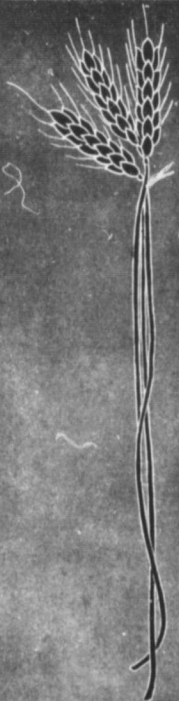
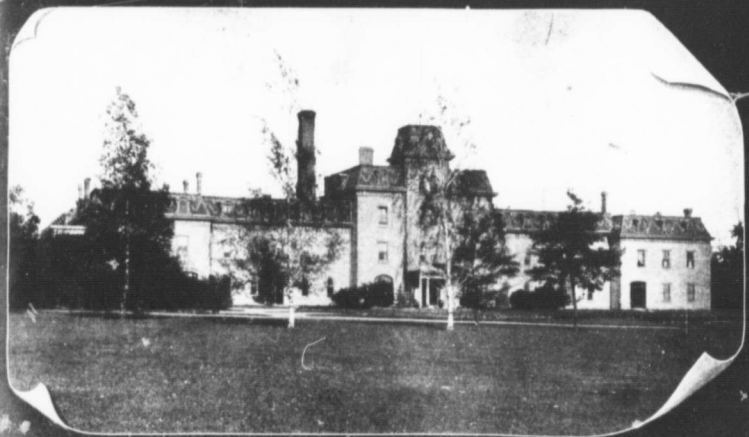


VOLUME XXII.



NUMBER 6.



THE
O·A·G·
REVIEW

March

1910

Ten Thousand People

are making poultry pay
by The PEERLESS Way

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Well as any of them
We'll Help You.



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this and trust you
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Poultry-raising. The Peerless Way, is Lads one business there is plenty of room in good—plenty. It pays better for the money and work it takes to run it than anything else you can do on a farm. It can be made to pay in any part of Canada, on a small scale or a big one. (One Peerless customer will sell 200,000 fowl this year—twenty-five CAR-LOADS!

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NOW**

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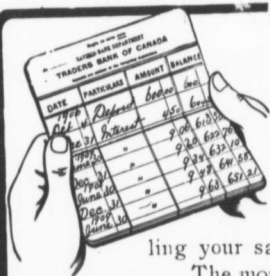
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THE TRADERS BANK OF CANADA GUELPH BRANCH

OFFICIAL CALENDAR

MARCH:

1. Inspectors' Annual Reports to Departments, due. (On or before 1st March).
- School Boards in unorganized Townships to appoint Assessors. [P. S. Act, sec. 34 (1)].
- Financial Statements of Teachers' Associations to Department, due.
- Separate School supporters to notify Municipal Clerks. [S. S. Act, sec. 42 (1)].
24. High Schools, second term, and Public and Separate Schools close [H. S. Act, sec. 51; P. S. Act, sec. 7; Sep. Sch. Act, sec. 81.]. (Thursday before Easter Sunday.)
25. Good Friday.
28. Easter Monday.
29. Annual Meeting of the Ontario Educational Association at Toronto. (During Easter Vacation).
31. Night Schools close (Session 1909-1910). Reg. 16. (Close 31st March).

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One man says: "It runs easy and smooth, and takes its maximum load at good speed over all sorts of desert roads—through sand, rocks, bushes, mud, uphill and downhill. It never fails. It takes hills and sand on a high gear where other machines have failed to follow on any gear and stuck tight, until pulled out by a team of horses."

This is why the International Auto Buggy is the utility car. It will do what you want it to and when you want it done.

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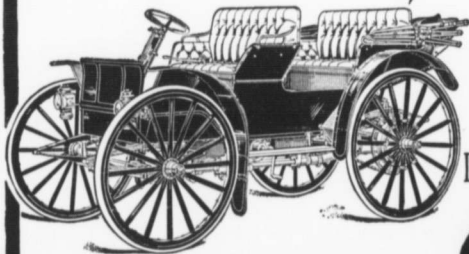
It has a powerful driving mechanism—of such simplicity that you will understand it without difficulty. Its high wheels and clearance will avoid the danger of being stuck in mud-holes and deep ruts, or stopped by stumps and other obstructions.

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**INTERNATIONAL
AUTO BUGGY**



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Lime Sulphur Solution

(Made in Canada)

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"VANCO" Lime Sulphur Solution is the best form in which you can get this valuable spray.

"VANCO" has more sulphur in solution, gallon for gallon, than any other preparation, and is consequently more effective.

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"VANCO" Lime Sulphur Solution contains no sediment. Every ounce is active material, and there is no sludge to clog the nozzles.

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Is the surest and safest spray for all leaf-eating insects. It kills more certainly than Paris Green, sprays easier, sticks better, and never burns the foliage. Contains 15% to 16% Arsenic Oxide.

10c to 13c per lb. according to quantity.

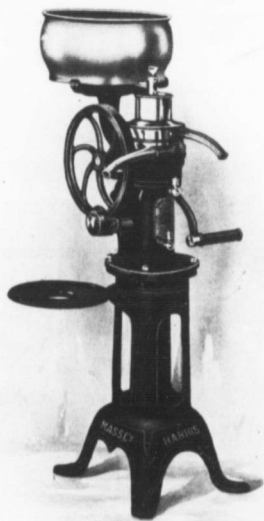
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Write for our Booklet on spraying. It's full of useful information—and free.

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SATISFACTION—because it is easy to fill, easy to turn and easy to clean.

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SATISFACTION—because it is a neat, symmetrical, nicely finished machine, one you will take pride in having and using.

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INCORPORATED 1869

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

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THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XXII.

MARCH, 1910.

NO. 6.

The Forge

E. W. KENDALL, O. A. COLLEGE.

A KNOWLEDGE of the art of forging is now recognized as a necessary part of the agricultural student's education, and in Agricultural Colleges the world over we find courses in shop practice being introduced.

In centuries long past the worker in iron was looked upon as a magician and treated with profound respect and fear. He was a most important personage in the days when knights in armour rode forth to the wars. In the present day he weds the respect and esteem of his fellowman and shall in the future, as well as in the past, be one of the most useful members of the community.

The invention of all sorts of labor saving machines, the great size of some of our large western ranches, and the consequent great distances from a smithy, have all combined to give us the small portable forge. Its particular use being in connection with the small jobs, the repairs that call for immediate attention, and which cannot be allowed to stand until a trip to town can be made. It still leaves the larger and more important jobs to the skilled smith, for it requires years of practice to successfully shoe a horse, set a plow or weld and temper a broken fork or rake tooth.

In installing a forging equipment a suitable building should be erected in such a position with reference to the other farm buildings as will be most convenient, and, at the same time, safe. It should be made large enough to allow space for an implement such as a binder and at the same time give plenty of room for working around it. On the walls should be placed racks for materials and for the smaller implements, such as hoes, shovels and forks. Here, during inclement weather or slack season, an implement whose season's work was over could be run in and thoroughly overhauled, knives sharpened, bolts tightened, bright parts coated with grease, wood work painted, repairs made and all put in readiness for the coming year.

This systematic care of farm machinery cannot be too strongly emphasized. It is estimated that such care will double and sometimes treble the life of an implement. Of course proper storage for the machines should be provided.

In order to make repairs it is necessary to have a small stock of metal on hand. This might be placed on the racks, and pieces of scrap, odd bolts and nuts placed in boxes.

The metals used in forging are wrought iron, mild steel and tool steel.

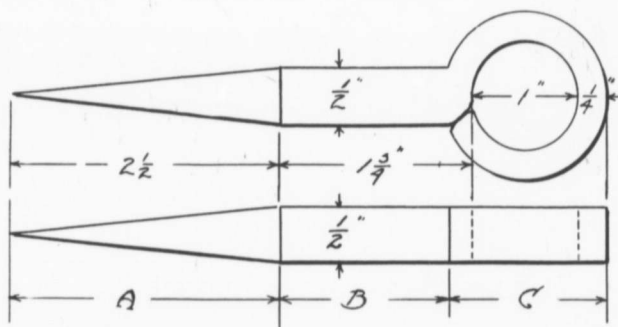


FIG. 1.

They are sold in bars of different shapes and lengths of about 12 feet.

