, as some farmers rather erroneously term the apple buyer.

5. The lack of education along co-operative lines, and the necessary experience in the purchasing of supplies and the growing and packing of the very best quality of apples.

6. The packing of the apples very often is very unsatisfactory. We should try as far as possible to have each member's apples packed in his presence, so that each can see for himself the quantity of No. 1, No. 2 and cull apples that come out of his orchard.

7. The farmers have been in the habit of receiving cash for their apples when delivered at the railway station; and they like to receive their cash soon after making the delivery, so my advice would be to sell in the fall of the year at packing time and make contracts so that you can settle with your growers as soon as possible.

8. All apples should be pro-rated according to varieties and classes, so that every grower will get full value for his orchard. For instance, Northern Spy and Kings are worth more than Ben Davis or Pewaukee. It would well pay some of our co-oper-

ative associations to have their manager take a trip to Hood River, Oregon, or Grand Junction, Colorado, and visit the co-operative associations there, and learn their business system of co-operatively handling their apples; also to visit the large receiving markets and learn what pack is most desirable. The reason co-operation is more successful in the Western States than it is here in the East is because the co-operative associations there are made up of members who are business and professional men.

9. We do not give enough attention and consideration to our home markets.

10. Each and every member and officer of the association should not only keep the printed by-laws of the association to the letter, but should also enter into the true spirit of co-operation by keeping the following unwritten by-laws.

(a) The object of this association shall be bringing together several minds united in one idea.

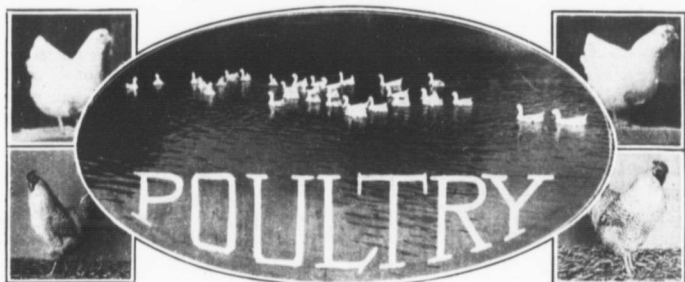
(b) Speak kindly, be true and do right.

(c) All should agree to do all they can towards growing the very best apples and use as much care in the growing, packing and grading of their apples as do the California co-operative orange growers' associations in regard to their oranges.

(d) We are in this business for our mutual benefit. We, however, expect losses as well as gains, but we will stand together.

(e) Do unto others as you would like them to do unto you.

(f) We must not be selfish or have suspicion of one another, but every thing that is done should be done for the good of the whole association, and not for the good of any individual member.



## Breed Types

W. H. CARD, EDITOR OF STOCKKEEPER, MANCHESTER, CONN.

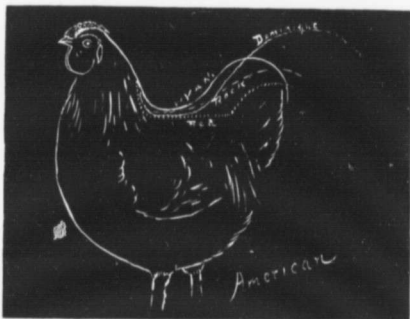
**I**N order to properly fix breed type in the mind of the ordinary observer it becomes necessary to use drawings illustrating and comparing the shapes of different breeds. Even the fanciers and the breeders are better able to grasp the right idea and form the proper conception of what is demanded by our present Standard of Perfection, if they follow this simple method. Certain standards have been adopted to which birds must conform to a greater or less extent if they are to pass as representatives of the breed. Fanciers and breeders have accepted these standards and thus type has become a fixed quality. Each breed should have so distinct and marked a type or shape that it could be easily

identified if its head were cut off.

By the use of inanimate objects, such as circles, squares, oblongs and triangles, the breed type is more readily fixed in the mind of the reader. The Game bird is represented by a heart shape, the body of the Cornish resembles very closely the shape of an egg, while the Wyandotte

to be proper should fit a perfect circle. The idea is that no matter which way you turn a Wyandotte, coming towards you, going away from you, or viewing him from the side, he should always fit a circle.

The difference between the Rocks, Wyandottes, and Rhode Island Reds is shown by the back lengths. You will find that the back lines and the





tail lines of almost every breed are the parts that govern them more than any thing else. In the American breeds;

for example, we have a striking illustration of what is demanded in back lines. The idea is that every breed line of any breed should be so far removed from the other breed that you can distinguish them if you

should cut off the head. The Wyandotte is a bird of curves, with a fairly low-set body. The Rhode Island is a narrower bird, rather up-standing, with a long horizontal back and a short tail. The Plymouth Rock is deeper and longer in body in order to get the increased weight, in comparison to the Wyandottes and Reds.

The Orpington as a representative of the English breeds has the appearance of a meat fowl. The heavy hackle hides the Rock back lines, and he has a fuller tail and shows considerably less thigh than the Rock. The difference in the breast line gives the Orpington the one-half pound

increase of meat. In this breed the back lines are not the most important, but the body lines are main lines, and

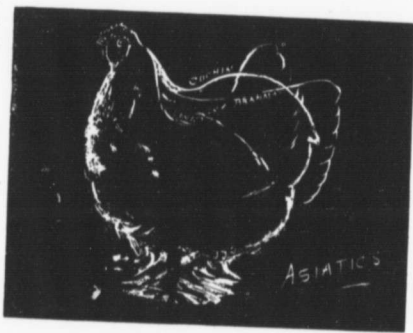
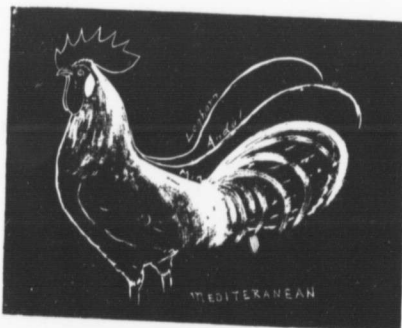
the result is greater depth of body.

In taking up the Mediterranean classes we notice the close resemblance

in the back lines to the American breeds. Your attention is called to the drawing, which serves to illustrate the distinct type in each of these breeds. While the comb is almost considered as non-essen-

tial by some men, yet considerable importance is attached to it in all the Mediterranean breeds. The Standard calls for six points on a Minorca comb while only five are required on the Leghorn. The latter breed has the smallest comb of the two, and it does not follow the shape of the head so much as that of the Minorca. Side sprigs on the comb of any of the single comb breeds disqualifies them in the show room.

In the Asiatic breeds the type distinction can be more clearly illustrated by using the back lines of the females instead of the males. The cushion on the back of a Cochon distinguishes it from the Brahma back, while the Langshan has a very short back and a high tail, thus giving us the three



distinct back lines in the Asiatics. Coming down to the body lines, the Brahma stands up with a good strong hock and not so much feathering as the Cochin; and a Langshan stands up with less feathering. He should have a tail that is just as high as the top of his comb and his hocks should be straight so that he practically fits a triangle.

In the French breeds there are the Houdans, Crevecouers and La Fleche. The body of each of these breeds represents a meat fowl par excellence. The back

line of the Crevecouers is almost horizontal with the tail, whereas the Houdan has a sloping back with an abrupt tail. The La Fleche has a very long back with considerable sweep of tail. The body lines of these breeds are very similar.

Only a few of the most important breeds have been taken up in this study. There are quite a number of other breeds which have not been discussed that show the same distinctness in type as these, with which the ordinary observer is the most familiar.



## Specializing

GEORGE ROBERTSON, OTTAWA.

In searching for a subject on which to write, I decided to use "Specializing" as the theme. If it is not as strongly "Poultry" in character as was expected, I ask your indulgence, and promise that at some future time I will try to better gratify your wishes. If, from what follows, you are inclined to think that I am opposed to specializing, banish the thought. Nothing is farther from my mind. I heartily approve of specializing—within limits—in fact, I think I may claim to be somewhat of a specialist myself. What I would like to do, would be to make those of my readers, who contemplate specializing on any branch of work, to

stop and think, and not rush blindly into a mistake that so many are making. Have we not all met men and women, who are so engrossed by some comparatively small work—hobby—such as the mere making of money, that they can talk of nothing else, think of nothing else; and know of nothing else, who seem to think that their little hobby is the centre round which the universe turns. A person of that kind may accomplish some thing, but can never accomplish great things; can never accomplish what he might have accomplished had he not allowed his mind to become warped.

Is specializing a fad? The old say

ing, "Jack of all trades and master of none" carries with it a great deal of truth; but are we not going to the opposite extreme? I am inclined to think so. Has the growing of wheat in the West, to the exclusion of all other crops been a good thing? Surely there can be but one answer. We may argue that conditions made it necessary, and that as conditions change, mixed farming will gradually take the place of wheat farming. That this change is taking place in the older settled parts of the West is certainly true. That it will shortly take place in all districts should be the desire of every true citizen. What right has our generation to rob posterity of the fertilizer of the land that rightly belongs to it?

The Poultry Department of our Agricultural Colleges and Experimental Farms, are, more than ever before, advocating the keeping of poultry in conjunction with general farming rather than on special poultry plants, which is as it should be. Take, for instance, our fruit belt. I say, unhesitatingly, that every fruit farm should be the home of at least from one hundred to one thousand fowls. Think of the amount of money that might have been made, or rather, putting it on a better basis, of the amount of good whole some food that might have been produced in the past few years. Things are going to change in this respect, are changing now. In a few generations our children will look back with amazement on the wasteful methods of to-day and remark, as we are inclined to remark at present, on the foolishness of their forefathers.

Those of you who are specially interested in poultry will have noticed in a great many of the advertisements in the poultry press that the advertiser

will claim, "Specialist in such or such a breed," or "only breed kept," until it has come to be a recommendation, and to a certain extent, rightly so. The same applies to poultry judges. There are many who know one breed and make excellent judges of that breed, but the man that has a thorough knowledge of all breeds is the ideal judge. The Plymouth Rock judge that knows Wyandottes thoroughly will make a better judge of Plymouth Rocks than the judge that knows Plymouth Rocks only, and so on throughout the list of breeds. Always remember this, the more one knows of the world, the more one is able to become cultured, and to take delight in a variety of subjects; the better, clearer, mind one will have for any chosen subject. Specialize, but use common sense in doing it. Keep your minds open, so that you can take interest in other things besides the little hobby you are riding. If that hobby happens to be poultry culture, remember that there are such things in the world as beautiful paintings, statuary, music, flowers and that a knowledge of these things will not interfere with your hobby, but will help you the better to know it. Remember that the one who can take delight in the coloring of a beautiful painting can also take delight in the coloring of an Indian game; the one who can take delight in the lines of a beautiful statue can also take delight in the lines of a Wyandotte or a Leghorn; the one who can take delight in beautiful music can also enjoy the homely cluck of the mother hen. In conclusion, let me appeal to you to take up the work that you love, not work that you go into merely to make money. Try to bear in mind that your aim in life is not to have, but to be.

# THE O. A. C. REVIEW

## REVIEW STAFF.

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C. M. LEARMONTH, Agriculture.

W. R. REEK, Experimental.

S. E. TODD, Horticulture.

F. M. CLEMENT, Athletics.

M. C. HERNER, Poultry

H. A. DORRANCE, Alumni.

W. DAWSON, Locals.

P. E. LIGHT, College Life.

MISS BELTON, Macdonald.

MISS FLAVELLE, Ass't Macdonald.

MISS ROSS, Locals.

S. ROGERS, Staff Photographer.

O. C. WHITE, Business Manager.

W. W. Emerson, Assistant Business Manager.

## Editorial

The curriculum of the O. A. College requires that third year students shall

### Nature Study.

devote six weeks following the final examinations to Nature Study. This clause has not been strictly adhered to, for in the spring of 1909 the regular Nature Study course was cancelled and students were required to make observations and collections during the summer months. When College reopened in September the Senior Class was required to write an examination, based upon the course as outlined in the curriculum.

Nature Study work is similarly planned for the coming summer. Although such a method has its disadvantages, yet it has certain advantages over the original course; upon the whole, the present third year considers

the latter arrangement more satisfactory than the specified course.

There is little question but that a course in Nature Study is quite necessary for students studying for the degree of B. S. A.; at least such a course is extremely desirable. In past years, however, dissatisfaction with the six weeks' spring course was manifested. It possessed enormous disadvantages for a large percentage of students. Chief of these was that it incurred financial loss in two ways. Besides the expense of the course, there was the loss of two months' wages, which, to many students, means much. There are those, however, whom these objections would not touch; but by investigation we have been led to believe that the Six Weeks' Nature Study course did nothing for many students beyond

affording them "a good time." Of course "a good time" in itself is not objectionable, but in this particular case the time probably would otherwise have been spent to advantage.

When the course for Normal Teachers was introduced, it was found necessary to make a change in connection with the Nature Study course, hence the present arrangement which has one decided advantage in that it allows third year students to obtain employment, valuable from the standpoint of both remuneration and experience, for five full months. Less difficulty is experienced in securing employment for the longer period and greater satisfaction is afforded both employer and employee.

The present arrangement has its weak points also. Many students experience difficulty in making observations and in gathering specimens when thrown upon their own resources. Others are engaged in work which does not permit of time being devoted to Nature Study. There are others again of the more indolent type, who never do today what can be postponed until tomorrow. The result is obvious; a general lack of preparation for the examination in September, and then resulting from these circumstances are evils with which both students and professors are familiar.

The Nature Study course as at present conducted is not satisfactory in that it is not definite. It allows the student too great a latitude and is not restrictive enough. Present circumstances will not conveniently allow the course to proceed as stated in the calendar, which method also has its disadvantages. Just what should be done is difficult to determine, but some definite move should be made in order that the course may retain its popularity.