Mild steel sells at about $3\frac{1}{2}$ cents per lb. Its appearance in the rod is smoother and brighter than wrought iron, and when broken across it exhibits a rather coarse crystalline fracture. We use it when we wish to shape a piece without welding.

Wrought iron sells at about $2\frac{1}{2}$ cents per lb. It is rough and dull in the bar and when broken across is decidedly fibrous, owing to the presence of seams of slag running lengthwise of the bar. It is used when a good weld is wanted.

Tool steel is the most expensive, 18

cooled from a high temperature it is valuable for making tools such as cold chisels and punches.

Success in forging depends to a large extent upon the way the fire is handled. In buying coal be sure to get a good quality of "smithing" coal. Test it by breaking a lump in the hand. If it crumbles into small, bright pieces it is a good coal. In the forge it should form coke easily and burn up with the least possible amount of clinker.

The coal is prepared for use by breaking it up into fine pieces, and dampening it thoroughly with water. It is then known as "green" coal. As

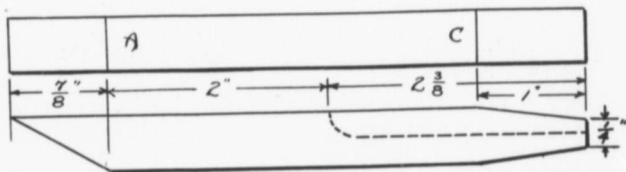


FIG. 2.

cents a lb. being an average price. It has a fine, smooth, bright finish, and when broken is finely crystalline. As it has the property of hardening when

this green coal is subjected to the heat of the fire it loses its volatile constituents and forms spongy-looking cakes called coke. Coke is almost pure car

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bon, and is used in place of green coal as far as possible in welding and tempering. The easiest way for a beginner to start the fire is as follows:—

1. Clear all dirt away from the tuyere or blast opening.

2. Compress a handful of shavings into a tight ball, light them underneath and place over the tuyere.

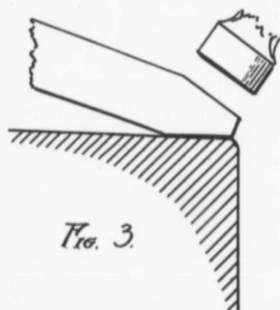
3. Draw some coke over the lighted shavings then pack wet coal over the coke leaving a small opening on top.

4. Start a gentle blast.

When the fire burns clear it is ready for use. If at any time the fire is to be left for a short period, a piece of wood may be placed in the centre and green coal banked around and over the top leaving a small opening for escape of gas. During the time you are forging keep a good layer of hot coals under the metal and do not use too great a blast.

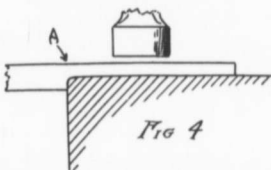
To illustrate the use of the forge let us take up the making of a small article in detail. Fig 1 is a working drawing of part of a simple hinge for a farm gate to be made out of mild steel.

The first question one would ask is



“How am I to calculate amount of stock required?” The method in this case might be followed in others, and is as follows:—

1st. Supposing the model to be divided into 3 parts, A, B, C, Fig. 1. Calculate the length of stock required to make part A. This is a pyramid



with a square base and the cubical contents are area of base \times 1-3 height.

$$= \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \text{ of } 2\frac{1}{2} = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8} \text{ cu. in.}$$

The stock is $\frac{1}{2}$ inch square; cubical contents \div area of cross section = length of stock,

$$\text{or } \frac{1}{8} \text{ cu. in. } \div \frac{1}{4} \text{ sq. in.} = \frac{1}{2} \text{ " or about } \frac{1}{2} \text{ "}$$

2nd—The amount for B is given $1\frac{3}{4}$ inches.

3rd—For C we must first calculate the cubical contents of the ring, whose dimensions are $1\frac{1}{2}$ inches outside diameter, 1 inch inside diameter and $\frac{1}{2}$ inch wide.

This may be done by subtracting the cubical contents of a cylinder 1 inch diameter by $\frac{1}{2}$ inch high from one $1\frac{1}{2}$ inch diameter by $\frac{1}{2}$ inch high.

$$V = \frac{1}{2} \text{ of } 3\frac{1}{2} \times \text{diam.} \times \text{diam.} \times \text{height.}$$

$$= \frac{3}{4} \times 1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2} = \frac{15}{16} \text{ cubic inches for large cylinder.}$$

$$= \frac{3}{4} \times 1 \times 1 \times \frac{1}{2} = \frac{3}{8} \text{ cubic inches for small cylinder.}$$

$$\therefore \text{cubical contents of ring} = \frac{15}{16} - \frac{3}{8} = \frac{9}{16} \text{ cu. in.}$$

and a piece of stock $\frac{1}{2}$ inch square, whose cubical contents are $\frac{1}{8}$ cubic inch would in length be equal to:

$$\frac{1}{8} \text{ cubic inch } \div \frac{1}{4} \text{ " } \times \frac{1}{2} \text{ "}$$

$$= \frac{1}{8} \text{ cu. in. } \div \frac{1}{4} \text{ sq. in.}$$

$$= \frac{1}{2} \times \frac{1}{2} = 2 \text{ in.}$$

4th. Add these lengths together to get total length of stock.

$$\frac{1}{2} \text{ " } + 1\frac{3}{4} \text{ " } + 2 \text{ " } = 4\frac{1}{2} \text{ "}$$

We allow some for scaling and cut off a piece $4\frac{3}{4}$ inches long.

Note.—In calculating length of stock for ring or link, measure along centre of piece, not outside or inside circumference.

We are now ready to cut off the stock and require a centre punch and a tool called a hardie. This last tool fits into the square hole on the anvil and has a sharp cutting edge. Mark off on the stock with the centre punch, the length required. Heat to a bright red in the fire and then place metal on the hardie with cutting edge at punch mark. Strike with the hammer so as to cut

careful to strike occasionally on the edges and keep it from spreading out like a fan.

Then forge the other end to shape C, Fig. 2. In doing this we hold the stock at an angle to the anvil face, this gives the correct taper underneath and we also strike with the face of the hammer at an angle to the stock in order to get the correct taper on top, Fig. 3. Measure occasionally to see that it is not getting too small.

Now measure back on the stock a distance of $2\frac{3}{8}$ inches from end C Fig.

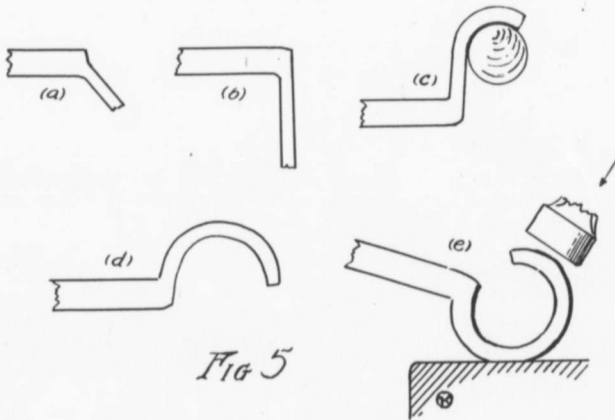


Fig 5

one-third through the stock. This is done next on the two adjacent sides and finally on the back, when the piece may be easily broken off.

The tools required for forging this piece are a pair of $\frac{1}{2}$ -inch flat tongs and a $1\frac{3}{4}$ -lb. hammer. Place the piece in the tongs, see that it fits snugly, and then heat to a bright red, being careful not to burn it. When the end has reached this heat, place quickly on the anvil, keeping it well over to the far edge and striking heavy blows, forge it down to shape at A, Fig. 2, being

2. Make a punch mark, heat, place on the anvil and forge as shown in Fig. 4.

This produces a shoulder at A, Fig. 4, and we forge it carefully to size $3\frac{1}{2}$ inches long by $\frac{1}{2}$ inch wide by $\frac{1}{4}$ inch thick.

The next step is to make the ring. To do this, heat stock to a high heat at A, Fig. 4, place over tip of horn and strike so as to produce a right angle (a) and (b) Fig. 5. Next, cool off this corner, heat the rest of the shouldered portion, place again on the horn and bend back as in (c) Fig. 5. The rest

of the bending is illustrated in (d) and (e) Fig. 5.

The ring is now complete and we have but to finish the point.

Heat it to a high heat and holding as in Fig. 3 forge to a square point at the end gradually working back until the required length of $2\frac{1}{2}$ inches is reached.