One of our chief aims for 1910 is to bring the student into closer and more intimate touch with

### **A More Perfect Understanding** The Review from both a literary and a business stand

point. The average student up to the present time has had a very imperfect knowledge of the work involved in printing a magazine of this nature and of the detail of business, which can be learned only by enquiry and investigation. With whom does the fault lie? Has it not been the fault of the student body itself? The Review is its property and subject largely to its demands. The fault has apparently been lack of genuine interest on the part of the students, but how can we expect them to possess this interest when they have not been led to consider The Review a students' venture absolutely. Heretofore the student body has been satisfied to let Review matters look after themselves, or it has at least, left them entirely in the hands of The Review staff. This state of affairs has led to some criticism from members of the student body or even to indefinite charges which have been entirely groundless. In one way this is deplorable, yet welcome from another point of view. We feel confident that if there are opinions in any degree hostile to The Review, they have grown from a lack of definite information upon Review matters. We welcome criticism, however, in that it indicates that interest is awakening amongst the students; evidences of a growing desire to obtain a clearer insight into the various departments of our work are becoming prominent. This movement has already been manifested in the appointment of the Constitution Committee. We expect this to do much towards establishing the

students and The Review upon a more mutual basis.

The student body, however, cannot hope to thoroughly understand The Review situation unless it is to some extent acquainted with the object, history and development of their College organ. The object of The Review in the past appears to have been threefold. First, being the property of the student body its object was to voice the general sentiment of the students upon all matters pertaining to the student body as a whole, also to be used in the capacity of a record for events worthy of note, which took place throughout the college year. Secondly, it appears that The Review was expected to act as a link between the Ontario Agricultural College and all its ex-students. Thirdly, to act as an agricultural medium for the enlightenment of both students and ex-students upon various important up-to-date agricultural topics. When we consider what the aims of The Review have been, it will aid us in understanding why it has developed from a mere College sheet to a magazine of its present proportions.

A word or two as to the history of The Review would not here be inopportune. The first issue of The Review appeared in 1888, under the management of H. H. Dean, now Professor of Dairying. It was by motion of C. A. Zavit, our eminent Experimentalist, that the College organ became known as the O. A. C. Review. With its early history are connected the names of such men as H. L. Hutt, G. E. Day, G. C. Creelman, H. R. Ross, N. Monteith, and many others now holding prominent positions in professional and practical agriculture. To men such as

these is due an enormous share of credit for the present success of our paper, for it was the careful and capable business ability of these men during the days of The Review's gradual development which assured future success. From an extremely small sheet The Review has grown until it now contains eighty-eight pages for the ordinary issue, while our special 1909 Christmas number contained one hundred and twenty pages. It is only a few years since illustrations began to be used to any extent. The December number of 1901 contained two small illustrations, this being The Review's first investment in matter of this kind. Upon our Christmas number for 1909, almost one hundred dollars was spent upon illustrations alone. It is no longer difficult to obtain advertising so that financially we have nothing to fear.

Perhaps these suggestions will be of some service to the students in giving them a more thorough understanding of Review affairs and its development up to the present. We invite enquiry and willingly discuss Review matters without reserve with anyone who is interested. Before the issue of the December number we hope to have established a closer union between the students and their College magazine.

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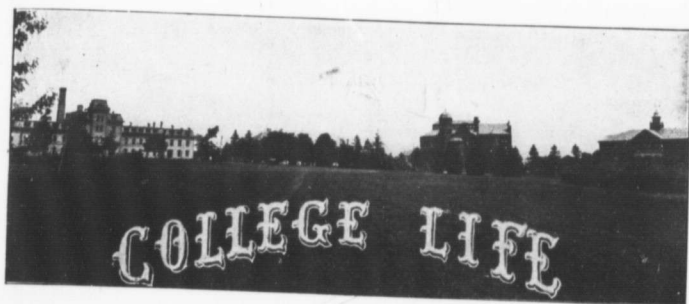
#### Letter of Resignation.

Editor Review:—

Dear Sir,—I regret that on account of the press of examination work and other things I will be unable to continue longer on the Review Staff.

I am, yours very truly,

A. C. Baker.



**W**E smile very broadly on the occasion of the first roll call in September. At least those of us do who hear for the third or fourth time the words of advice of our worthy President. The advice is sound. There is one annual remark that sympathizes with our funny bone, however. It is that the greater part of our higher agricultural education is gotten from our college life, and not from our study of the sciences. Perhaps in after years when we find ourselves up against the world, we will see the force of this statement. Whilst special departments of work call for specialists, we must not forget that for every specialist there are of necessity many men of the class called "good all round." These are the men who rarely fail. The first man is dependent upon his speciality; the others are ready for anything,—a Canadian characteristic.

This institution prides itself on its broad and versatile curriculum. Its boast is justly made: "We turn out good men, and men who make good; therefore it were ill-timed to make remarks regarding the preference of a wide and many-avenued road to a straight and narrow way."

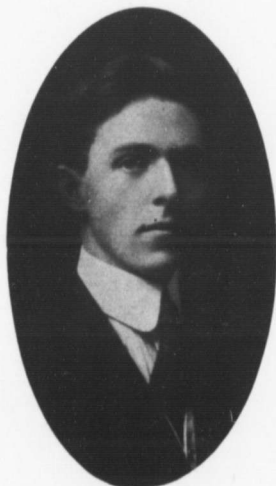
There is one branch of college life, however, in which we have made but in different progress. In athletics, not in general, but in one department, and that department is Football. We used to excuse ourselves because of our lack of trained men. We have forgotten that excuse, because last year's performances opened our eyes to the fact that we have the goods. We have, but they are not marketable. We are struggling for the light, and we expect to have our eyes opened to the game of football next season, and also to open the eyes of others.

Get the science, if you have to tackle the hired man in the barnyard. Learn to kick the ball, and not to kick when the score is twenty-seven to four. If you have a ten-acre field at the back of your house, buy a Rugby ball. Then, when the seventeenth of September comes, make a place on a team worthy of a college which is first in all else. You will be a remarkable man, because you can call yourself a good all-round specialist.

#### Oratorical.

Eloquence in thought and expression, these are the characteristics of oratory. In the twelfth oratorical contest held in the college gymnasium on

the eve of March 5th, the aforementioned essential features were certainly in evidence. Indeed, many different styles of oratory were presented, ranging from the soul-thrilling rhetoric of



R. FRASER, '10.  
Winner of Oratorical Contest.

an Antony to the simple eloquence of a Brutus.

The contestants numbered four, and the committee of selection is to be congratulated on the choice of orators. The judges, Messrs. R. L. Torrance, H. K. Cockin, R. L. McKinnon, after considerable deliberation, placed the contestants in the following order:

I. Mr. R. Fraser, who delivered a strong and forceful oration on "The Canadians of the Future." His speech was clever and was characterized by many beautifully presented word pictures.

II. Mr. R. Macdonald, who spoke on "Germany and the British Empire."

His command of English was exceptionally good, but his delivery lacked in force. He showed a marked lack of energy for a man of so strong a voice and such fine physique.

Mr. P. C. Dempsey was third with a rather hard subject to clothe in fine language, "The Coming of the Alien." His speech lacked somewhat in finished expression, but was sound and interesting.

Mr. S. J. Neville occupied fourth place, after delivering a splendidly worded address entitled "Pioneers of the Prairie." Mr. Neville was unfortunate in speaking a little too low. His voice did not reach the back of the gymnasium, and consequently many of his vivid word pictures were unappreciated. The College gymnasium is certainly not a desirable building in which to deliver an address, and it is to be deplored that we have not a more suitable place for our literary meetings.

The musical programme was excellent, and was provided by the following artists: The Misses Kelly, Savage, Peel, Millar and Mr. Chas. Kelly. The College Orchestra also contributed to the success of the evening. At the conclusion of the programme Mr. Fraser was presented with a "Standard Webster's Dictionary," this being the reward of pre-eminence.

#### Union Literary Society.

A pleasant evening's entertainment was provided by the Union Literary Society on Feb. 26th. The meetings of this present College year have been excellent, and consequently well attended. This meeting was no exception.

A piano solo by Miss MacDonald was the opening number. Miss MacDonald is a good player and possesses an appreciable amount of expression.



Mr. A. McTaggart's reading entitled "Napoleon's Tomb," was very cleverly rendered, and for expression and force of delivery it were hard to find Mr. McTaggart's superior in this institution.

The next offering was a selection by the College Mandolin Club, entitled "Heinze." The number was well received, and received an encore, to which the members of the club replied.

The debate: Resolved, "That Canada would have a greater development by being an independent nation," gave great room for argument.

Mr. J. Millar, leader of the affirmative, representing the Maple Leaf Society, made a strong speech for the resolution, but lacked in force. He wandered somewhat from the subject and had the appearance of being slightly out of sympathy with his assertions.

Mr. F. E. Ellis, leader of the negative, representing the sister societies, had a thorough knowledge of the subject, but made a mistake in introducing too many new arguments instead of endeavoring to refute those of his opponents. His arguments were reasonable and acceptable.

The supporter of the affirmative, Mr. S. H. Hopkins made a clever speech. Mr. Hopkins, whilst a good

man in argument, lacks in presentation of matter. This may be due to nervousness, and will be improved upon by experience.

Mr. W. W. Emerson, the supporter of the negative, waxed eloquent in his pleas for his side. His speech, whilst not as argumentative as that of his colleague, was undoubtedly good. A certain monotony of voice and gesture was in evidence. Apart from this Mr. Emerson was a strong upholder of the negative. The subject of the debate may be criticized for its vagueness. This probably accounts for the lack of direct argument bearing on the subject.

The judges awarded the debate to the negative.

Mr. R. Fraser delighted his audience with an instrumental selection from "Princess Betty of Broadway." His clever interpretation called for several encores.

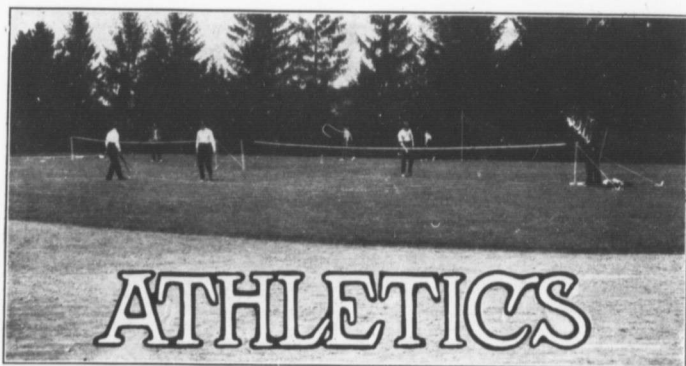
Several selections by that much ill used instrument of music, the mouth organ, were given by the club of that name. They were good.

The critic's remarks, by Prof. Reynolds, were short but to the point. Much valuable advice was given, and was assuredly well received. The singing of "God Save the King" ended the meeting.

### GOOD SPEECH.

Think not because thine inmost heart means well,  
Thou hast the freedom of rude speech; sweet words  
Are like the voices of returning birds,  
Filling the soul with summer, or a bell  
That calls the weary and the sick to prayer;  
Even as thy thought, so let thy speech be fair.

—Archibald Lampman.



## Aquatics

G. H. UNWIN.

IT is with great pleasure that we have observed the growing popularity of swimming at the O. A. College. This year has been a record one as far as this branch of athletics is concerned, and the tank has been well patronized. The success of the polo team has done much to popularize aquatics; but it is well to observe here that the most important progress is that made by the weaker swimmers and beginners. To those men who never go near the tank and who take no advantage of a chance such as they will probably never get again, to these men we could point out instances of students who have become, without great trouble, expert swimmers, even since the beginning of the term. Indeed, swimming is not only a recreation, a splendid exercise, but it is also the most practical of all sports. A man who can swim reduces his chances of accidental death by ten to fifty per cent. His ability to swim is a valuable asset

and will give him that inward confidence and self-reliance which is a constituent of true manliness. Therefore, one word of advice: "Get into the water and learn to swim. Never mind if you swallow a pint or two, keep on going."

This year the College registered with the C. A. S. A. and entered the Ontario Water Polo League, to compete for the Wainless trophy. The trophy has been in existence for some time, but interest has languished and nothing much has been heard of it. This season four clubs entered the series, Toronto S. C., 'Varsity, Central Y. M. C. A. and O. A. College. O. A. College won out with three straight games, and the trophy thus comes to the College for the first time in its history. The confidence of the Athletic committee has been completely justified and we may anticipate a keen struggle next year, when 'Varsity and T. S. C. will try to get their own back.

The following is a detailed account of the games:

**Toronto S. C. at O. A. C., Feb. 5.**

This game was played in the even ing before a large and interested audi ence, and was, perhaps, the fastest game of the series. T. S. C. scored two goals in the first quarter and one in the second, and things looked bad for the College boys, but they came back strong before half-time, and scored two in succession, leaving the water with the score 3-2 for T. S. C. In the third quarter no goal was scored, but in the fourth the College played all round their opponents, notching four goals to their one, and finishing with a winning score of 6-4. For the College, Harries played his usual untiring, energetic game, but no body stood out conspicuously, the whole team showing excellent form. For the visitors, the goal-keeper starred, saving many a hard shot.

**O. A. C. at Y. M. C. A.**—College won by default.

**Toronto University at O. A. C.**

The visit of the 'Varsity team was made the occasion of a regular after noon's entertainment, and an exceed ingly interesting one it proved to be. At 3:30 the teams lined up for the final game of the series, which proved to be the hardest fought of any. Owing to the amount of checking, ducking and holding, the game was not so fast as the previous one, but both teams sailed in with an energy that was un mistakable. 'Varsity drew first blood but College came back twice. From this point on, the game was "ding dong" with the College usually one up, until the last quarter when 'Varsity forged ahead with the score at 7-5. College, however, scored three in suc cession, leaving the issue beyond

doubt and winning with a final score of 9-7. This victory gave them the championship of Ontario, and made them holders of the Wainless trophy.

After the game a friendly contest was held. E. L. Davies, O. A. C., beat McKenzie, the 'Varsity crack, both in the fifty and hundred yards swim. When we consider that McKenzie won both these events against McGill, we can appreciate the merit of this per formance. Barrett, O. A. C., also won the back-swim, after a hard race. 'Varsity won the under-water swim and the long plunge, and also gave a splendid exhibition in fancy diving. Altogether the afternoon was a great success, and was much enjoyed by all. The following table will show the posi tion of the various teams:

	T.S.C.	T.U.	G.A.C.	Y.M.C.A.	
T. S. C.	+	Won	Lost	Won	2 Wins
T. U.	Lost	+	Lost	Won	1 Win
O. A. C.	Won	Won	+	Won	3 Wins
Y.M.C.A.	Lost	Lost	Lost	+	0 Wins

The following men represented the College: J. Harris (Captain), H. L. Keegan (Manager), S. Rogers, E. Davies, F. Barrett, H. Wearne, C. L. S. Palmer.