Examine model carefully to see that it corresponds to drawing and that it does not show unnecessary hammer marks. It may then be finished by heating slightly, rubbing it all over with some oily waste and heating again in a smoky fire, finally rubbing clean on a piece of dry waste.

WHY THE HOAR FROST CAME.

By S. Rupert Broadfoot, Guelph.

I wakened early Sunday morn,
And drank in the vista pleasant
Of the hoar frost suit, that still is worn
By the trees on Nelson Crescent.

A lone star winked a message to me
When I asked him whence its source.
"It's just the steam and the foam," said he,
"From the Storm King's champing horse."

A twittering sparrow looked in at me;
He chirped, perhaps in play,
That the winsome white would likely be
Dust blown from the Milky Way.

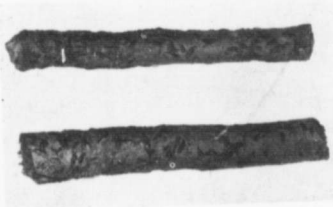
But I wondered still the reason why
Dame Nature had gone to the pains
To whiten the trees and buildings high,
As a proof that Winter reigns.

Old Sol told me the truth at last;
May his bright beams never fail us,
Jack Frost was married some few days past
To Aurora Borealis!

The Oyster-shell Scale

L. CAESAR B.S.A., DEPARTMENT OF ENTOMOLOGY.

NEARLY every fruit grower has observed a scale insect on the bark of the trunks and the branches of his apple trees closely resembling the bark in color and having the shape shown in Fig. 1. This insect is commonly called from its form the Oyster-shell scale. A number of persons in almost every district mistake it for the San José scale, but the latter is very different in appearance, being much smaller as a rule and circular in shape.



OYSTER-SHELL SCALE ON APPLE TWIGS.

The Oyster-shell scale is not nearly so destructive an insect as the San José scale and increases rather slowly, but has been so much neglected and allowed to increase without interruption for so many years that it is to-day considered next to the Codling Moth, the most destructive insect pest of the apple orchards of the Province, and in Fruit Institutes throughout the Province the writer always expects to be asked many questions about the best method of controlling it.

Kinds of Trees Attacked.

The apple is usually worst attacked, but the scale is also found on the pear,

plum, cherry, currant and gooseberry, and on many shade and forest trees and shrubs, such as hawthorn, mountain ash, lilac, mulberry, red-osier dog wood, and rose bushes.

Means of Distribution.

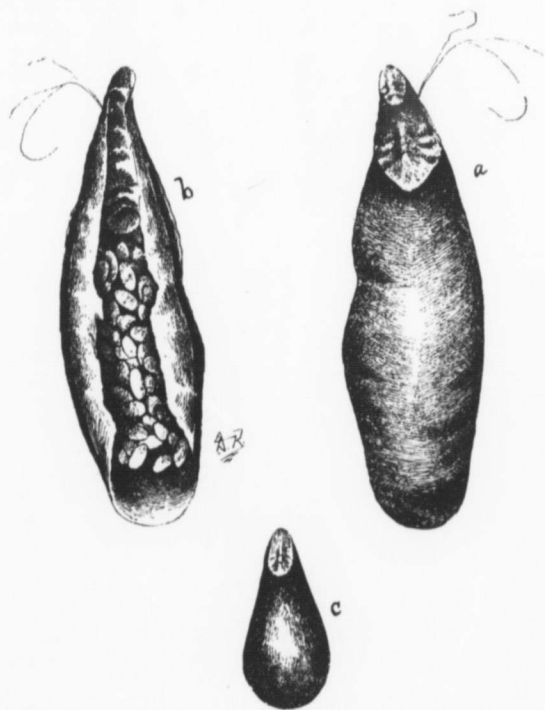
Like all kinds of scale insects the Oyster-shell scale has been spread from district to district originally by being brought in on nursery stock from infested nurseries. Its spread has also been largely assisted by means of birds and insects of various kinds. In the month of June when the tiny scale insects have hatched from the eggs and are moving about, they crawl upon the legs or body of birds and insects, and by these are carried to neighboring trees where they in many cases work their way off again to the bark and establish themselves. Wind and rain doubtless also help in their spreading by blowing or washing them off the higher branches of one tree to the lower branches of a tree close beside it.

Life History.

The insects pass the winter only in the egg stage. Consequently if uninjured scales on the bark of the trees at the present time were removed, we should find beneath them a mass of beautiful tiny white eggs, varying in number from 20 to 150. These can easily be seen by anybody who will shake them out upon a black surface. Early in June, usually the first week, the eggs begin to hatch and in from four to six days all the young lice, as we may call them, have emerged. These are creamy-white in color and move about for a few hours, then insert

their long sucking tubes through the bark in some suitable spot on the trunk, branches, or twigs and begin to suck. Soon they lose their legs, eyes, and feelers and become merely a more or less oval-shaped body with a suck

insects are full-grown and now they not only get back their legs, eyes and antennae but also acquire a pair of very delicate wings. Once this change has taken place the scale covering becomes loosened and the male insects go



Oyster-Shell Scale very much enlarged. (a) adult female, back view, showing bristles of the sucking tubes at the smaller end; (b) adult female turned over, showing the shrunken insect herself at the smaller end and the tiny white eggs filling the rest of the cavity; (c) adult male scale, back view, much smaller than the female.

ing tube. As they feed upon the juices of the tree they gradually secrete a waxy covering over themselves, creamy colored at first, but as it becomes older and larger, becoming brown like the bark. Late in the summer the male

forth in search of the females. These unlike the males never move from their position once they have inserted their sucking tubes. Soon after the visit of the males the females begin to lay their eggs and as they lay them their

bodies gradually shrivel up towards the small end of the scale. By the time all the eggs are laid the mother insect has become a tiny speck and then she dies. The egg laying appears in most cases to be through towards the end of September. Thus we see there is only one brood a year. We also see that if every egg were to hatch there could not be more than 150 insects produced from each female in a year, whereas 4,000,000 or more could be produced from a single San José scale. Hence the Oyster-shell scale is not to be considered a very prolific pest, especially as we find that not more than about one-third of the young insects live to maturity.

Means of Control.

It has often been observed that the scale thrives best on unhealthy or weakened trees, such as are usually to be found in abundance in almost every unpruned and neglected orchard. Therefore our first step in control should be to prune our orchards, cultivate and fertilize them to help the trees to be healthy and so less favorable for the increase of the scale.

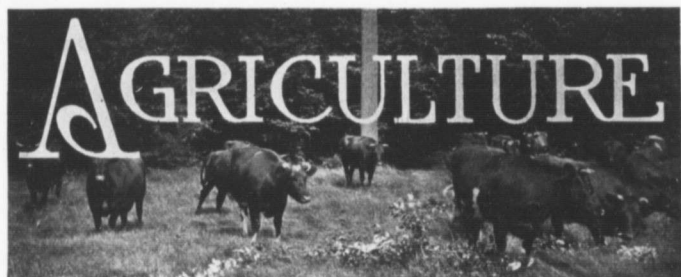
Many fruit-growers have seen or can, if they look, see a large number of scales, each with a tiny hole like a pin hole through it. This hole always indicates that a very small four-winged insect enemy of the scale, has been in side destroying the eggs. This is nature's means of helping us. Unfortunately this tiny friend of ours does not increase rapidly enough to allow it to fight our battle for us, so we have to join in and do our part.

Spraying. Use home-boiled lime sulphur; 20 lbs. lime, and 15 lbs. sulphur to 40 gallons of water, or com-

mercial lime-sulphur a little stronger than the directions on each barrel indicates. The latter wash is improved by slaking about 20 lbs. of fresh stone lime and adding it to each barrel just before spraying. The best time to apply the wash is shortly before the leaf buds burst, though fairly good results may be obtained by spraying earlier in the spring than this. Spraying, however, should never be done when the temperature is as low as freezing point or when the trees are wet with rain or dew. Of course, it stands to reason that every part of the tree must be thoroughly covered if we are to expect the best result from our work.

While lime-sulphur has seldom killed more than about 80 per cent. of the insects the first season in the writer's experiments, yet if the orchard is sprayed each spring for two or three years in succession the scale will be almost completely destroyed at the end of that time. This has been proven so frequently the last three years that one can feel perfectly confident in recommending the mixture as the best known remedy and as a most satisfactory one in every way. Those who use it will find that it will not only control this and other scale insects but also the Blister Mite and to some extent Aphids, and also will help greatly to keep in check Black Rot Canker and other forms of diseases that attack the apple.