A word of thanks to those men who have faithfully toiled and practiced during the season. Polo, as anybody can see, is one of the most strenuous of games. It requires constant prac tice and hard training. Not only to the members of the team but to all those others who have played and prac tised without hope of representing the College, is the honor of victory due.

**Paris Y. M. C. A. at O. A. C.**

A large crowd witnessed a very ex citing game of basketball between Paris and O. A. College on the evening of March the twenty-fourth. The game was fast and entirely free from rough

ness but at times somewhat strenuous. The combination work of the visitors was excellent and called forth much praise from the spectators. Their shooting was excellent also and but for the good work of the College guards would have resulted in a much closer score. On the College team honors were about equal, every man doing his best and playing good ball, but lack of team play and fast, close combination was in evidence, many long passes being attempted which were interrupted by the visitors. This was probably due to the fact that the team had never played together before. But each man was the "star" of his year team, and the lucky shooting with close checking kept the visitors so much in the back ground that at no time was the result doubtful. Final score, O. A. C., 53; Paris, 27. The following men represented the College: Reed, Culham, Baker, Kennedy and White.

#### O. A. C. at Woodstock College.

The basketball team played their first game this term away from home with Woodstock College, on February the second. Their gym is comparatively small and poorly lighted, with a track circling the entire structure some distance from the floor. The baskets are attached to this, which makes them some distance from the wall. This

handicapped O.A. College somewhat so that many shots went wild, but the game was fast and clean with very close checking, as the low score indicates. The final score was 28-17 in favor of Woodstock. The same team as above represented the College except that Learmonth replaced Reed.

#### Baseball at O. A. C.

Indoor baseball with outside teams is a rare treat at the College, so when Guelph City decided to visit us on the evening of March the eleventh, naturally a large crowd turned out to witness the event. But the lighting in the gym was poor and the visitors, though at times playing good ball, did not come up to expectations, so that the game was somewhat of a disappointment, though the result was very satisfactory to the College. The visitors seemed inexperienced, losing many runs because they did not seem to know what to do; and as to sliding

bases they were simply not in it at all. But at times enthusiasm ran high as some brilliant plays were pulled off by both teams. Especially good work was done by Nunnick, in the box, and Main, behind the bat, both playing a strong, steady game. As a whole the batting was good but on account of poor lighting and little experience at the indoor game, the ball many times failed to stay under the rope. It is



IN THE FINALS.

hoped by all that many more such games can be arranged with outside teams.

#### Boxing and Wrestling.

Ideal spring weather seemed to add zest and enthusiasm to the boxing and wrestling tournament this year. The morning was bright and warm and seemed to fill the willing workers with the "energies of spring," as they toiled to lay the mat, prepare the ringside and arrange the seats. And the afternoon was just as beautiful, and all trouble was well repaid by the quality of the exhibition given, and the increased attendance, which shows that this branch of sport is not only increasing in favor here, but is attracting some outside attention, as a large number of the town sports enjoyed the afternoon with us this year. The boxing bouts were especially interesting being very fast, and though at times the contestants used their heavy swings to good advantage, the rounds

always ended in the best of humor. The wrestling was hardly up to the standard of last year, but still brought out some men who will make good ones, with a little more training.

Mr. Nixon, as referee, did his work like a veteran, and is to be congratulated not only on his good work at the ringside but on the success of the meet as a whole. The following are the winners of the different events:

Wrestling—125 pound class: 1, Sorley, 2 Ward; 135 pound class: 1 Kyona, 2, Webster, 3 Fraser; 145 pound class: 1, Kyona, 2 White, 3 Gardiner; 158 pound class: 1 Baldwin, 2 White, 3 Ellis; over 158 pound class: 1 Walker, 2 Barrett.

Boxing—125 pound class: 1 Reinckie, 2 Ward; 135 pound class: 1 Petch, 2 Goldney; 145 pound class: 1 Pope, 2 Petch; 158 pound class: 1 Van Sickle, 2 Millar, 3 Wearne; over 158 pound class: 1 Present, 2 Reed, 3 Barrett.



IN THE WILDS OF NORTHERN ONTARIO.

# Alumni

## Some Old Boys

BY "THE PHARISEE."

TO those interested in the growing and improvement of field crops, the National Corn Exposition, which was held at Omaha last December, means as much as does the Live Stock Exposition which was held in Chicago but a few days before, to those interested in live stock. Much might be written regarding this exposition, but that would be aside from the object of this "obituary," as this is intended to deal more directly with the boys who made the show, viz.: Some of the ex-students of the Ontario Agricultural College.

There were a great many, and the result of their labors was on every side. A brief review of some of them would not be out of place.

Professor Thomas Shaw, "the noblest Roman of them all." No doubt many of the boys remember his kindly face and gentle air. For many years an instructor at Guelph, later connected with the Minnesota College of Agriculture and really one of the pioneers of agricultural work. His books, such as "Forage Crops other than Grasses," "Clovers," "Grasses," etc., etc., will forever stand as a monument to their author. Professor Shaw has joined forces with J. J. Hill in a campaign for better agriculture, especially along the lines of the Great Northern Railroad. His work is a useful one, and will mean much in developing the West and making the way clear for prospective settlers. Professor Robert Shaw,

his son, followed in his dad's footsteps in agriculture, and is now Dean and Director of the Michigan College of Agriculture and Experiment Station. "Bob" is a big man both physically and mentally, and is doing a big work; more power to him.

Happy Alf. Atkinson graduated in 1903 from the O. A. College, and took post graduate work in Agronomy at Ames. He now warms the chair of Agronomy at the Montana Experiment Station, at Bozeman, Mont. He has taken unto himself a wife, sometime since, who was also a Canuck, and a sister of Mrs. Bill Dryden. Alf. was noted at one time for his gastronomical powers, and he still lives up to any previous reputation. He is what might be called a booster, and is quite on to his job as well. From all accounts he has his job beaten a mile, which is no more than we would expect from one of his energetic nature. Speaking of some of the Old Boys, he stated that Willie Hartman, '07, is living up to all previous records for good behavior at the same institution, and at the same time ministering to the physical needs and deformities of the live stock in that State.

To know G. I. Christie, of '02 class, now of Purdue University, in extension work, is to admire him, and at the same time marvel. Christie is either a powerful good man or else he has the Hoosiers pretty badly fooled. They all swear by him at any rate, which is

more than most people can boast. Christie, like Alf., also found him his rib and rejoices in the possession of a small family of one. His wife is a native, and according to her husband is the best woman in the world. Before assuming his present position and responsibilities, Christie was connected with the Iowa State College in the Soils Department. He has a big work in Indiana, and is getting results which is the main thing after all.

"Dad" Frier, '08, Christie's assistant, is a recent comer into the limelight. Dad is holding up the arms of his chief, and pushing the work in the Extension Department of that university. Dad's beaming countenance is, without doubt, the sublimest expanse north of the Tropic of Capricorn, and his well-fed mien and contented air betoken worldly prosperity and regular hours. His future is before him, but to one with such ability as his it can not help being a most brilliant one.

For a man of profound knowledge and worldly wisdom, "Shorty" Moorehouse, '02, has all beaten a city block. "Shorty," as his name indicates, is six feet, five or ten inches (an inch or two in his case would not be missed). Oklahoma, the newest state in the United States, may well be proud that it has a man of Moorehouse's ability to pilot her along the sea of agricultural conjecture. With such a hand on the helm no fears need ever be entertained regarding the State's ultimate success. "Agriculture," saith the seer, "is the basis of a nation's wealth." Shorty's training and natural ability as an Agronomist will keep his chosen state in the proper course and fortune will continue to smile upon it. Why do you ask, Gwendolyn? Married? Of course not. The idea!

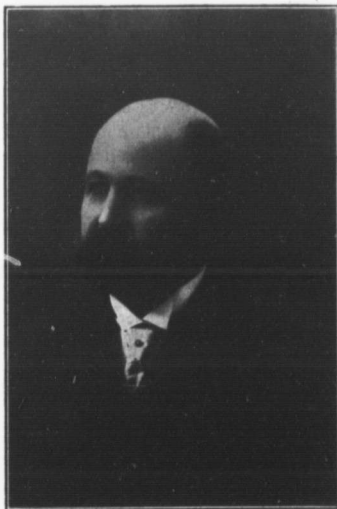
And Mac Cutting was there. Mac

has not changed much, chiefly because perfection once obtained is not soon discarded. "The Farmer," of St. Paul, Minn., is now honored by Mac's services and presence, and as staff correspondent he is a huge success. He blew in from the north with his usual blasse air, and judging by the ear marks, nature has dealt kindly with him. Mac states that his work is congenial, pay satisfactory, his friends numerous and kind, an ideal combination for one of nature's noblemen.

This is quite a list, but surely our Old Boys are "a power" in the land of Uncle Sam.

From the Eastern Counties of Ontario the O. A. College has received some of her most brilliant and most successful students. Many of these might be mentioned, but since, in this article, we intend to refer to only one of these, other names are needless. The subject of this sketch, W. R. Motherwell, first saw the light of day at Perth, in Lanark County, where he received his early education and training. After spending two years at the High School in his native town, he was sent as a County pupil to the Ontario Agricultural College from which, after a very successful course, he graduated in 1881. Upon graduation there came to him, as there has come to many another young man, the problem of where to locate, and influenced by the general tendency of the times, he decided to go West, going to Brandon. At that time Brandon was the terminus of the C. P. R., but not being satisfied there, he, in company with some few others, continued his journey westward along the C. P. R. survey until they reached that fertile tract of land, now known as Pheasant Plains, where they pitched their tents and have since resided.

During the early days of his pioneer life, Motherwell made himself felt as a leader among his fellows, and in 1902 was made President of the newly



HON. W. R. MOTHERWELL.

formed Territorial Grain Growers' Association, an organization that has done very much for the Western farmer of to-day. For three years he filled, very acceptably, this position, until in 1905 he received a call to higher

things, being made the first Minister of Agriculture for Saskatchewan. In this position Mr. Motherwell has done much for the cause of agriculture in the districts under his supervision, and is rapidly pushing' the industry to the front.

Besides attending to his duties as Minister, he still devotes considerable of his time to managing his farm. Here by up-to-date methods and steady work, a comfortable and beautiful home has been made. We trust that success will continue to crown our friend's efforts, and that he will still go to greater things in the building up of our Great West.

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A. McLaren, B. S. A., '09, has been placed in charge of extension work in Poultry and Dairying at the Georgia State College. At the head of the College is A. M. Soule, B. S. A., formerly of Wentworth County, Ontario.

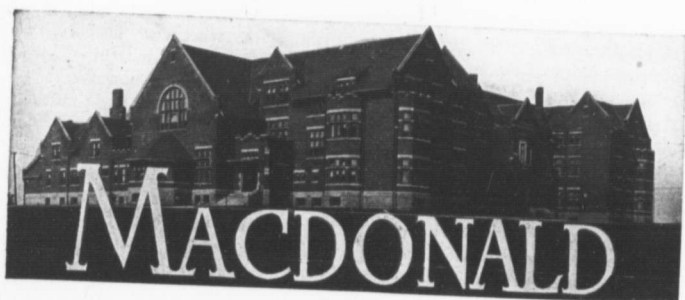
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A member of the 1910 Short Course class in Stock and Seed Judging was R. J. Humprey, who entered College with the class of 1911. Leaving the College before completing his first year Humprey returned to his home near Troy, in Wentworth County, where he is now successfully engaged as a tiller of the soil.



HOME OF HON. W. R. MOTHERWELL.





## Physical Education

MRS. F. C. HART.

UP to the present time very little is known of the true meaning of "Physical Education" in our part of the country, and even in New York City, outside of Teachers' College, many people do not know any more than that it is a system of exercises which is a part of the regular school programme. It has for the majority of people no more meaning than the old term "Physical Culture," that of gaining and maintaining bodily strength, an end in itself.

For so long we have given no thought to the subject, so that the change in a word attracts very little attention. We scarcely notice that the word "Education" is used instead of "Culture," but, at last we see the change and begin to question, why?

The question may be answered in this way, "Physical Culture" had to do with all forms of bodily development, with no thought as to the close relation of mind and body, or their influence over one another; while by using the word Education we place it on a higher level at once. We recognize the unity of mind and body, the one de-

pendent on the other for growth and development. Just as the young child by the touch of the hand learns that things are hot or cold, soft or hard, so education begins, through the development of the physical sense, which continues to a greater or less extent through life. Action and movement are essential to the development of a child; speech comes later on. Pantomime and gesture language are their first expressions intelligible to us, and are the child's means of expression and growth.

Now, according to the old idea, physical exercise was a thing to be given and taken, because it was good for one's body, but a child has no interest in exercises for that reason, and it is directly opposed to his natural development to give set exercises which have no relation in his experience. It is hard enough for an adult to take set exercises, and the adult can reason.

Movement is expression to the child, and in the kindergarten we have the play and game period, as well as the story telling period, to give the children an opportunity to express themselves in

various ways, allowing them freedom to build games from stories themselves. From these plays and games, known in the kindergarten, we have the beginning of the First Grade work in the gymnasium. By taking some familiar work a link is kept between the old and the new life and the period in the gymnasium. If the game chosen can be developed and is worth while, the children are allowed to use their imagination to build that story or game.

In this way the interest of all the children may be aroused and the game has vital interest for them. Of course, no child ever completes a game or story according to the adult point of view, but it is complete to him, and he is satisfied as he never would be if we presented the play or game and taught it to him. Needless to say one must have some idea how the game may be developed before attempting such work with children. There are many opportunities for interesting work of this kind in the class-room. True, the work cannot all be intensive or the benefit gained by change of circulation in such active bodies. A few brisk exercises may be given, or a simple game of skill in which all may join, so that the little ones go back to the class-room rested and refreshed. The usual period for gymnasium for the first five grades is twenty minutes daily, thirty to forty minutes being better suited to the upper grades. Of course this time should be in the morning session, while besides this period a change of position and exercises is needed at intervals in the class-room.

From this primitive beginning of the use of the dramatic game and game of skill, we develop exercises as the grade develops, which are suitable to its needs, always endeavoring to

use the class-room interests in the gymnasium wherever feasible, and where the exercises will be vigorous enough to answer the purpose.

For instance, one of my grades became interested in trains; they were studying the transportation of grains, etc., in the United States, so they suggested that we play train. We did so; naturally we had much to learn. At first we work in our squad formation, four lines on the floor, facing the long way of the room. We used the arms and legs to represent the wheels, so one of the first things which we worked for was good suggestive action of the arm and leg on one side. Then we tried the other side. When both could run smoothly we began to work them together, working from a slow run to moving lightly and quickly on place. Then we were ready to try for spacing between the children, or cars, as we called them, when running about the room, to see who could start and stop the best and had ability as leader or engineer. This meant control and good action, etc.

After we had chosen our engineers, we were ready to choose our stations and to name them; the children then made signs for the stations, painted on cardboard. We put these up, chalked our Grand Central station on the floor, numbered our tracks and trains, had a train despatcher, who gave certain signals, etc. We some times carried passengers, but usually were freights, each child being responsible for his or her distance from the one in front. The train which kept the best spaces, wheels going around together on the same side, made good starts and stops (as a whole train), was the winning train.

This game accomplished much for this grade. Not only did they get good

physical exercise and exercises which were of value in stair climbing in school and home (our buildings and many of the apartment houses of the district had no elevators), but they were disciplined by one another; they learned to work together in a group without friction, to be orderly when alone in their class-room and on the way to and from the gymnasium, to have pride in their lines and spaces on the stairs, a part of their game and work. The whole attitude being that if a child did not carry himself as he should according to our rules, he lost his place at the front of the train, or altogether as the case might be.

This is only one instance of the work of this kind which we attempted, and it was alternated with work along the line of the regular Swedish day order for physical exercise, greatly modified to suit the class and its demands for exercise. This was Third Grade work. With the change of grade the work became more definite and much heavier but increasingly more difficult, until the dramatic game had no place, games of skill and regular exercises being better suited to the older growing boy and girl.

In the foregoing I have tried to show that physical exercise has a far deeper meaning than that of bodily health alone, but that a good healthy body and mind are only a part of an all-round efficient individual. That the development of a child should be from within, not from without. As a child advances up the grades, he advances mentally and his physical coordination increases and is controlled by his mental condition. A child who is mentally slow in coordinating is slow coordinating physically. In his

first attempt at throwing a ball to another child he fails simply because the coordination between muscle and object has not been adjusted; he has still to develop the power to relate so many things. The place of physical education is to help this growth and development; it is only a means to an end, "the greater general efficiency of the child."

Physical Education as a system should follow the stages of development from infancy up, with exercises suitable to the individual as far as possible. It should become more and more definite and accurate with the higher grade and the High School age, where exercise is principally given for its beneficial physical effect.

In order that this work may be carried on successfully, each child on the entrance into school at the beginning of the year is given a complete physical examination, with especial care for eyes, ears, nose and throat, and the respiratory, circulatory and nervous systems.

This examination is carried on as far as possible by the school physician with the gymnasium instructor, and gives the basis for the work in the gymnasium, the seating of the children in the class-room, and an idea of the child's condition and his probable progress in school work.

Personal and School Hygiene are taught in various ways. The care of open sores, sore eyes, ears, colds, etc., is taught by the class-room teacher, school nurse, gymnasium instructor and physician as opportunity arises. One hour a day is given over to clinic in the school, when all cases needing care and advice are sent to the physician and instructor, who report to the school nurse cases for outside attendance.

Advice as to any special case found during examination is either sent by the Principal of the school or given by the school nurse, as the case may be.

The use of all this medical supervision is necessary that the individual child may be given all opportunity for possible development.

This method of complete examination is not carried on in all schools in New York City. The public schools have some supervision by the Board of Health and the visiting nurse, but

that is too great a subject to take up here.

The Speyer School, from which these instances of work are taken, is one of the schools of Teachers' College. It is a neighborhood school in a poor district, and is open day and night, so that the older brothers and sisters and the parents of the little people in school, are known to the instructors and workers alike. The great aim of the school, to put it tersely, is to develop social efficiency in the individual.

## Among Ourselves

### The Literary Society.

THE regular meeting of the Literary Society was held in the gymnasium on Saturday evening, Feb. 12th. The programme, in some features, was a departure from the usual order, and the large number of students gathered indicated a very general interest.

After the reading and approval of the minutes, Miss Turnbull and Miss Gillies played an opening number, responding to an insistent encore. This was followed by a speech from Miss Belton on books, their use and abuse. Miss Belton's treatment of the subject showed a vision of the vast avenues of pleasure that books open up to us and a realization of their power in deepening and broadening our mental life.

The two other speeches on the programme were equally interesting with topics happily varied. Miss Allen spoke on "The Benefits of Laughter." These she found to be internal, external and eternal, inasmuch as laughter

affects one's physical well-being, brightens the lives of those about us, and by means of its influence on our soul's health, makes for our eternal salvation. Miss McTavish discussed the rather erudite topic of comets, with a special mention of that particularly active orb now occupying astronomical attention, and which the star gazers of Macdonald Hall would certainly have located, tail and all, had not its cyanogenous glow proved to be an engine headlight and its tail a dark string of cars.

The vocal and instrumental selections interspersed throughout were a vocal solo by Miss Freeland, which was enthusiastically received; a violin duet by Misses Flavelle and Ross, and a piano solo by Miss Trenaman, followed by "God Save the King."

### The Valentine Prom.

On the evening of Friday, Feb. 18th, the belated Valentine Prom took place. Much to the disappointment of the hostesses for the evening—the Home

maker Class of 1910—the entertainment had been unavoidably postponed from Valentine's day to the end of the week, but the evening was such a success and so surpassed all expectations that they felt more than rewarded for their efforts. The decorations were most appropriate and effective, being carried out in red, with hearts and flowers in profusion. The programmes were pretty heart-shapes, and attached to those which the girls received were three mittens and three smaller hearts, for service in the first six proms. These were called proposal proms, the idea being to give the gentlemen an opportunity of practising the "gentle art," with a prize given to the one who captured the most hearts. Mr. Cooper proved himself the most popular man, but he must have made hay while the sun shone, for in some manner he attached eight hearts to his card, thereby outdistancing all other competitors. Fortune favored the winner of the six mittens, for he was not called upon to declare his failures. He is now seeking the advice of Mr. Haldwin on how to win a wife. "His Old Sweetheart," a clever little skit, arranged by Mrs. Fuller, occupied the latter half of the programme. In this series of tableaux, Mr. Wright took the part of the bachelor heart breaker, while his various sweethearts were picturesquely impersonated by several members of the Homemakers' Class.

If the reluctance of the guests to say good-night was any indication of the success of the entertainment, the Homemakers may congratulate themselves on having given quite the most enjoyable evening of the winter, which was certainly the opinion of all present.

#### Y. W. C. A.

A variation of the usual "Prom." was

the social evening given by the Y. W. on Feb. 25th. A goodly number from the city and from both sides of the campus were present to assist the girls in disposing of the ices and candies which they had made. Mrs. Fuller had arranged a series of tableaux which were much appreciated. The first was a representation of Cindarella, and was quite charming. The second was the Harrison Fischer Calendar, and we saw, as never before, just how many pretty girls there are at Macdonald. Besides spending an enjoyable evening, the Y. W. funds were increased to the extent of \$30. All agreed that the innovation was a decided success.

#### Hockey.

The Macdonald girls challenged the O. A. C. men to a game of hockey, and with fear and trembling it was accepted. One stipulation of the challenge was that the men should use only their left hands, and another was that they should wear skirts, but unfortunately the skirts were so abbreviated that they were not much of a handicap. The game could not be said to be devoid of roughness, as the fence was usually decorated. At one time they sang in unison "We are seven." Although one of the number, "Bennie," could not sing, because of his meerschaum. The referee, Mr. McRae, could hardly be called impartial. Considerable excitement was caused when one of the girls fell into his arms, but McRae was equal to the occasion. Although all through the first half each goal was peppered (an appropriate expression for a Domestic Science team) with shots, yet by the dexterity of the goal keepers, no goals were made. At one time the Mac girls almost scored, as Ellis was so busy talking to the Mac goal umpire; he forgot his duties for

the time being. A good deal of confusion was caused because it was so difficult to tell O. C. White from a girl. Miss Flavelle was the star. When she came down the ice on one of her frequent rushes the other players stood aside and watched. Unfortunately her usefulness was somewhat marred by her being so frequently ruled off. The interval at half time was occupied by both teams having their picture taken. It was necessary to place Miss Bryans

timekeepers—and they had to stay. Shortly before time was called the girls scored a goal as the boys were so exhausted by their strenuous efforts they were unable to check the opposing team. This evened up the score and ended a very friendly game. The line up was as follows:

Mac Hall—Jean Flavelle, Edna Bryans, Grace Knowlson, Norah Burke, Marjorie Smythe, Hazel Staebler, Muriel Cameron.



CHALLENGERS AND CHALLENGED.

and Mr. Shaw at opposite ends of the group; as there was such a marked similarity in their costumes it was almost impossible to tell them apart. Just at the beginning of the second half the boys scored a goal amid much enthusiasm from their supporters. Although the game was hot, the weather was cold, and finally the only spectators present were the goal umpires and the

O. A. C.—Always Makepeace Shaw, Amorous (et) Hutchinson, Cherry Ma lotte Learmonth, Bennie Eddy Milner, Portia Emma French, Frances Edna Ellis, Ortrude Claytonia White.

Referee—Mr. McRae.

Timekeepers—S. Kennedy and R. Fraser.

Goal Umpires—Jennie Fenwick Laughland and Jessie Allen.

## Much Ado About Nothing

Dyspepsia, short cake, suicide pie!  
 Send for Dr. Stewart  
 And he'll help you die;  
 Pudding made of equal parts  
 Of Paris green and tacks,  
 Gravel biscuits,  
 You must eat them with an axe;  
 Homemakers! Normals!  
 Yell it out again,  
 Matrimony! matrimony! m-a-n.

~ ~

One of the Short Course girls was heard asking Mr. Nixon if the Athletic Concert consisted of the girls and the minstrel show.

~ ~

By an O. A. C. Spring Poet (at the Valentine Prom.)

May I print a kiss on your lips, he said,  
 And she nodded a sweet permission;  
 And they went to the press, but rather,  
 I guess,  
 They printed a whole edition.

~ ~

To Short Course girl, after cooking—  
 What were you doing?

S. C.—Having a complete cup up.

Girl—Yes, but what were you doing?

S. C.—Making marmalade.

Miss I. (discussing the theatre party)  
 —You know I have looked at it in  
 about ten different lights.

~ ~

Girl (morning of snow shoe party)—  
 Cheer up, J—, Mr. E— will ask you.  
 J.—Will he? (Willie).

~ ~

**Locate the Speaker.**

"Oh! Piffle."

"You'll never be the same after that."

"So govern yourselves accordingly."

"In view of the fact that each and every one of us."

"Smile."

"That makes it nice."

"How are you?"

"Oh! you make me sick."

"You're no sport if you don't."

~ ~

There was a young girl named Grace,  
 Who wore a sweet smile on her face,  
 She thought not of right, but only of  
 Wright,

For more we haven't got space.

~ ~

Demonstrator (at a dem. lecture)—  
 In washing lettuce, wash thoroughly in  
 order to remove the little green worms  
 characteristic of salads.



## Schools' and Teachers' Department

Devoted to those interests of the Ontario Agricultural College which pertain particularly to the training of teachers for giving instruction in the schools of the Province along vocational lines—in Home Economics, Industrial Arts, Elementary Agriculture and Horticulture.

### In Memoriam



#### ADELAIDE HUNTER HOODLESS

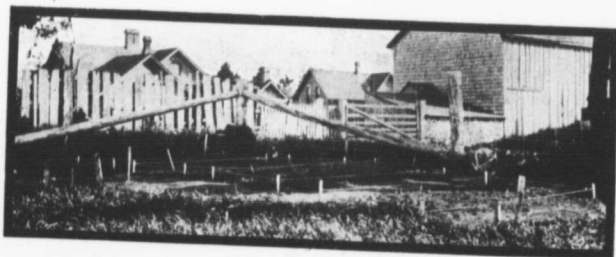
BORN FEB. 27, 1857; DIED FEB. 26, 1910.

Adelaide Hunter was born on a farm near St. George, Ontario, received her schooling in St. George, and in 1881 married Mr. John Hoodless, of Hamilton. In 1889 she became interested in the Hamilton Young Women's Christian Association work and especially furthered its efforts to teach girls better methods in household affairs. Under her presidency the Hamilton Y. W. C. A. introduced domestic science into Hamilton Public School work, and in 1900 established the Ontario Normal School of Domestic Science and Art. Meanwhile in 1894 she laid the claims of domestic science before the National Council of Women, and was convener of its committee on domestic science from its origin until 1908. In 1897 helped the women of Stoney Creek to organize a club which developed into the first Women's Institute of Ontario. In 1897 she carried her plans and visions and service to the Hon. G. W. Ross, then Premier of Ontario, and to such good purpose that Ontario is the banner Province of Canada in the field of Home Economics. For many years she was unofficially attached to the Department of Education, gave it loyal service in the cause which lay nearest her heart, and became a recognized authority on woman's training for the home in both Canada and the United States. In 1900 she carried more visions to Montreal with the result that Sir William Macdonald built and equipped the two buildings at the Ontario Agricultural College—Macdonald Institute and Macdonald Hall.

Mrs. Hoodless was a lecturer in Macdonald Institute from the beginning. She loved the "Macdonald girls" and their interests were ever in her mind. Recently her chief work was in connection with Industrial Education for Girls, and she died in Toronto while addressing The Toronto Women's Canadian Club, on that subject.