There are many other remedies that give fair results but they are so much inferior to lime-sulphur on the whole that it seems wise not to refer to them and to rely solely on lime-sulphur for the control of the pest.



Types of Horses

F. C. GRENSIDE, V.S.

AN essential qualification of one who lays claim to being an expert horseman in the sense of possessing a comprehensive knowledge of horse lore, is familiarity with type.

Type as applied to horses, may be defined as being the stamp, model or pattern of a horse which best suits him for certain requirements or purposes. A horseman that has knowledge of some scope of this subject would generally be able to tell upon looking a horse over what purpose he is best suited for. This he would determine by his height, substance, conformation, contour, finish, quality, etc.

The knowledge of type is often of practical importance, in the marketing of horses, for if one knows what one's horse is best suited for he can be educated in the right direction. The owner may also know whom to apply to as a likely customer. In the show ring, when one is acting in the capacity of judge, a knowledge of type is indispensable, in many cases. Ideal types, however, cannot often be found, and we have to be satisfied with an approx-

imation to a type. For practical purposes, a certain amount of variation is admissible in horses that answer the same purpose well, so that we must not lay down rules, that are too hard and fast, although we recognize at the same time that these variations have their limitation.

Types of horses are very numerous and are the result of the very large field of usefulness which equines cover.

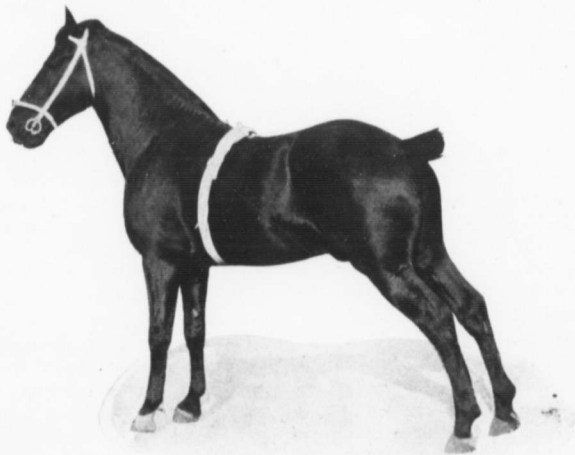
The American road horse or roadster is possibly the most widely diffused of any horse largely used for a special purpose on this continent. It must be admitted, however, that the type varies very much in horses used as roadsters with the lightest possible harness and vehicles.

Although there is this great variation in the pattern of horses used for road work, there is still an ideal type recognized as being nearest perfection for this purpose. In the show ring conformity to this type, within certain limits, places a candidate at an advantage over other competitors. The ideal roadster should weigh from nine-fifty

to ten hundred, stand about fifteen-two with a tendency to lengthiness, an absence of beefiness, and abundance of quality and the higher the degree of finish the better, all of which attributes give him gracefulness. He does not need a pound more weight or substance than enough to prevent weediness, for it would be an unnecessary encumbrance, an increase concussion. He is intended to cover ground with

vent the recognition of an ideal type for favorable conditions, such as good roads and the lightest possible vehicle and harness.

The terms carriage or coach horse are used in many parts of the country to indicate the class of horses suitable to draw the heavier kinds of conveyances. In the East, they are usually referred to as heavy harness horses in contradistinction to road horses. The



HACKNEY IN POSITION.

the least possible concussion and frictions.

Quality is of much importance in giving tough and dense tissues, to stand wear and tear in fast and long continued travel, which is the roadsters avocation.

For practical purposes one has to be guided by circumstances, such as the character of the roads and weight to be drawn, in selecting a horse of proper size and substance for one's particular requirements, but that does not pre-

former are used with a heavy kind of harness, while the latter carry the lightest possible road harness. Some horses are classed as heavy harness horses, are no heavier than road horses, but are used with a heavier harness, hence the distinction of heavy harness horses. The term heavy harness horses include a number of types which are used for a variety of vehicles and purposes with heavy harness, and range all the way from a heavy Landau or Barouche to a Runabout horse.

Runabout horses are considerably used in the East in this country and are no heavier than road horses, in fact some road horses that happen to have style and speed make the highest class Runabout horses, for a measure of speed is indispensable in a good one. A light harness of the heavy pattern is used, being either brass or silver mounted, and the horse is docked with mane and tail trimmed.

Runabout turnouts really serve the same purpose as road turnouts, but more style is demanded for the former. Nine-fifty is the ideal weight, fifteen one the height, and a horse should have particularly good manners with trappy but not excessive action. In other words he should be a handy, quick moving, prompt horse with style and good manner.

The smallest type of heavy horse being the Runabout, the other extreme is the one used for Landau purposes. A Landau is so named from the town in Germany, in which it was first made. It is a long, heavy vehicle with seating capacity for four, with two men on the box. The top is so arranged that it forms a complete enclosure when up, but it can be divided in the centre, the back portion being thrown back and the front portion forward, so that it can be made entirely open. The large two horse cabs one sees in towns are practically the same thing and are often called carriages or coaches. For such vehicles, usually in the city, good sized horses are demanded that stand from sixteen hands to sixteen-two and weigh close to twelve hundred pounds. In addition to the size and weight given a Landau horse should be rangy. Horses with a tendency to stoutness do not look well in such a vehicle. The C spring Landaus are very large and require good big horses to look imposing

in them and carry the heavy harness which is used. The more quality, style, action and finish they have the better, and the more high class they are, but it is difficult to get much quality in large horses with the substance demanded in them for this kind of work. Dark, solid colors are much preferred for this purpose. Horses suitable for Landau are of the type usually used as wheelers for four-in-hand teams for either park or road purposes. Wheelers for park teams need more style, action and finish than those of road fours, and should be solid colors. Some coaching men prefer wheelers not much over fifteen-three and don't care so much for the rangy type. Road wheelers may be any color, and are often much preferred of odd colors, as skewbald, piebald, grey, buckskin, cream, etc. Their essential qualities are strength, stamina and activity, and a fair amount of speed makes them more saleable and valuable.

Another closed in vehicle is the Brougham, named after the original designer, Lord Brougham. Its top is stationary, and cannot be turned back or put down. It is a vehicle intended for night use and inclement weather. The body is closed to the ground, and it is easy to get in and out of. It is used with either one or two horses. There are small, medium sized and large Broughams, and are rather heavy vehicles.

Single Brougham horses vary in size from fifteen-two-and-a-half to sixteen hands and should be short legged and deep bodied, with plenty of timber, a good deal of substance, smoothness of contour and be upheaded and stylish, and the more action they have the higher price they bring.

Brougham horses for pair use need not stand so high or have so much sub

stance, but should be of the same tightly built stamp. They should not be as rangy as Landau horses, and their chief characteristic should be what is sometimes called cobbliness.

Horses used for opera busses, which are closed in vehicles holding half a dozen people inside, might be described as a compromise in type between the cobbily built Brougham horse and the rangy Landau horse.

The Victoria horse is a more lightly built one than the Brougham horse, and an essential part in his make up is quality, and he should also be well finished in order to be high class.

The Victoria is a full dress vehicle used for pleasure purposes, and is more particularly for ladies' use, for calling, driving in fine weather for pleasure, etc. It will only seat two occupants besides a coachman and footman, and has a cover over the back seat to be used in case of emergency, but is otherwise always turned back. It is a vehicle that varies in size very much. The miniature Victoria, being small and having room for only one man on the box, is drawn by a single fifteen hand horse, while the large C spring Victoria needs a pair of fifteen-three horses of solid color, the most popular being seal brown. Most of the vehicles called Victorias are really cabriolets, the distinction being that the coachman's seat has a skeleton support and there is no dash board, only a foot board in a Victoria, while in a cabriolet there is a box seat and dash board.

Horses with the quality and finish suitable for Victorias are of the type used for leaders for tandems and four in-hands for park use.

Ladies' phaetons, in which ladies drive themselves, are very much like Victorias, but there is no seat for a coachman, the footman occupying a

seat called a rumble, behind. It is a very stylish vehicle, and when well horsed makes a most imposing turn out. They are used with either one or two horses. When used with one horse he should stand from fifteen-one to fifteen-two, with a pretty fair amount of substance, and all the finish and quality possible. Quietness of color is an important desideratum and style and good manners indispensable. Horses suited for pair use in a lady's phaeton, and geldings are preferred, should stand from about fifteen hands to fifteen-one, and weigh from nine hundred and fifty to ten hundred. Station wagon horses should be from fifteen-two to three and weigh about eleven hundred. They should be rugged, wiry horses with some speed and good manners, but finish and quality are not indispensable. Gig horses vary in size, but the ideal one is fifteen-two, weigh about ten-fifty, finish and quality count considerably, but are hardly so important as speed and action.