This woman believed that "No higher vocation has been or ever can be given to woman than that of the homemaker and citizen builder." In the midst of her own rich and full home-life, she did noble pioneer work for homemaker education in Canada, and its present development is in large measure due to her tireless promotion of its claims, and the scope of her ideals.



ELEMENTARY AGRICULTURE AND HORTICULTURE.

School's Experiment Plots at Shelburne Continuation School,  
Dufferin County, 1909.

The Schools' Experiments arranged by the Schools' Division of the Experimental Union last year, were undertaken by twenty-five schools throughout the Province. They were arranged for demonstration in four small plots on the school grounds or adjacent fields. The 4th class plot represented the seven species of wheats; the 3rd class plot was planted with tree seeds; the 2nd class plot had different kinds of onions, and the 1st class plot had dwarf and climbing Nasturtiums. Thus there was a representative plot in Agriculture, Forestry, Horticulture (vegetables) and Floriculture; each class had a real practical foundation for its Nature Study work.

Six schools have sent in reports on the work and excerpts from some of these are given herewith:

"Speaking generally, the work proved fairly a success. \* \* \* Our teachers all feel that there is an inexhaustible store of material to work on and will doubtless enjoy the work thoroughly next year."

T. E. LANGFORD, Principal Continuation School, Shelburne, Dufferin County.

"We found the School Garden a help in the school-room in Nature Study, Agriculture and Composition. \* \* \* The growing of the wheat was interesting to the pupils and others. The Wild Goose wheat gave the best yield, and the Polish the poorest. We also found out that if wheat could be given some cultivation after sowing, far better results could be obtained; straw would be longer, heads larger and sample of grain far better.

"We have had a garden in connection with our school during the last three years. \* \* \* If nothing more is got out of it than the pleasure the children have in watching the growth of their plants, and the keeping of their plots clean and tidy, I think a School Garden pays well for all the trouble it costs.

"The tendency of almost the entire course of studies in our Public Schools is to draw away our young men from one of the best, noblest and most independent of occupations, and unless more attention is given to Agriculture in the schools, things will be no better in the future than now.

"I see in the School Garden, a chance to make the study of Agriculture interesting and beneficial."

ISAAC PIKE, S. S. No. 12, Whitechurch, Bethesda P. O., York County.

"Boys were much interested in the grain. \* \* \* I intend to do the same next year, perhaps, on a larger scale."

MISS ALBERTA AMY, S.S. No. 16, Peel, Drayton P.O., Wellington Co.

"The parents and children were interested in the work. \* \* \* Some of the onions were the finest I have ever seen in the locality."

J. H. HALL, S. S. No. 6, Flos, Phelpsston P. O., Simcoe County.

"The work was carried out in fields adjoining the school, and, on the whole, was very successful. \* \* \* The parents favored the work. The trustees encouraged and helped the work by sending a man and team to aid in the preparation of the ground. \* \* \* We had some of the successful farmers of the locality examine the seven kinds of wheat in our Experimental Plots. They considered the Common and Spelt the best for this part of Ontario. They were surprised that some of the other species could be grown here. The Polish was the least satisfactory. It produced a large head, but the grains were very small."

Sr. ERNESTINE, R. C. S. School, Eganville P. O., Renfrew County.



School Garden Exhibit, Shedden Fair, 1909.

"The work was carried out in a field adjoining the school. My trustees were fine. Bought garden supplies and tools, and helped in every way to make the garden a success. \* \* \* The pupils were much interested and weeded all through the summer holidays. \* \* \* I am enclosing a photograph of an exhibit which we made at Shedden Fall Fair."

M. D. CAMPBELL, S. S. No. 10, Southwold, Iona P. O., Elgin County.

**Class Reunion.**—The Toronto teachers who attended the O. A. C. Summer School last July, held a reunion on Feb. 4th, at **The Tea Pot Inn**. Besides reviving old experiences, they laid plans for future ones at the coming session. A very pleasant evening was spent.

One of the interesting items on the informal programme was the reading of a special teachers' edition of the **O.A.C. Review**. It contained the following:

## Ye Ballade of a Gay Companie.

Once, twenty city school misses,  
To learning much inclined,  
Attended a vacation school,  
The cheapest they could find;  
To make her observation **Sharpe**,  
Each one had set her mind.

Instead of galli**Banting**, then,  
They sought Macdonald Hall,  
The course, they said, would add a  
spice

To teaching in the fall;  
It would not **Robb** their holidays,  
But rather **Cheer** them all.

They found, when at the O. A. C.,  
The **Eaton** was so good,  
A girl became a little **Hogg**  
And **Fuller** than she should,  
And so, of course, she grew **Moffat**,  
Before she knew she could.

Two household students had to learn  
The **Price** of meat and bread,  
**Hanna** scientific way to cook,  
The stuff on which they fed;  
To shine each **Fawcett** every day,  
And make a home for **Tedd**.

The nature students' lectures were  
On Ayr**Shier** cows, and hens,  
On trees, and soil, and weeds with  
names  
Too hard to comprehend,  
But, pshaw! the rambles in the  
woods  
On Fridays, make amends.

At first, when treading grassy  
**Knowles**,  
(**Bruce** after spiders rare),  
Each screamed if one approached  
her, though

To **Harmer** none would dare;  
Still, insects were a prize to **Winn**,  
To mount and keep with care.

July sped by, while yet the course  
Seemed really but be**Gunn**  
For all those **Hardy** school-misses  
Had mixed their work with fun,  
While brains were stuffed and note-  
books, too,  
No damage had been done.

## Epilogue.

Come, **Malcolm**, Winter is the time,  
When celebrations be,  
The Tea-pot Inn's a cosy spot,  
At Yonge Street, 103,  
We'll meet and talk of the jokes, and  
things,  
We learned at the O. A. C.  
—One o' Them.



## Gathered Wisdom.

1. The Nature Study Course is of few weeks and full of labor.
2. You may take your seeds to the garden, but you can't make them grow in it.
3. Watched seeds never sprout.
4. Spare the hoe and spoil the garden.
5. It's never too dark to seed, never too late to weed.
6. 'Tis an old sunflower that knows no turning.
7. A stone is heavy and the sand weighty, but Macdonald clay is heavier than them both.
8. There is no use crying over an empty watering can.
9. Train up a vine in the way it should go and when it is hot you can sit under the shade of it.
10. Keep thy notes with all diligence, for they give an account of the insects of life.
11. Much bug-hunting is a weariness to the flesh.
12. A flea that bites and jumps away will live to bite another day.
13. Faint heart never captured a tomato worm.
14. It is better to dwell in a corner of the housetop than with a woolly bear caterpillar in bed.
15. Blessed is she that loveth a gray day; the weather shall never disappoint her.



### Dogs.

“**E**VOOLUTION.” What does it mean? Well, if one were to lose an ass and find a college student, that would be what is known as an evolution of find. In other words one would find something a little more developed than the “thing” he was looking for.

We find this thing, “Evolution,” everywhere. Today we use the expression, “Good morning, have you used Pear’s soap?” Before Adam, our fore fathers used to say, “Good morning, have you used Monkey Brand?” You will notice a lack of emphasis here. Remember that the monkey-men used no full stops in their period, but manipulated a stone club instead.

We are up-to-date! The topic of the day is: How do you do, has your dogs got the rabies? This brings us to the place we were searching for, and so talking of dogs, we might say that as the automobile is taking the place of the horse in modern society, so the dog

is superseding man. In proof of this, I contribute a sketch of my wife’s bosom companion and confidante. My “ruling passion” informs me that “the poor pet

*my wife’s earthly joy.*





may get the rabies, but the delirium tremens—never."

In the commercial world the canine is superseding the porker. Some do it involuntarily and by the aid of the sausage machine. This, however, is not legitimate evolution. An example of the latter, or of the evolution of the sausage, is afforded by the Dachshund. (See panorama sketch.) It will be easily seen that unless we breed in a pair of legs in his middle he will wear himself in half against the ground. In deed Mr. A. W. Baker, our expert mallophaga specialist, is seriously considering interbreeding with the centipede to keep the sausage part of this living pageant from dragging in the mud. At the dog show the judge will have to

dogs nowadays. For example, the good old English bull dog is slowly disappearing and going into degeneracy. We enclose sketches past and present.

The bull dog is disgusted! Notice how he turns his nose up. Listen to his exclamations: "Once I was a sport, now I belong to that old lady sitting in the corner polishing her false teeth. She has a bag. What's she got in it? Two silver backed hair brushes, a dollar tooth brush, two pairs of wool shoes, and a white frilled pillow for me to lie on, also a bottle of smelling salts, in case I faint. Rabies! No wonder we have the rabies." He attempted to



run up and down in an automobile beside the dashund, to examine his points and count his legs.

turn his nose up still further, but after an ineffectual attempt he adjusted his eye glass, said "awful fag," and went to sleep.

People are making fancy goods of

**Habit.**

Mr. Hutchinson, you are wanted on the phone!

H. (a minute later)—Is that the Hall? What, it isn't? O, d—.

**Mac. Sentiment.**

O give the boy a chance, give the boy a chance,

We know it will be wisdom just to give the boy a chance;

His home shall be our shelter, when we leave Macdonald gay,

And blessings will go with us, when at last we name the day.

**Love.**

Gazing, gazing fondly gazing into eyes of sweetest blue,

Fondling, kissing and caressing, breathing words of love so true,

Making love's gesticulations, folding closely to the breast,

Nothing but a muzzled mongrel; readers,—puppy love is best!

Reed of first year evidently was "Thunder struck" at the boxing tournament on March, the 12th.

Prof. Gamble (lecturing in chemistry)—Just before we begin to evaporate ladies and gentlemen.

Le Drew (in economics)—Mr. Aiken head, what do you understand by legal tender?

Mr. A.—Legal tender, sir, is a contradiction in terms; for I must say, within my experience I never yet knew anything legal that was ever tender.

Shaw—What do you suppose the fifth toe on the Dorkings is for?

Knapp—Oh! there are several good reasons but I think it is there as a balance.

Prof. Graham—Mendoza, what do you consider an economical gain in a chicken's weight per week?

Mendoza—Oh! about 15 lbs., but it just takes 75 lbs. grain to make 1 lb. of flesh.

**A Daniel Come to Judgment.**

Mr. Jones—That wrestling bout between Kimona and Head-ache-a was very slow and short.

Sunny Jim—My foot's asleep again, Miss F.

Miss F.—Oh! I just love it.

Fulmer—How do you arrive at the value of a food?

Cooper (immediately)—Eat it, sir.

Cherry (judging poultry)—Prof. Graham, is that not a big hen for its size?

Toole—Gentlemen, get ready for the potato race up stairs.

A. W. B.—My existence depends upon the fleetness of my feet.

**Savory Morsels From Indoor Meet.**

Who said Underhill hadn't nine lives? Many times was he rescued from a watery grave in the swimming tank. For further information read the novel entitled "The Man Who Rose Again."

Fair Mac Maid (as Shaw proceeds to pole vault)—Poor thing! that pole is much too large for him.

Did anyone see Baldwin, the "Human Grasshopper," looping the loop?

President Weir—What's the matter with the Sophomores?

Voice from the crowd—They're all wrong. Who're all wrong, etc., etc.



*"Mr. Farmer, if some steel shingles are as leaky as the guarantee behind them, they're not worth the cost of labor in laying them. Stick to 'The Eastlake.'"*  
*The Philosopher of Metal Town.*

You can build cheaper than ever before---you can make your farm buildings weather proof for all time with

# "METALLIC"

Lumber is of inferior quality now-a-days. Why pay high prices for it when you can cover your buildings with "Metallic"? Galvanized sheet steel is the most desirable building material known, and "Metallic" is the heaviest and toughest made.

By actual test "Metallic" has proved itself the best material for roofing and siding. Roofs covered with "Eastlake" Metallic Shingles 25 years ago are in perfect condition to-day---absolutely lightning, wind, rain, snow and rust proof.

Look over this list, check the items that interest you, clip list and mail, with your name and address to us. We will give you valuable information that will save you money.

**"EASTLAKE" METALLIC SHINGLES**---for all buildings.

**"METALLIC" ROCK FACED STONE OR BRICK SIDING**---makes an artistic house.

**"METALLIC" CEILINGS AND WALLS**---most sanitary interior decoration.

**"MANITOBA" STEEL SIDING**---for grain elevators.

**CORRUGATED IRON**---for barns, implement sheds and stock buildings.

**"METALLIC" GRANARY LINING**---entirely "Metallic," easy to lay. Prevents loss of grain by rats and mice.

Here's an actual proof of the superiority of the "Eastlake" Steel Shingle. Eighteen years ago, many of the buildings at the Ontario Agricultural College were roofed with "Eastlakes." To-day they are in perfect condition---absolutely weather proof. An actual wear and tear test under all climatic conditions---what better proof could you have? The "Eastlake" is the **only** steel shingle that can boast of such a record.

On receipt of your name we will mail you our interesting illustrated booklets "Eastlake Metallic Shingles" and "Interior Decoration in Metal." Write to-day.

MANUFACTURERS



2053

Please mention the O. A. C. REVIEW when answering advertisements.

Jack Douglas, going into the stable one day recently, found a Freshman astride of one of the horses, with paper and pencil in his hand.

"Why you loon!" he exclaimed, "what are you doing?"

"Writing a composition," was the reply.

"Well, why don't you get into your room and write it there?"

"Because," answered the Freshie, "Mr. Unwin told me to write a composition on a horse.

~ ~

Hutchinson (to lady friend)—If I am first here to-morrow night, will you go with me?

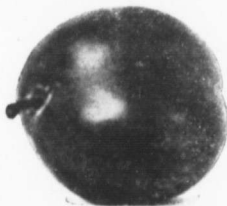
~ ~

No one would think Vansickle was susceptible to a woman's charms. But alas, our Percy has got it, too.

## The Fonthill Nurseries

Established 1837.

Over 850 acres.



O. A. C. STUDENTS and GRADUATES make good salesmen for High-Class Nursery Stock.

Send for our proposition. It will interest you.

Our lines are complete and include a large list of **NEW SPECIALTIES** for **SEASON 1910**.

Send for catalogue.