Saddle horses vary very much in size and substance. They are classed as light, medium and heavy weight, according to their ability to carry weight, and vary in size from fourteen-three up. Those fourteen-three and under are classed as ponies. A good saddle horse must have elasticity of movement and quality is an important desideratum.

The withers should have moderate prominence and be clean cut, in order to act as a stay to prevent the saddle from rolling. This is particularly important in a lady's saddle horse, when a side saddle is used, as there is a great tendency to shift to the side upon which the rider sits.

A good saddle horse should not be too thick through the shoulders, neither should the shoulders be beefy or load

ed. The blade bones should have moderate length and obliquity in order to contribute to elasticity of movement. The tout en semble should have some thing of an approximation to the con figuration of the thoroughbred, as well as to his quality in order to be high class. In fact we mingle sufficient cold blood with that of the thoroughbred to endeavor to get more style, action, finish and substance together with a less nervous temperament, but still con serve his elasticity and quality as much as possible.

A distinction is made between horses that are used for park use in saddle and those used for general utility under the saddle. The park hack should have more style and dash than the ordinary saddle horse. He should carry his head and tail up, and have a considerable amount of action at both ends, and his contour and substance may partake a little more of the harness type than the latter.

The combination ride and drive

horse is an extremely popular one with people of moderate means in this country and there is a large market for them at fair prices. The highest class combination horse is one that conforms to saddle horse in type, and has the other essential attributes of a good saddle horse such as pleasant paces, manners, etc., but also shows good action, some speed, and stylish carriage in harness.

The hunter conforms to the type of the thoroughbred, but in him less style, action and finish are demanded, than in the saddle horse. His make-up should be conducive to power, activity and stamina. Some hunting men prefer the thoroughbred for hunting to a horse with any cold blood whatever in him, but a good deal depends on the country they hunt over. If the jumps are far apart speed is an important attribute, and the thoroughbred often fills the bill best, particularly for a good horse man.

Short Courses in Live Stock and Seed Judging

DESPITE the fact that numerous Short Courses have been conducted in various parts of the counties throughout the Province by the eleven district representatives of the Ontario Department of Agriculture there was no decrease in the numbers attending the Annual Short Course in Stock and Seed Judging, but rather was there an increase. The Course lasted two weeks and during that time many a young man saw, as he never saw before, the aim and object of this

agricultural institution. Those in charge have always displayed marked enthusiasm for this work, and we trust that the men receiving knowledge appreciate to the fullest extent the untiring efforts of the College Professors in endeavoring to give every young man a start in the proper direction.

This Course is especially planned for the man who cannot leave his farm for a longer time or is prevented from taking a longer Course at the College. Special classes of live stock are col

lected and displayed for his benefit, emphasizing the most important points to be considered in selecting animals for the production of best beef; dairy cows with typical conformation and qualities; sheep for the feeder and for the breeder, or hogs of the bacon and fat type. These practical object lessons undoubtedly leave lasting impressions and when the farmer returns home, he has a different set of ideals and, if he desires to improve his stock, he will follow as closely as possible these new ideals. Thus the farmer puts to use the information learned in those

of seed to be selected and sown were suggested and discussed. Instruction on eradication of weeds and identification of weed seeds were given by Mr. J. E. Howitt, assisted by several students. Many a man returned home determined to grow better grain in the future and to endeavor to do his share towards destroying noxious weeds and fungus diseases.

After the seed work came the stock judging of cattle, sheep and swine, in charge of Professor G. E. Day and Associate Professor R. W. Wade, and the horse judging, in charge of Dr. J. H.



THE JUDGING PAVILION.

two short weeks. A certain stimulating spirit is administered to him and a feeling of dignity now grasps him where possibly there was once one of humility and indifference.

In the morning for a couple of hours the students assembled in the new Mechanical Building for instruction in Seed Grains. This work was in charge of Professor C. A. Zavitz and his assistants, and was one of the most direct ways of bringing certain facts before the farmers. Seeds of different cereals were examined, the good and bad points pointed out, comparisons of different varieties made, and the proper varieties

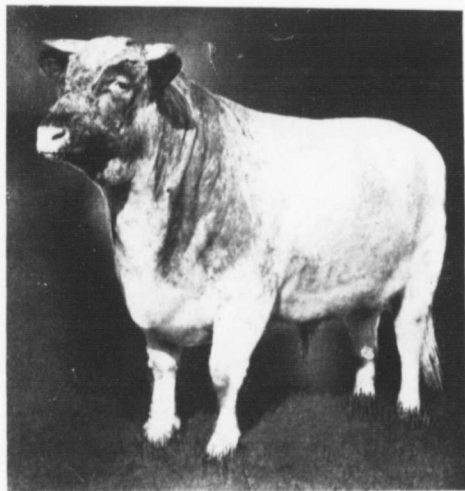
Reed. Lively discussions regarding placing and merits of different classes took place and ideas from the best of authorities were obtained. The slaughter tests are always ones of prime interest and the three bullocks and a larger number of fat sheep, than ever before, this year demonstrated nicely the difference and deception between animals on foot and the same animals hung up. Mr. John Gosling, of Kansas City, was again with us for this work, and in his characteristic style gave many valuable points regarding the judging and selecting of block animals. We, in

Ontario, appreciate very much Mr. Gosling's annual visits.

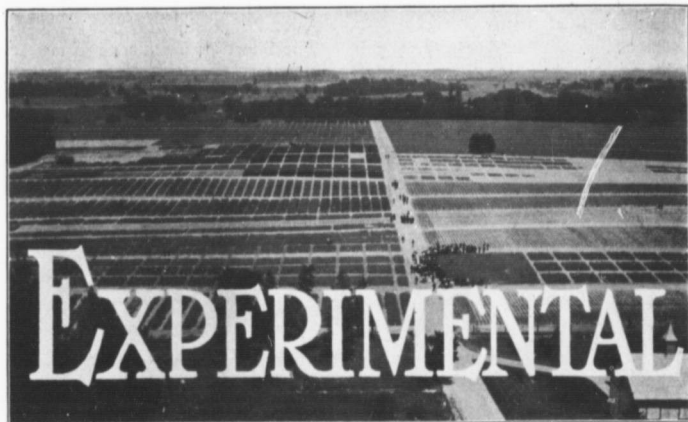
The majority of the horses as usual had to be brought in from the farms of breeders in the vicinity of the College and although somewhat troublesome at that season of the year all the classes were well filled. We hope that in a few years the O. A. College will be

well supplied with horses suitable for this kind of work.

The Short Courses have come and gone and it is the earnest hope of those who had the interest of these classes at heart that great good may come to every man who had the privilege of attending in 1910.



PRINCE IMPERIAL, 72511.
Grand Champion Toronto National Exhibition, 1909.
Owned by Wm. Dryden, Brooklin, Ont.

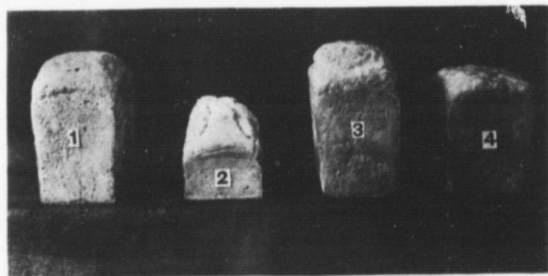


The Fumigation of Flour

F. E. ELLIS, '19.

THE subject of the fumigation of mills and warehouses in which flour is kept has become of great importance in the last few years. This is due to the widespread ravages of the Mediterranean flour moth and similar insects. All over the continent

and crevice, as well as every pound of flour, are teeming with these vermin. It has been known for years that these insects can be destroyed by thorough fumigation with carbon-bisulphide, hydrocyanic acid and sulphur fumes. But the effect which these fumigants have on the flour itself has never up to the



FIRST BAKING, STRAIGHT GRADE ONTARIO SOFT.

No. 1.—Normal.

No. 2.—Treated with S.

No. 3.—Treated with HCN.

No. 4.—Treated with CS₂.