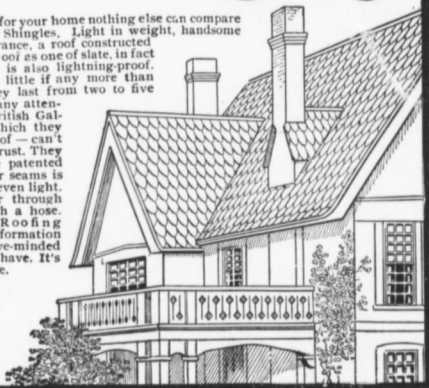
**STONE & WELLINGTON**  
TORONTO.

# Galt Shingles

As a roofing material for your home nothing else can compare with "GALT" Steel Shingles. Light in weight, handsome and dignified in appearance, a roof constructed of them is just as fire-proof as one of slate, in fact more so because steel is also lightning-proof. "GALT" Shingles cost little if any more than wood shingles and they last from two to five times as long without any attention whatever. The British Galvanized Steel from which they are made is wear-proof—can't burn, crack, curl up or rust. They last indefinitely. The patented construction of locks or seams is so tight as to exclude even light. You can't force water through "GALT" Shingles with a hose. Our new booklet "Roofing Economy" contains information that every progressive-minded property owner should have. It's free to interested people.

THE GALT ART METAL CO.,  
Limited  
GALT, ONTARIO.  
Winnipeg, Dunn Bros.

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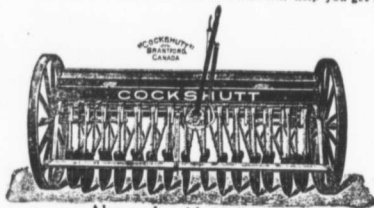
Please mention the O. A. C. REVIEW when answering advertisements.



# BIGGER CROPS — BETTER GRAIN MORE MONEY—Is that what you want?

**L**IKE lots of other farmers at this time of the year, you are thinking of buying either a Disc or a Hoe Drill. Read this advertisement carefully before you decide—study the principle of this Cockshutt Disc Drill—get our Drill booklet and go into this matter thoroughly, because here is a machine that will help you get better crops,

Cockshutt  
New  
Model



15  
Disc  
Drill

Also made with 13 Discs

**T**HE particular advantage which the Cockshutt Disc Drill possesses, is that it sows the grain 6 inches apart—not 7 inches, as is the usual method. Close seeding gives the grain a better chance to germinate—to sap all the nourishment of the soil. Thus the grain grows up closer and firmer—holds moisture better—resulting in a bigger yield and better grain. Close seeding does not mean that you have to sow more seed—you simply plant the same quantity of seed

as you would with old style machines, but you plant with more discs. Farmers who have used this Cockshutt Disc Drill report an increase of from 2 to 5 bushels an acre; in other words,

this Cockshutt Disc Drill will easily pay for itself in one season, and still leave you a nice profit over and above. Read all about the other advantages it has—then write us and get our very instructive booklet about it. The discs on this machine are 6 inches apart—not 7 inches. Like old style machines, Footboard runs the whole length of the machine, which makes it optional with the driver whether he walks or rides. Footboard can also be used for carrying seed bag to the field. The frame is built of high carbon steel, the corners being reinforced by heavy malleable castings and steel corner braces. The castings pressure bar and short, self-aligning axles are rivetted to the

strong I-beam which runs the whole width of the machine. One of the great advantages of this I-beam is that it never allows the machine to sag in the centre. Axles are made of cold rolled shafting, always uniform in size and set at the correct angle to give the wheels proper pitch. The self-oiling device keeps the disc bearings in good shape a whole season. The grease flows down the close-fitted boot right into the bottom of the furrow, and is always sown at uniform depth.

The space between the grain boots and discs gradually widens from bottom to top, preventing mud and trash stopping the discs from revolving. No matter how wet or sticky the soil, these

discs will always revolve and cut. Scrapers are provided so as to keep discs clean on each side. The feed on this Cockshutt Disc Drill is a positive force feed of great accuracy, and is driven by a short steel chain from the axle, each half of the feed being driven separately. The seed box is made of choice seasoned lumber and the cover locks automatically.

We use metal bridges between feed cups to prevent grain from clogging, so that the first seed is sown out of the box at the same rate per acre as when the grain box is full. You can't realize all the advantages and improvements of this Drill until you read full explanations in our booklet. Don't buy a Drill of a y kind until you read it.

## READ THIS LETTER—THEN WRITE FOR BOOKLET

Cockshutt Plow Co., Ltd., Brantford, Ontario.

Thorndale, July 20th, 1909

Gentlemen—I have very much pleasure in recommending the 15 Single Disc Drill purchased from your agent, W. McMartin, of Thorndale. After putting in seventy acres of spring seeding with two horses, I think it the best drill I have ever seen, and the easiest to operate. I have not seen its equal, and think it has to be made yet. I cannot say too much for it.

(Signed) JOHN MORDEN

**COCKSHUTT** PLOW COMPANY **BRANTFORD**  
LIMITED

gpc

**Apples.**

'Twas an apple that caused the fall of  
Eve,

And Adam was human, as we are,  
He followed the maiden, and would  
you believe,

He stumbled, and that is why we  
are—

Are what? Did you say! I'll tell you,  
my friend,

Why we are so fond of the pippin.  
So heredity's law is excuse enough then  
For R—s and D—F—rs atrippin'

Oh! Where had that look of dignity  
gone?

As they circled around the building;  
And why was physique of upright  
ness shorn?

As apples in suitcase were filled in.

Take warning you men and do not re  
mark,

On the folly of breaking the law.  
Remember the cold storage looks best  
after dark,

When from its supplies you would  
draw.

P. E. L.

Freshman (during eighth prom.)—  
This prom. is very long, is it not? The  
longest on the programme?

Fair Maid—Yes; but a lot depends  
on the girl.

Freshman—It certainly does! I be  
lieve this must be the ninth.

Paul Fisher (throwing discus)—Oh,  
for Cog's right arm.

**Melodrama.**

A play intense, price ten cents

Every seat was filled;

The maiden bold made blood run cold,  
Sixteen men he'd kill.

A maiden fair, with golden hair,

At his knees now knelt,

The girl to shoot this heartless brute  
For his revolver felt.

But he'd forgotten it, alas

So with his pocket knife

He' thrst the blade into the maid

And thus he ends her life.

"At last she's dead," aside, he said;

"Who'll know that I forgot?"

But as she dies, the maiden cries,

"Oh, my God! I'm shot."

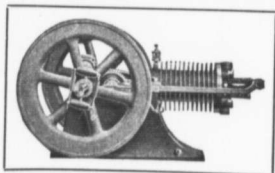
**CLEANER MILK—BIGGER PROFITS**

Every dairyman—every farmer—anybody who owns one milch cow or more should use the **STERILAC SANITARY MILK PAIL**. It prevents contagion and disease, makes clean milk an absolute certainty, it saves time, and puts an extra profit on your milk supply. The Sterilac Pail has a capacity of 14 quarts, stands nearly 14 inches high, and has no joints or seams on the inside, thus making it germ-proof and easy to clean. It has extra wide detachable funnel, equipped on the inside with a deep metal dirt shelf. Place a piece of ordinary cheese cloth over the bottom of the funnel as a strainer. All dirt falling into the funnel opening is caught on the shelf or screen—not on the milk strainer, which is protected from falling dirt by the top part of the pail. As the milk falls on the slant, it passes over the shelf **direct** to the strainer into the pail. Milk and dirt do not come in contact—no chance of anything falling on the strainer but milk. This is the only effective and economical sanitary pail on the market. Highly endorsed by medical authorities. Price, \$2.50; in lots of six or more, \$2.25—**money back if not as represented.** Write for big Catalogue of dairy supplies—free.

**STERILAC SANITARY MILK PAIL**

**W. A. DRUMMOND & CO., 179 KING STREET E., TORONTO**

# Make Up Your Mind Now



THAT YOU ARE GOING TO BUY A

## Gilson "Goes-like-sixty" Engine

For the certainty of having a correct engine; for the assurance of quality, when cheap engines are the rule; for serviceability, convenience; FOR REAL ECONOMY.

If your dealer offers you something else, there's probably more in it for him than for you. No one will offer you a better engine than ours. The Gilson Engine is worth every dollar we ask—and more. That is the reason the Gilson Engine is better value than any other. You will find cheaper engines and dearer engines but none really equal in value.

Send for Catalogue showing all styles and sizes and valuable pamphlet by Prof. Cooch, University of Wisconsin, "How to choose a Gas Engine."

**GILSON MFG. CO., Limited, 120 York St., Guelph, Can.**

SUEY WAH,  
LAUNDRY

Best work for College Boys. Call  
at rooms, Monday and Wednesday.

16 Wilson St., Guelph, Ont.

**HACKNEY'S**

The Old Tobacco and Pipe Shop.  
Established 1884.

Next door to Royal Bank.

**CASH PRIZES**

FOR

**O. A. C. Students**

1st—\$10.00

2nd— 7.00

3rd— 5.00

4th— 3.00

For the Students who get  
the most subscriptions for  
**Canadian Farm**

during vacation—April 15  
to September 15.

The only condition being that each student  
trying for these prizes must be a subscriber at  
student rates.

These prizes are exclusive of regular commis-  
sions.

For further particulars address,

**D. C. NIXEN,**  
Circulation Manager.

**CANADIAN FARM**

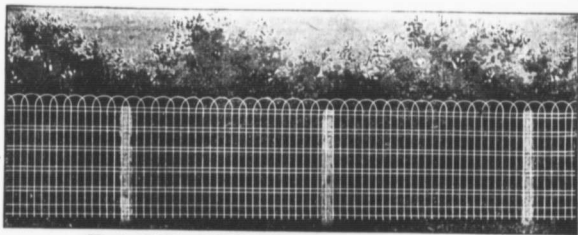
**TORONTO, ONT.**

## Springhill Ayrshires

Are strengthened annually by im-  
portations direct from Scotland  
of the very best milking strains.  
Calves and animals, all ages, and  
both sexes always for sale.

**ROBT. HUNTER & SONS**

Please mention the O. A. C. REVIEW when answering advertisements.



## PAGE WHITE FENCES

Page Fences wear Best—Styles for Lawns, Parks, Farms and Railroads. 14,000 miles of Page Fences and 73,000 Page Gates now in use in Canada. Our 1910 Fences are better than ever. Page Gates for 1910 have Galvanized Frames. Get our latest prices and booklet.

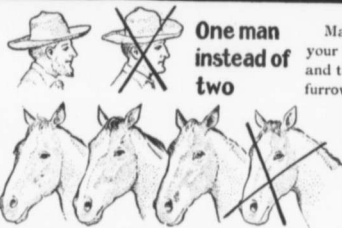
**THE PAGE WIRE FENCE CO., LIMITED**

Largest fence and gate manufacturers in Canada

WALKERVILLE    TORONTO    MONTREAL    ST. JOHN    WINNIPEG    VICTORIA

203

## What the "Crown" Gang Plow does



One man  
instead of  
two

Make this test: The first day give your hired man a single-furrow plow and two horses. Take another single-furrow plow and two horses yourself.

Then, do one day's plowing. Together, you will plow three acres, under favorable conditions.

Next day, use the "Crown" Gang plow and three horses. You'll find that you can still plow three acres.

Three horses instead of four



One "Crown" Gang Plow  
instead of  
two single  
furrow Plows



The second day the same work has been done with one man instead of two, three horses instead of four, one "Crown" Gang instead of two single-furrow plows. What this saving means to you in dollars and cents you can figure out for yourself. But it is enough to pay for the "Crown" Gang in a few weeks.

The "Crown" Gang stays right down to its work. It turns the furrows more evenly than a single-furrow plow. The easy-working levers are conveniently located. The wheels have dust-proof boxes with roller-bearings. You should learn more about the "Crown" Gang right away, and about our special orchard gang plows, too. So write for CATALOGUE

FROST & WOOD CO., LIMITED,  
SMITH'S FALLS, CANADA. 20

# Frost & Wood

Please mention the O. A. C. REVIEW when answering advertisements.

# WINDSOR BUTTER SALT



Trust the Farmer's Wife to get the right Salt for her Butter.

When she was a girl, her first lesson in Butter making was with Windsor Salt.

When she started housekeeping, of course she used Windsor Salt.

She knows—by years of experience—that Windsor Salt is best. And naturally, she won't use any other.

Are you using WINDSOR BUTTER SALT?

10

## PHOTOGRAPHS

at special rates to students.

W. J. WINTER, Upper Wyndham.

"Eclipsed by None."

## WALKER'S ELECTRIC BOILER COMPOUND

It removes the scale or incrustation from boiler without injury to the irons, packings or connections, and prevents foaming.

The only reliable boiler compound on the market today. We also handle cylinder, engine and machine oils, Lie sodium phosphate engine supplies, etc. Specialty departments, Crystal Separator Oil, Waxine Floor Oil, Correspondence invited.

**The Electric Boiler Compound Co. Ltd.**

Guelph, Ontario.

Please mention the O. A. C. REVIEW when answering advertisements.



# BINDER TWINE



## CO-OPERATION

8,000 Farmer Shareholders

If Stars and Stripes outrun this farmer's binder twine co-operative bicycle, or corral us as they have everything in sight in the United States, the game's up. We are the last that's left of all the family. Uncle Sam would then control the binder twine market of this continent. He is a good citizen when he comes as a settler into our Northwest, not, however, as a co-operative smasher. The Canadian farmers will do well to observe the motto, "what we have we'll hold," in the interests of our homes and children, while in this great Dominion we have one of the grandest countries God ever gave to any people. Surely it's worth taking care of. The man that fights well for his own, if occasion requires, can stand safely with the enemy in the gate. It will pay you to be everlastingly loyal to the Grain Growers' Associations, the Dominion Grange and this Farmers' Binder Twine Company.

**FARMERS' BINDER TWINE CO. Ltd.,**

**Brantford, Canada**

Joseph Stratford, General Manager.

*We want farmer agents in every locality*

### Royal City Mineral Water Works

Manufacturer of

**HIGH-CLASS CARBONATED BEVERAGES**

247 BROCK ROAD.

Phones—Works 582A  
Residence 582B

A. REINHART  
Proprietor.

### FREDERICK SMITH,

PLUMBER, STEAM  
AND GAS FITTER,

Sanitary Appliances. Estimates Furnished.

GUELPH.

## Here we are again

Ready for season '09 and '10, with a full range of the best lines of Footwear. We have the Heavy Tan Shoes that are so popular with the College Boys. Try us, The New Shoe Man.

### J. D. McARTHUR

The Store around the corner, Market Square.

Please mention the O. A. C. REVIEW when answering advertisements.

## FRUIT

We make a specialty of Fruit. You can always depend on getting everything in season fresh here.

## BISCUITS

If you want quality buy Christie's. We have a large assortment.

Phone 169. Prompt Delivery.

## Benson Bros.

# STEEL SILOS

WEATHER PROOF      FROST PROOF      FIRE PROOF

Composed of heavy, rivetted steel plate set on cement foundation, they are absolutely self-supporting

Simple to Erect. Easy to maintain.

Will keep ensilage sweet and clean without loss from frost or decay for the whole feeding season.

WRITE US FOR FULL INFORMATION ABOUT THEM.

**THE WATEROUS ENGINE WORKS CO. Ltd.**

BRANTFORD, CANADA.



## College Students

Will find this to be Guelph's Most Convenient Store

It's a mighty handy store to reach. Just jump on a car at the College, and you will be taken right to our very door, and when once you're here, you'll agree with us when we say, "This is Guelph's Best Store."

That isn't merely false pride or bombast. It's the reputation we've earned by years of "fair and square" methods. You'll find our stocks to be surprisingly complete, delightfully attractive, undeniably low in price; we're ready to supply your every need in a manner that will be thoroughly to your satisfaction.

The Fair Macdonald Girl as well as her Brother Student will find this The Store of Certain Satisfaction.

**D. E. Macdonald & Bros**

**FINE** **O. A. C.** **FINE**  
**TAILORING** **FURS** 

---

We would like the boys to visit our store—UPPER WYNDHAM STREET. Civility being part of our business, and business to us is a pleasure, you are not called on to buy, but should you require anything in our line you will surely get value at THE GOLDEN FLEECE. Style and endurance is what we aim at in Fine Tailoring, and we rarely miss the mark.



## KELEHER & HENDLEY

MODEL MERCHANT TAILORS

Fine Furs.

Fur-lined Coats a Specialty.

---

## The Guelph Mercury

As an Advertising Medium has few equals. It thoroughly covers its own district—one of the best agricultural and stock sections in the Province of Ontario. It has a weekly circulation equal to all other weekly papers in the County of Wellington.

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∴ THE JOB DEPARTMENT ∴

Is up-to-date and can turn out the best work on the shortest notice.

Please mention the O. A. C. REVIEW when answering advertisements.



IN PRESS—READY SHORTLY

A most important contribution to Canadian Agricultural Literature

# The Canadian Apple Grower's Guide

By Linus Wolverton, M.A.

Author of "Fruits of Ontario"; Editor of the Canadian Horticulturist; Secretary of the Ontario Fruit Growers' Association, 1886-1903; Inspector Ontario Fruit Experiment Station and Secretary of the Board of Control, 1896-1906; Judge in Pomology and Superintendent of Horticulture for the Dominion of Canada at the World's Columbian Exposition, 1893.

**PART I.**—A Complete Guide to the Planting, Culture, Harvesting and Marketing of Apples.  
**PART II.**—Descriptions of the Varieties of Apples which are Grown in the Various Provinces and the Dominion of Canada, made by the Author from Personal Study of both the Trees and the Fruit, with Full Size Photographures of the Fruits Themselves, made under his Personal Supervision.

**PART III.**—Varieties of Apples Recommended for Planting in the Various Sections of the Different Provinces of the Dominion.  
**CLOTH, LARGE QUAR. O. BEAUTIFULLY ILLUSTRATED, \$2.00; BY MAIL, \$2.25.**

The apple is the money-maker fruit of Canada, and with the advanced prices which it is certain to command during the next decade, apple growing is sure to become one of the very best branches of fruit-growing for profit.

In view of the great boom in apple culture which is sure to come, this work has been prepared. It covers the whole subject, from the planting of the tree to the harvesting and selling of the fruit, written in such a clear and concise manner that even the novice should be able to make a success of apple-growing.

Since the number of copies of the first edition is limited, and will soon be taken up, apple growers, or prospective growers, are advised to send in orders at once.

**THE PRICE TO ADVANCE SUBSCRIBERS BEFORE PUBLICATION WILL BE \$2.00, POSTPAID.**

After publication the price will be \$2.00 net, by mail \$2.25. ORDER NOW! Descriptive Circular on request.

For Sale by All Booksellers.

**WILLIAM BRIGGS, 29-37 RICHMOND ST. WEST, Toronto, Ont.**

## The Manufacturers Life

*has some extremely advantageous plans of insurance to offer young men—plans which, by the way, are not offered by any other Company in Canada. They are worth looking into.*

**Apply to W. E. BROLEY, Elora**

**HEAD OFFICE: TORONTO, CANADA**

Please mention the O. A. C. REVIEW when answering advertisements.

**Wonders Will Never Cease.**

Ryrie—Mr. Crow, is tobacco an internal or an external wash?

Thompson—Austin, who are you taking to the athletic concert?

Austin—Depends which one says "delighted." I have asked three already. The first had exams and must needs stay and study; the second said she had just turned you down; whilst the third was going to be sick on Saturday, she was sure she would be.

Thompson—Dear brother, we will go together.

**SPRING BROOK STOCK FARM.**

High Class Holsteins of Exceptional Breeding and Quality. Tamworth Swine of best Imp. British blood, Barred Plymouth Rock Cockerels from extra laying strain. Quality and production stands foremost at Spring Brook. A call solicited. Farm ten miles west of O. A. C. Main line G. T. R. Telephone connection  
A. C. HALLMAN,  
Breslau, Ont.

# Art Materials

Our large and complete stock of Art Supplies are selected specially for school and college use. The quality is the best, and the prices are within the reach of every class of student.

**Color Boxes, A1 - 25c. each**  
**Crayons—Crayograph, 10c. pkg.**

Complete Catalogue mailed  
on request



## The Geo. M. Hendry Co.

LIMITED

20 Temperance St.

Toronto, Ont.

# THE WHITE HOUSE

## LADIES' FINE SHOES AT \$2.50

In our Ladies' Shoe Department we have shoes at one price only, \$2.50. These are quite the equal of shoes sold at \$3.00 and \$3.50 elsewhere. They come in all Leathers, and only the very newest styles.

# JAMES RAMSEY

Please mention the O. A. C. REVIEW when answering advertisements.

# The Armstrong Line

**Bike Buggies**  
**Road Wagons**  
**Top Buggies**  
**Stanhopes**

**Surreys**  
**Mikados**  
**Democrats**  
**Carts**

Catalogue with full description of all styles with illustrations will be mailed on application.

**J. B. ARMSTRONG MFG. CO.**  
**MANUFACTURERS** Limited  
**GUELPH, - - CANADA**

**G. B. RYAN & CO., Guelph**  
**General Dry Goods Store**

Noted for **STYLE & FINISH**

In General Dry Goods, Millinery, Ready-to-wear Clothing, House Furnishings, and Ladies' Shoes

Character and Exclusiveness are the Two Great Features of Our Merchandise



Buying Offices in London, Paris and Glasgow, keep us right in line with the very newest fashions and fabrics.

**G. B. RYAN & CO., Guelph**  
**MEN'S CLOTHING STORE**

A store devoted wholly to the dress wants of modern men.

Ready-to-wear Clothing, Special Order Clothing, Furnishings of all kinds; always in keeping with gentlemanly ideas of good form.



Our advertisement our aim and our accomplishment:—"Square Deal for Every Man."

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...OUR...  
 EASTER  
 Stock of

Confectionery

Is Second to  
 None!



The Kandy Kitchen

LOWER WYNDHAM STREET

YATES & THOMAS, PROPS.

Please mention the O. A. C. REVIEW when answering advertisements.

# NEILL'S SLIPPERS

**STUDENTS:** see our complete stock of warm house slippers and stylish evening pumps.

**HOCKEY SHOES.** You will be pleased with our showing of regulation hockey shoes.

**GYMNASIUM SHOES** of all kinds at lowest prices.

## NEILL--THE SHOE MAN

THE  
AUTONOLA



MAKES  
EVERYBODY  
A MUSICIAN

# The Bell Piano

RECOGNIZED AS CANADA'S BEST.

Ask for our Free Catalogue No. 71



The Bell Piano and Organ Co.,  
Limited

Canada's Largest Makers.

GUELPH,

ONTARIO.

# ONTARIO VETERINARY COLLEGE

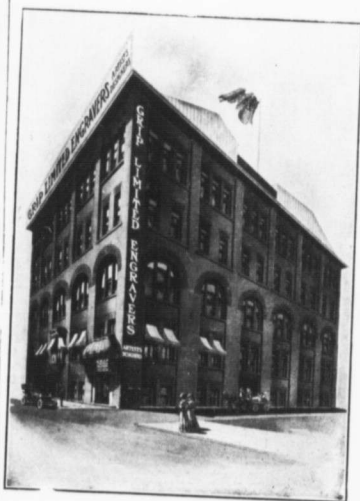


Temperance Street - Toronto, Canada

ESTABLISHED 1862

Controlled by the Provincial Government of Ontario. Affiliated with the University of Toronto. The course of study extends through three college years. Calendar with information will be mailed free on application.

E. A. A. GRANGE, V. S., M. S.  
PRINCIPAL



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## BIGGER BRIGHTER BETTER

When alterations are completed at our new place of business—

### “Right at the Post Office”

Guelph will have one of the Best, if not THE Best equipped retail Optical Establishment in the Dominion.

Known the country over as

The home of Good Glasses

## A. D. SAVAGE

EYESIGHT SPECIALIST

NOTE NEW ADDRESS—

“Right at the Post Office”

Cor. Wyndham & Douglas Sts., Guelph

PHONE 627

WE HAVE A VERY COMPLETE  
STOCK OF

## Entomological

—AND—

## Botanical Supplies

For Students

At Students' Prices

## Alex. Stewart

CHEMIST

NEXT TO POST OFFICE

Rettie (in a burst of enthusiasm to his bath)—

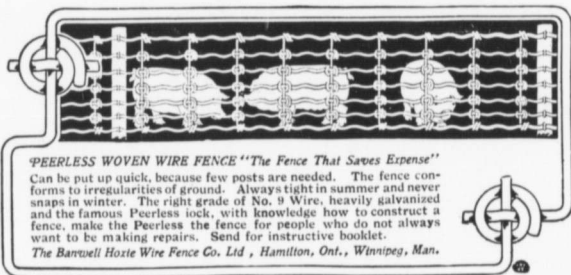
O pretty water,  
So nice and blue,

Full a month has passed,  
Since I last saw you.

Miss S. (hearing noise at door)—  
Oh! fly.

Mr. J. J. (bewildered)—Flee?

Miss S. (becoming impatient)—Oh,  
this is no time for fine entomological  
distinctions.



**PEERLESS WOVEN WIRE FENCE** “The Fence That Saves Expense”

Can be put up quick, because few posts are needed. The fence conforms to irregularities of ground. Always tight in summer and never snaps in winter. The right grade of No. 9 Wire, heavily galvanized and the famous Peerless lock, with knowledge how to construct a fence, make the Peerless the fence for people who do not always want to be making repairs. Send for instructive booklet.

The Barwell Hozie Wire Fence Co. Ltd., Hamilton, Ont., Winnipeg, Man.

Please mention the O. A. C. REVIEW when answering advertisements.

# The Canadian AIR MOTOR

costs nothing to operate



## A NIGGER TO WORK

Night and Day—Summer and Winter  
Always on Hand.

BUILT TO STAND WINTER BLASTS  
AND RUN WITH SUMMER BREEZES  
OUR STEEL TANKS ARE SUPERIOR  
TO ALL OTHERS. Best "Apolo" Steel  
and High Class Canadian Labor

—"THAT'S THE REASON"

Ontario Wind Engine & Pump Co., Ltd.  
Toronto, Winnipeg and Calgary

# GUELPH AND ONTARIO INVESTMENT AND SAVINGS SOCIETY

(INCORPORATED A. D. 1876)

**SAVINGS DEPARTMENT.**—Deposits of One Dollar and upwards received and interest allowed at highest current rate. Every facility afforded depositors. Office open until four o'clock every week day (including Saturday). Interest allowed on both current and savings accounts.

**DEBENTURES ISSUED** for sums of \$100.00 and over, for periods from one to five years; interest, 4 and 4½ per cent. per annum, payable half-yearly.

Both the DEPOSITS and DEBENTURES are legal investments for trust funds.

J. E. McELDERRY,

Managing Director.

Office: Corner Wyndham and  
Cork Sts., GUELPH, ONT.

IF YOU APPRECIATE  
: : GOOD VALUES : : 

YOU WILL BE SURE TO BUY YOUR

**SHIRTS, TIES, COLLARS, HATS**  
**AND FURNISHING GOODS**

HERE. THE CHOICEST STOCK IN THE CITY

My Tailoring Department is one of the most reliable in the trade. First-class, stylish clothing made to fit perfectly, and satisfaction always assured. See my stock of fine up-to-date goods. Only one price. Goods marked in plain figures. Be sure and give me a call

# R. E. NELSON

Next Traders Bank.  
Just above the Post Office.

Men's Furnishings.  
Hats and Fine Tailoring.

Please mention the O. A. C. REVIEW when answering advertisements.

THRESHERMEN'S  
FARMERS' AND  
DAIRYMEN'S

## Rubber Goods

Thresher Belts, Steam Packing, Hose,  
Rubber Tubing and Molded Rubber Goods  
of every description for agricultural and  
dairy machinery.



The Dunlop Trade Mark,  
the two hands is the seal  
of quality in rubber.

**DUNLOP** Tire and Rubber  
Goods Co. Limited

Agents and Dealers throughout Canada.



**The Advertiser Job**  
London, Ont.

Where the O. A. C. Review is printed.