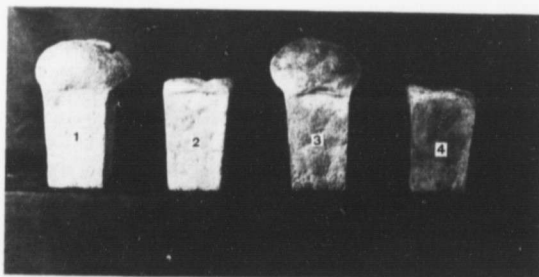
present time been made the subject of a thorough and careful investigation.

In order to answer this latter question experiments were started in the chemical department of the O. A. College, under the direction of Professor Harcourt. They have been carried on to the present time with very satisfactory and conclusive results. The work has been carried on in several ways, but the baking tests are naturally the most important and of most interest.

Two grades of flour were used in this experiment: an 85 per cent. Manitoba hard, and a straight grade Ontario soft, obtained from James Goldie & Co., of Guelph. Three lots of six pounds were

taken from each sample and exposed under bell jars to the fumes of S, HC N, and CS₂. After exposure to the fumes for fifteen hours the samples were taken out and a baking made of each. The remainder of each sample was divided into two parts. The first part was stored in tightly closed tin cans; the second had a covering of cheesecloth, and was stirred frequently to see if aeration would have any effect in reviving the flour. At the end of several weeks these samples also were baked and scored by Miss Purdy of the flour testing department. The results of the first and second bakings are given in the following table:

NAME	Size of Loaf 12 Ozs. Flour	Color	Texture	Appearance
1st Baking Sept. 24, 1909—Hard Flour.				
Normal	2660 cc	100	100	100
Tested with S	1730 cc	Greenish white	Like taffy	No good
" " HCN	2670 cc	99.5	99.5	99.5
" " CS ₂	1650 cc	90	Very poor	No good
2nd Baking Nov. 8, 1909				
Normal	2670 cc	100	100	100
Tested with S	1850 cc	Greenish white	25	
" " HCN	2700 cc	101	101	103
" " CS ₂	2290 cc	90	30	75
Aerated Samples.				
S	1870 cc		Big holes	
HCN	2680 cc	10	101	103
CS ₂	2390	90	70	75



FIRST BAKING, 85% MANITOBA HARD.

No. 1.—Normal.

No. 2.—Treated with S.

No. 3.—Treated with HCN.

No. 4.—Treated with CS₂.

A careful study of this table reveals fully the effects of the reagents used on the baking qualities of hard flour. The effect on soft flour was the same and need not be given here. The following conclusions can be drawn from these tests:

1. That S and CS₂ cannot be safely used as a fumigant where flour is stored. They produce a dough which rises poorly and a bread decidedly in

ferior in color, texture and appearance.

2. That HCN has no detrimental effects whatever, the bread being equal to that made from normal flour in every way. HCN not only has no ill effects on the flour, but is also one of the best insecticides known, and has been used successfully in many mills.

3. That aeration does not improve the flour to an appreciable extent, and hence has no practical value.

Better Corn and More of It

For many years there has been in the Central and Eastern part of Ontario an increasing demand for seed corn which can be guaranteed to grow. The dairy men, especially since silos have become popular, are realizing more and more every year the value of corn as a food for milch cows. Though it is widely grown for this purpose it is impossible, because of the climate, for corn to reach maturity, consequently the seed must be grown elsewhere. When we stop to consider for a moment the extent of the dairy section, we are able to form a small estimate of the trade in seed corn.

The Central States being recognized as the great corn sections of America, the seed was obtained there. Though small from their standpoint, the Americans were not slow to secure such a profitable market. Thus, through lack of organization, or lack of knowledge of our own possibilities, for a time a remunerative business was lost to Canadian corn growers.

Some short time ago a business in handling seed corn was commenced by J. O. Duke, of Olinda, Essex Co., and

probably was the starting point from which the trade is to be won back to the Canadian growers. Many others began growing corn for this purpose. The Eastern men were beginning to learn that if their seed corn could be obtained from sections in the most northerly limits where the corn would mature, their crops would be more satisfactory, maturity being more nearly reached, which is a very important necessity in making good silage. Stimulation of trade between the east and west was all that was necessary.

The Canadian Seed Growers' Association was formed not only to aid in securing the Eastern trade, but also, and probably primarily, to increase the quantity and better the quality of corn grown. It is a well known fact that—although 11,000,000 bushels are grown in Essex and Kent annually—the output from the same acreage would be much greater if proper attention was given to selection of seed, cultivation and drainage of the land.

If the motto, "Better Corn and More of It," was to be fulfilled, the principles

of corn growing had to be forcibly presented to the farmers. A corn show, which proved to be a great success, was held in Essex in 1909. Greater preparations were made for the second corn show in 1910.

The spacious rink was scarcely large enough to accommodate all the corn which came. It certainly was inspiring to the would-be corn-grower to see the long rows of corn arranged in tiers on either side of the building. All varieties were well represented, being divided into classes. Dents, Flints, Leaming, Sweets were represented and pop corn was not forgotten. Each municipality had its own allotted space besides the opportunity for entering the open classes.

It would have availed but little to see such a display and have competent judges award the prizes had the people not have known why one sample was superior to the other. To counteract such a difficulty, every morning Professor Klinck conducted a class in "Seed Selection." Men were seated at tables, each supplied with a few ears of corn to use during the lecture. By means of charts and representative ears, desirable and undesirable characteristics were illustrated. Great stress was laid upon utility; shape of ear, shape of kernel, size of cob, length of ear, rows of kernels, and space between rows were especially emphasized. Many minor points were incidentally brought out. Vitality was discussed and illustrated by comparing various kernels. Many seized this opportunity for storing up facts to be used when selecting their exhibits for the next corn show in order that the standard might be more nearly approached. A friendly rivalry was awakened which will act as a stimulus, not at show

times only, but at seeding and harvesting.

Public meetings were held every afternoon, but too often the building would not accommodate all. Professors Klinck and Williams discussed corn. Professor Williams emphasized breeding, explaining thoroughly the use of the plot as a factor in securing pure seed. The influence of manures was pointed out. Professor W. H. Day emphasized the need and profits to be obtained from underdraining. He was not theoretical only, but gave practical demonstration in so far as possible in a building. He also touched the subject of tillage at some length. Professor Zavitz reminded all of the necessity of rotation and discussed some methods where corn can be used as one of the crops.

Hon. J. S. Duff was the principal speaker at the public meeting on Wednesday evening. He touched upon the agricultural conditions in Ontario. The work of Messrs. McKenney and Lewis was very highly commended. Mr. Clark, the "Seed Commissioner," warned the corn growers not to send anything but the best to the Eastern dairymen, if they wished to hold that trade.

Already the people are preparing for the coming corn show in 1911. Many would like to have it alternate between Chatham and Essex, thus giving its influence a wider range. It is an opportune time for other societies to meet. The bean growers are seeking an amalgamation with the corn growers. It must always remain and be of the greatest interest to those Western men, but without a doubt, it is bound to grow and become one of the most important seed fairs in Canada.



Horticulture

A Lesson from Norfolk County

J. FRED. CARPENTER.

DURING the past season the writer visited, in connection with inspection work re spray ing grants, some 200 orchards in Norfolk County, owned and operated by the members of the Norfolk Fruit Growers' Association. As these orchards were located in nearly every part of the county, it was possible, from a visit to them, to judge of the county as a whole in relation to its present condition and prospects for the future along fruit-growing lines. Also, from conversation with a large number of growers in the county, it was possible to ascertain the main reasons which have been essential and instrumental in Norfolk County coming to the front as an apple growing section during the last few years. But in the first place, in order that any section may develop along a specialized line of agriculture it is necessary to have a climate and soil suitable to that special branch.

Situated as it is on the northern shore of Lake Erie, the county feels the ameliorating influence of that large

body of water. Thus, in the spring, by the low temperature of its waters it retards growth of vegetation and keeps it behind the ordinary frosts. In the fall, the water has been warmed by the summer sun and the influence of its warm waters lengthens the growing season, and keeps off early autumn frosts. This influence is felt to the greatest extent for seven or eight miles from the lake, and, in this part of the county, a few of the more optimistic and progressive growers are planting peach orchards, and feel quite confident as to the result. Peaches have been grown here for years but only with a fair degree of success, but with the more advanced and improved methods of cultivation, pruning, fertilizing, etc., these growers feel confident that they will be able to obtain results nearly equal to those in the renowned Niagara district.