Please mention the O. A. C. REVIEW when answering advertisements.

94

Shoe Boils, Capped  
Hock, Bursitis  
are hard to cure, yet

**ABSORBINE**



will remove them and leave no blemish. Does not blister or remove the hair. Cures any puff or swelling. Horse can be worked, \$2.00 per bottle, delivered. Book 6 D free.  
**ABSORBINE, JR.**, (mankind, \$1.00 bottle.)  
For Boils, Bruises, Old Sores, Swellings, Gout, Varicose Veins, Varicocles, Ailure Pain.  
W. F. YOUNG, P.O.F., 177 Temple St., Springfield, Mass.  
LYBANS Ltd., Montreal, Canadian Agents.

Wolseley, Sask., March 28, 1907.

Dear Sir,—Have been using Absorbine for three months, and I have great faith in it. I first tried it on a colt that had got his leg cut in a barb-wire fence. It healed up and began to swell. I applied Absorbine and it removed the swelling in twelve days.

Yours truly,

F. O'NEILL.

## The People's Store

Is head-quarters for MEN'S HIGH-CLASS  
READY-TO-WEAR CLOTHING, also made  
to measure

### CLOTHING

Have also a big assortment of Gents'  
Furnishings in all the up-to-the-minute  
styles.

We specially solicit the patronage of the  
O. A. College Boys and Faculty.

Prices Moderate.



**Benor, Scott & Co.**

29 and 31 Lower Wyndham Street,  
Guelph, Ontario.



A HIGH GRADE  
ESTABLISHMENT FOR THE  
**PRINTING**  
OF CATALOGS, BOOKS and  
COMMERCIAL JOB WORK



Society and College  
Work a Specialty

**R. G. McLEAN**

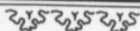
26-34 LOMBARD STREET,

TORONTO, - - - ONT.

Telephone, Main 637-638.

**R. B. KENNEDY**

**Photographer**



The best place to get  
a good Group Photo-  
graph or a Portrait of  
yourself. \* \* \*

**PHONE 498**

**CENTRAL**  
**Book Store**

Opposite where the Street Cars stop.



Text Books, Exercise Books, Foolscap  
Writing Pads,  
Up-to-Date Note Papers and Envel-  
opes, Papeteries, Etc., Etc.,  
Bibles, Hymn Books,  
Books by Standard Authors, Poets,  
Prayer Books.

In fact, everything kept in a well-ordered  
Book Store.



**C. ANDERSON & CO.**

**Petrie's Drug Store**

*For Kodaks, Cameras and  
Photographic Supplies*



Special attention given to develop-  
ing and printing for amateurs



**LOWER WYNDHAM STREET**

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# STUDENTS O.A.C. SUPPLIES

Botanical, Entomological, Nature Study, Manual Training.

Plant Mounting; Butterfly, Insect and Larva Collecting; Weed Seed Collecting; Microscopes; Slides and Cover Glasses; Drawing and Painting Outfits; Mathematical Instruments; Dissecting Tools; all kinds of Note Books and Fillers; Fountain Pens; Pencils; Inks; in fact, everything to make a student happy, contented and successful in his work.

## WATERS BROS.

PHONE 350.

41 WYNDHAM ST., GUELPH

**Students! We Carry a Full  
and Complete Stock of . . .**

## Shavers' Needs

Razors, Brushes, Mugs, Soap, Strops, Etc., and don't forget McKEE'S SHAVING CREAM, the proper finish to every shave. Allays irritation, soothing and emollient, and highly antiseptic. 25c at McKee's Drug and Book Store.

**JOHN D. McKEE, Phm. B.**

Druggist, Bookseller and Stationer  
18 WYNDHAM ST. GUELPH, ONT.

## O. A. C. Students

Will find the biggest Book Store  
in Guelph on Upper Wyndham  
Street.



## The ONLY Place

That carries the full stock of all  
Text Books required at the Col-  
lege and Macdonald Institute.

## C. L. Nelles

PHONE 45.

ABOVE POST OFFICE.

## Splendid Assortment

of

TENNIS RACKETS,

BASE BALLS,

BASE BALL GLOVES,

MITTS AND BATS.

WHITELY EXERCISES,

PUNCHING BAGS,

BOXING GLOVES,

RAZORS and POCKET

KNIVES.

## McMILLAN BROS.

PHONE 31

20 Wyndham St., Guelph

Please mention the O. A. C. REVIEW when answering advertisements

**Extract from W. Packard's Nature Study Note Book.**

May 8th—Knauss went to church last Sunday, although it was cold and stormy. Such was not sufficient to detain him from carrying out his purpose however. Although the weather is cold and the spring is very backward, birds are still making their appearance, the campus being covered with earth worms.

May 15th—Knauss went to church again last Sunday. The attraction he came so magnetic, I went. Wonder if he will go next Sunday? Case is serious. Some of the plants are beginning to flower, especially weeds. Went to work in Bacteriological Laboratory. Weather is becoming very warm and seeding is becoming general.

At two quarts of college strawberries. My capacity is increasing.

**LUMBER  
LATH and  
SHINGLES**

All kinds  
**Bill Stuff  
ETC.**

**DOORS  
SASH  
FRAMES**  
All kinds of  
**BUILDING  
MATERIAL**

Manufacturers of

Washing Machines. Stair Building  
and Interior Fittings a Specialty.

—THE—  
**H. A. CLEMENS Co. Limited**  
GUELPH, CANADA.

Phone 50.



**Well, Do You Like It?**

AH SING'S idea may suit some people, but from a sanitary standpoint—pardon our lack of enthusiasm. Modern methods of laundering—used here—do not conform to the Mongolian's conception of cleanliness, yet how superior!

**Guelph Steam Laundry**

PHONE 95.

80 NORFOLK ST.

E. M. HUNTER, Mgr.

**Windmills!**



Towers girded every five feet apart and double braced.

- Grain Grinders.
- Pumps.
- Tanks.
- Gas and Gasoline Engines.
- Concrete Mixers.

Write for Catalogues.

**Goold, Shapley & Muir Co.**

LIMITED

BRANTFORD, CANADA

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## FOR PARTICULAR MEN

We like to make clothes for the particular man. Anyone can suit the fellow who is easily satisfied, but it takes good workmanship, honest materials and the best of tailoring experience and ability to suit the really careful dresser. Ask the particular man what he thinks of the last suit or overcoat we made for him. It is likely he will tell you they are the best he ever had, even for double the price. Suits and Overcoats \$16.00 to \$28.00.

R. J. STEWART,

Opp. Knox Church, Quebec Street.  
Phone 456.

## YOUR SPRING SUIT

Should be a "T. & D."

Noted for fine quality, correct style and moderate price

Ready-to-wear. \$ 8.50 to \$28.00  
Made to measure. 12.00 to 30.00

Step in and see the new models for Spring. '10

Thornton & Douglas

Men's Outfitters  
Lower Wyndham Street.

# Mutual Life of Canada

HEAD OFFICE, WATERLOO, ONT.

is a thoroughly SOUND AND PROGRESSIVE COMPANY, confining its business to the Dominion of Canada and Newfoundland, noted for the most healthy climates IN THE WORLD.

ITS EXPENSE RATE TO INCOME IS THE **Lowest of all Canadian Companies**

Every Dollar accumulated by this Company, from whatever source, is the sole property of its policy-holders, and is under the direct control of the Board elected by the policy-holders to manage the Company and direct the affairs in the sole interests and for the sole benefit of policy-holders, who alone

OWN Everything      CONTROL Everything      GET Everything  
GEO. CHAPMAN, General Agent, GUELPH.



THE UNDERWOOD typewriter is more extensively used in Canada than all other makes of typewriters combined.

IT is the typewriter you will eventually use.

UNITED TYPEWRITER CO. LTD.  
TORONTO  
and all other Canadian cities.

## 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, ONTARIO.

Telephone 99.



REFERENCES

AGRICULTURAL COLLEGES

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

Please mention the O. A. C. REVIEW when answering advertisements.

HEADQUARTERS FOR  
**HARDWARE**

AND SPORTING GOODS  
AT LOWEST PRICES.

**G. A. Richardson**

Upper Wyndham St., GUELPH.

**DOUGLAS STREET  
LIVERY AND SALE BARN**

For up-to-date rubber-tired light outfits, hack, carriage, Talla Ho, Phone 41 or Call at 26 Douglas Street. Just around the corner from Post Office.

**McCANNELL & PATTERSON,**

Proprietors,  
Successors to P. Spragge.

**Horse Owners! Use**

GOMBAULT'S



**Caustic  
Balsam**

A Safe Speedy and Positive Cure

The Safest, Heat **BLISTER** ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. **SUPERSEDES ALL CAUTERY OR FIRING.** Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction Price \$1.50 per bottle. Sold by drugists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. **THE LAWRENCE-WILLIAMS CO., Toronto, Ont.**



Please mention the O. A. C. REVIEW when answering advertisements.

**PRINTING**

We execute the finest grades of printing, plain or in colors, promptly.

**KELSO PRINTING COMPANY**

St. George's Square,

Phone 218.

Opp. Post Office.

**CLASSY MEN** should wear classy clothes, but they will never mistake the obtrusive fake clothing that is too often seen on the street for the real thing. **CLASS IN DRESS** for men means **REFINEMENT**, the other kind bear the earmark of vulgarity. Don't be deceived but come here and be correctly dressed.

**J. A. SCOTT,**

Tailor, - 26 Wyndham St.

**OUR BUSINESS  
IS MEN'S WEAR**

Young Men, come here for up-to-date Clothing, Hats, Caps, and Furnishings.

Oak Hall Clothing is sold in 2,000 stores in Canada. Come on in!

**Cummings' Oak Hall Store**

.. OUR ..

**GROCERIES**

Are always Fresh, Wholesome  
and Strickly First Class.

**JACKSON & SON**

17 Lower Wyndham.

Telephone 112.

If you want a pen point that flows freely, and lasts two to four times longer than any other. Try

### RIVER SERIES

Practically non-corrosive—Ask your Stationer, or write to

The **BENSON-JOHNSTON CO., Ltd**  
CANADIAN AGENTS,  
HAMILTON, . . . . . ONTARIO

## WE MANUFACTURE PEEP SIGHTS

For use on home-made draining levels, as designed by Professor W. H. Day.

**H. Occomore & Co.**  
GUELPH, ONT.

## PRINTING

Finest Society and Commercial Printing,  
Prompt Service,  
Best Workmanship.

**O. R. WALLAGE**  
47 Cork St. Guelph, Ont.

## PRINGLE The Jeweler

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

**Ayrshires**  
and  
**Yorkshires**

We have two choice August and September, 1908 bulls on hand, also some just dropped. Females any desired age. Young pigs of both sexes; good ones ready to ship. We will be pleased to correspond or meet with intending purchasers and others, and let them examine our herd.

Please mention the O. A. C. REVIEW when answering advertisements.

## MARRIOTT & CO., FLORISTS.

Violets, Valley, Roses, Carnations, always in stock.

Telephone 378.

## FARM LOANS

MONEY to LOAN on first-class Farm  
Properties in large or small amounts.

**GREGORY & GOODERHAM**  
CANADA LIFE BUILDING. TORONTO

**McHugh Bros.**  
Tobacconists  
28 Wyndham St.

Remember the address when you want to buy Tobacco, Pipes, Cigarettes, and any Smoking Requisite.

High-class goods, moderate prices, and courteous treatment.

STUDENTS ALWAYS WELCOME

HOOPER'S LIVERY,

124 Macdonald Street.  
Livery, Carryall,

.. Tally Ho ..

Very Best Service.  
Telephone 149.

**ALEX. HUME**  
& CO.  
MENIE, ONTARIO  
Phone in Residence

**IMPORTED  
Clydesdale Stallions**

and Fillies, Hackneys, Shetland Ponies

Your choice 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.

Independent Telephone Service.

**Pine Grove Stock Farm**

ROCKLAND, ONTARIO, CANADA

BREEDERS OF

**SCOTCH SHORTHORNS  
and SHROPSHIRE**

**W. C EDWARDS & CO.**

LIMITED, Proprietors

JAMES SMITH, Superintendent

**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 and Brooklin. C. P. R., Myrtle.

Long Distance Phone at Residence.

**Don Herd of Jerseys**

Headed by Fountains Boyle 332 C. J., C. C.,  
Son of Golden Ferns Lad 65,300 A. J., C. C.

Choice stock for sale; best breeding correct dairy type and prize winners at reasonable prices

**DAVID DUNCAN,  
DON, ONTARIO**

Duncan Station,  
C. N. O. R.

**BROADFOOT'S  
RED CROSS  
PHARMACY,**



Phone 381 - St. George's Square

**THE BURGESS STUDIO**

High-Class Portraits.

SPECIAL RATES TO STUDENTS

LOOK . . !

SUITS PRESSED	50c
SUITS CLEANED AND PRESSED	75c
PANTS PRESSED	15c
VELVET COLLARS	50c to \$1.25

Work done by practical tailors.

CHAS. A. KUTT 49 QUEBEC ST.

Gemmell Cleans and Presses Suits  
Equal to New, on short notice.

**GEMMELL'S DYE WORKS,**  
106 Wyndham Street, - Guelph.



Special Reduced Prices  
for STUDENTS.

**PHOTOS**

Macdonald St. Entrance

**BOOTH'S** for  
mine

**BRAMPTON JERSEYS**

CANADA'S LARGEST  
JERSEY HERD.

**B. H. BULL & SON,** Importers and Breeders of  
Proprietors. Choicest Strains of  
JERSEY CATTLE

**W. J. Thurston**Sporting Shoes and  
American Footwear.**St. George's Sq.****W. A. MAHONEY**  
ARCHITECTMember Ontario Association of Architects; As-  
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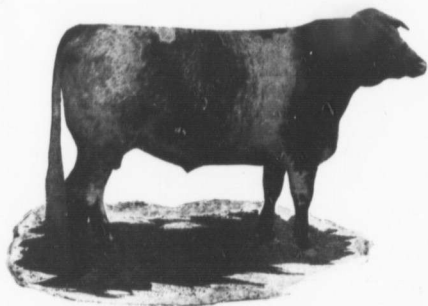
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