If variety of types of soil is conducive to the success of the fruit industry Norfolk County has her full complement here. Every type of soil from the "blow sand," of which

there are thousands of acres, to very heavy clay is found. There is a fairly large percentage of clay loam, loam, and sandy loam, types of soil which are always welcomed by the fruit grower as it is on these soils that such crops as peaches, apples, raspberries and strawberries can be made to bring the maximum returns with a minimum amount of attention. So favored are they with suitable soils and climate, that we naturally expect them to be able to produce a variety of fruits.

All kinds of fruits which are grown in other places in the Province are found here, the apple being grown to a larger extent than all of the other fruits. The growers are just beginning to wake up to the possibilities in other branches. Some fair sized vineyards are found in the lake shore section, and these are giving good returns where properly cared for. Plums and pears are grown all over the county, but owing to the low prices which have been paid for these commodities during the past few years their cultivation has been neglected. Wherever they have received a fair amount of attention good returns have been obtained. Cherries are being planted quite extensively in places, and if properly looked after will without doubt be profitable. Small fruits have not been planted much except by a few growers. But to show the possibilities in this line, I need only mention the strawberry plantation owned by Mr. J. E. Johnson, Simcoe, who has under cultivation 20 acres of strawberries interplanted among his young fruit trees. A photo showing a section of this plantation is reproduced with this article. Mr. Johnson is not satisfied unless he obtains a yield of 8,000 quarts to the acre, which yield sounds large when

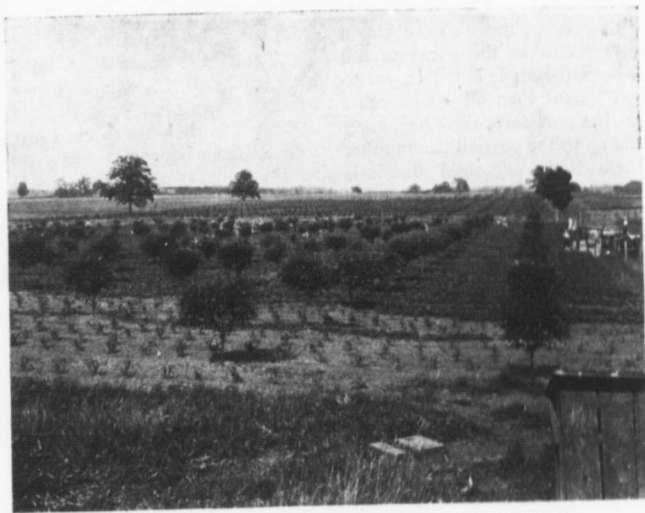
we consider that the average yield in the Province is only about 2,500 quarts. But when his selection and care in planting, and the general condition of his plantation are taken into consideration and compared with what is to be found on the average strawberry plantation the reason for the large difference in yields is at once apparent.

Although this county is favored in many ways for fruit growing, it has one great drawback in its lack of good transportation facilities. Most of the orchards average six or seven miles from the railway, and this factor adds greatly to the expense of handling their produce. Not only that, but the possibilities of the district are greatly decreased in the estimation of prospective settlers. However, the prospect for the future of the county should be bright in this regard, situated as it is a comparatively short distance from Niagara Falls and its immense power supply. A few good transportation lines through the county would increase the value of property noticeably, and add greatly to the comfort, and increase the enjoyment of the whole of the people.

It is only within the last few years that the county has been brought to the notice of the public as a fruit growing section. If it had not been for one factor the county would doubtless still be in the same unprogressive condition to-day as it was a few years ago. This one factor, which has done so much to influence the advancement and prosperity of the county as a whole, is the Norfolk Fruit Growers' Association. Looking still further, we find a large share of the success of the Association to be due to their energetic manager, Mr. J. E. Johnson, who has received, in most cases, the hearty co-operation of the members of the society. For a few

years previous to its organization, attempts had been made to organize but not until Mr. Johnson took hold of the movement did it meet with real success. Mr. Johnson is well acquainted with the practical part of fruit growing, and this acquirement is supplemented by a broad knowledge of the trade from a business standpoint, as he bought fruit in Canada and the United States for many years previous to becoming manager of the association. He is un-

crop being so small and the culling necessary to get barreled fruit being so great that there was comparatively little good fruit left. This year the association packed approximately, 19, 200 barrels of apples, and as they control only about one-half of the orchards in the county you can readily figure the possible output of the county under good management. To account for this large increase in yield, I will give the figures for an individual orchard



STRAWBERRY AND FRUIT PLANTATION OF J. E. JOHNSON.

tiring in his efforts to forward the fruit interests of Norfolk County, and his work is being rewarded in the rapid advancement which has been taking place during the last few years.

Previous to the formation of the society Mr. Johnson, who was one of the largest buyers of fruit in the district, was never able to obtain more than 3,000 barrels of apples annually, the

which is a fair representation of the increase in many orchards. An orchard of two acres, containing 65 apple trees, gave the following yields: 1906, 60 bbls.; 1907, 65 bbls.; 1908, 100 bbls.; 1909, 220 bbls. This is the total yield of barreled fruit and added to this is the fact that a larger percentage of apples were suitable for barreling this year than in any previous year. Ten

trees of Grimes' Golden, in this orchard, having practically the same set of fruit in 1907 and 1909, gave in 1907, when not sprayed, 17 barrels of packed fruit, the balance being peelers and ciders. In 1909 these ten trees, sprayed, yielded 57 barrels of packed fruit.

There has also been a marked increase in prices. Previous to the organization of the society the price for apples averaged \$1.00 per barrel. This year the growers outside the association received \$1.00 per barrel on the tree, or where they sold by "lumping" the orchard they have netted 50 to 80 cents per barrel. The association members have netted this year \$2.00 per barrel on the tree. The trend of public opinion as to the benefits derived by becoming a member of the association, and the increase of their confidence in the co-operative movement, is shown in the increase in membership since organization as follows:—1906, 17 members; 1907, 52 members; 1908, 152 members; 1909, 188 members.

Added to the pecuniary benefits, there are many educational advantages which accrue from the association. Meetings are held during the winter at different places throughout the county to discuss questions of interest to the practical fruit grower. Spraying and pruning demonstrations are given in the orchards in different parts of the county to give the people a better understanding of these important operations. Circulars are also sent out giving explicit directions for spraying, picking, packing and other operations at the time when they will be most useful to the fruit grower. Space will not permit me to dwell on these to any extent, but the reader can see that added to the pecuniary advantages of the association the educational features are of immense value.

The adaptability of the county for fruit growing augmented by the benefits derived from a good live co-operative association bids fair to make Norfolk County one of the foremost of fruit growing counties in Ontario. That the people from a distance have noticed the county's recent progress and are confident that it will not be of short duration is shown by the fact that a number of well-known and responsible men, some of whom all the readers of *The Review* are familiar with, have bought property in the county during the past year. The county a short time ago added an agricultural department to the High School and was fortunate in securing the services of Mr. P. E. Angle, B. S. A., to take charge of it in addition to his services as District Representative of the Provincial Department of Agriculture. What takes place in the county during the next few years should be worth our attention.

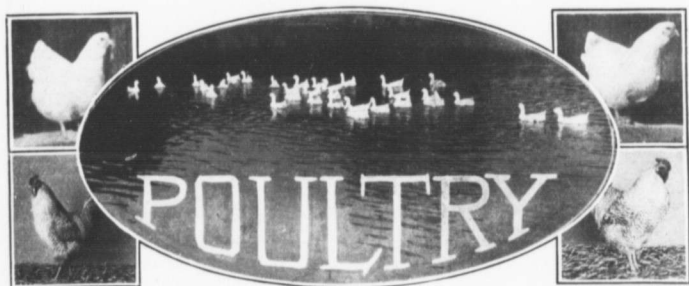
It is readily seen that the fruit growers of Norfolk County have been able to accomplish much through the introduction of business principles into the handling and selling of their product. As this is only a part of the work of the fruit grower we naturally wonder what would be accomplished if we should adopt business principles in all farm operations. What the farmer and fruitgrower of to-day lacks to possibly the greatest extent is the use of business methods in his work. Where would our manufacturing concerns be to-day if they ran their business in the same manner in which the average fruit grower does his? The manufacturer figures what it costs to produce an article, taking into consideration besides the labor involved, the interest on capital invested in his business, the depreciation in the value of his plant, etc.,

and then sells his manufactured article so as to insure a fair profit. How many fruit growers do this? The manufacturers use the same principle in buying. For instance in buying machinery they take into consideration not only the primary cost, but the profits derived from these machines during their life time and compare them with cheaper or dearer machines, as the case may be. Now turn to the fruit grower. For instance, how many fruit growers with an annual output of 250 barrels of spraying mixture will consider the comparative value to them of a \$22 or \$65 hand pump or a \$250 power sprayer. The majority of fruit growers consider principally the primary cost and buy the cheaper outfit; whereas if they figured the comparative value of the three machines as the manufacturer would do, they would often find themselves better off to buy the power outfit, even if

they had to borrow the money to do so. Not only do farmers and fruit growers, as a class, lack business methods, but practically nothing is being done at our agricultural college to correct this. A series of lectures by a competent man on farm management and the business side of farming would no doubt be welcomed by the students of the college. Not only that, but if the 100 men or more who go out annually from the college had received a course of lectures along this line its influence would soon be felt by the farmers of the Province as a whole. If the fruit grower of Ontario keeps up-to-date in his methods and installs business principles into the the smallest detail of his work as has been done in Norfolk County on a large scale in the co-operative movement, Ontario, with its great natural resources for fruit growing, should have a bright future along this line.



DONALD JOHNSON, FOREST, ONT.
President of the Co-operative Fruit Growers
of Ontario.



Co-operation in Marketing Poultry and Eggs

ADDRESS DELIVERED AT THE POULTRY INSTITUTE, O. A. COLLEGE
BY PROFESSOR F. C. ELFORD, MACDONALD COLLEGE.

THE need of co-operation is beginning to impress itself very forcibly upon the minds of our poultry producers. There is a woeful lack of system in marketing the poultry products, such as eggs and dressed poultry. There will be no improvement in quality or advance in price as long as a poor system of selling the produce is followed. As an example we only need to look at the way eggs are sold. While good prices are paid for eggs, yet much of the profits are eaten up by the poor system. The eggs are collected by the egg pedlars, who work on commission. These men pay the same price for both good and bad eggs, and sell them at the grocery store, where they are held for several days. The egg dealers now get hold of them and from there they go to the retailers, and then eventually find their way to the consumer's table. This system is decidedly wrong as there is neither uniformity of quality nor profit for the producer. The price of eggs should be determined by the quality. An egg is at its best when fresh, and the sooner it reaches

the consumer the better will its quality be. Under present conditions our eggs go through the hands of too many middlemen, who get their commission, which is deducted from the farmers' prices. There is also too long a time required till the eggs reach the consumer, thus causing a deterioration in quality. In many cases the cost of marketing is almost as high as the cost of production, hence the need of reformation.

The estimated loss in Canada during the last year on eggs alone is \$2,500,000. This is divided up as follows: Dirty eggs, \$300,000; broken eggs, \$300,000; chick development, \$750,000; shrunken, \$750,000; due to rot, \$375,000; bad flavor, \$75,000. Surely this is too big an item to be lost every year through carelessness.

Now, in order to make any material improvement on the old system the only remedy suggested is judicious co-operation between the individual members at the producer's end, and also between the producer and consumer, who form the two ends of the industry. We

have heard it said that co-operation cannot work in marketing eggs, but this must be considered as foolishness. The need of co-operation is apparent, it is only a matter of learning and applying the system. Its advantages can readily be seen in the fruit and dairy industries, and what it has done for them it will do for the poultry industry. Farmers have been taught how to produce stock and eggs, and the next step is to teach them how to dispose of it to the best advantage.

If there were a recognized national standard regarding quality it would aid materially in marketing, but there is no recognized system of grading in either dressed poultry or eggs. The aim of the association is to form branch co-operative societies, which would receive, grade and market the poultry products on a uniform basis. This means a recognized standard in all the districts where branch societies are organized. It is a principle that should be adopted by the whole Dominion.

Government aid is promised, but it is not forthcoming until poultrymen have become organized and know what they want. At the present time there is no inspection of poultry products, a man can market anything and everything he wants, and he can call it anything he feels inclined to. There is no discrimination between new-laid and cold storage eggs, and crate-fattened fowls sell for the same money as the bare-breasted, grain-fed chickens of ordinary quality. By adopting a national standard this wholesale robbery would cease. Government inspection is necessary in order that the poultry products placed upon the market may be inspected as to quality and condition. The whole matter resolves itself into this: The farmer will market his eggs and dressed poultry in first-class condition if he can get better prices, and the consumer is willing to pay higher prices provided he gets the quality, therefore all that is needed is effective co-operation.

The Poultry Institute

THE annual Poultry Institute was held in the Poultry Classroom at the College, on Feb. 8th, 9th and 10th. All the meetings were well attended, both by students and outside poultrymen. Addresses were given by prominent men who have made a success in different branches of the poultry industry.

Mr. W. H. Card, an expert poultry judge of Manchester, Conn., gave one lecture on "Breed Types," and another on "American and English Breed Types." Both of these were illustrated

by drawings. In another lecture he told us how, by proper selection and breeding, he made a new breed, having all the good points of all the breeds. His address, "Business Tactics on a Poultry Farm," was taken from a chapter of his own practical experience, showing how he made a success of the poultry business.

Mr. John Robinson, Editor of Farm Poultry, Boston, Mass., in talking of the "Success and Failure of Poultry Farms," emphasized the importance of raising poultry on cultivated land and

giving the birds free and unlimited range. "Intensive methods," he said, "are bound to fail." According to observations he had made there were comparatively few successful poultry farms. He clearly outlined his ideas of the "Poultry Business of the Future" in the following manner: "The upper most idea in the minds of poultrymen from now on must be to develop a permanent poultry culture. Everything must be considered from the viewpoint of its permanent value. Intensive methods may have their place, but everything must be based on simple methods. It is no more a question of nutritive ratio, but rather simple facts giving results. Higher mathematics in connection with poultry raising are now a thing of the past, and we are trying to make conditions natural." In conclusion he pointed out the importance of making poultry keeping a feature of diversified farming in order to develop every possibility of revenue on the farm.

"Poultry, Fruit and Honey," was the subject of Mr. John Clark's address. This is an example of what an energetic and enterprising Ontario farmer can do by following a diversified system of farming. The majority of farmers are satisfied if they can take one good crop off their farm each year, but Mr. Clark has gone a step further and secures three crops annually off his twenty-five acres and has at the same time in-

creased the value of the farm thirty per cent. during the last four years.

Mr. A. J. Gilbert, of the Central Experimental Farms, who is a pioneer in the poultry industry of Canada, related his experience in poultry raising.

Mr. F. C. Elford, of Macdonald College, spoke on "Housing, Feeding and Breeding for Egg-Production." He clearly showed the necessity of following systematic methods in order to get practical results. He advised lessening the labor as much as possible, so as to lower the cost of production. The results which he has been able to obtain prove him to be a man of action as well as a man of words.

"Co-operation" seems to be a subject close to his heart, as was shown in an eloquent address at the close of the Institute.

The evening meeting on Feb. 9th was held in Massey Hall, where Mr. G. C. Creelman gave a short address on the relation of the poultry industry to other lines of farming. This was followed by an address from Mr. Peter White, of Pembroke, Ont., on the "Possibilities of the Poultry Business in Ontario." The speaker spoke in glowing terms of the importance of the industry and the bright prospects for its future development.

A notable feature of all the meetings was the keen interest taken by those attending, and the very practical nature of all the addresses given.

Poultry Education

ONE of the main objects of poultry education at agricultural colleges is to give the student a better understanding of the principles underlying poultry husbandry. Poultry

is considered to be one of the most difficult subjects to teach, but with liberal facilities provided for carrying on the work, combined with thoroughness in the course, the student gains at least a

working knowledge of the practical side of poultry raising. The future progress of the industry will depend largely on the quality of the material turned out at these institutions.

Poultry education must prepare men to fit into the new condition of things. It requires no special training or experience to feed a few fowl in the back yard or to raise a few chickens, but it does require special training and exact technical knowledge in order to run a commercial plant successfully. In this country we are, however, not so much concerned about the commercial plant, but what interests us more is the idea of putting the poultry we have on a more profitable basis by improved methods of care and management along with proper selection and breeding. This is the line of work mapped out for poultry instructors to follow in educating the farmer and poultryman to present day methods of poultry culture.

There is no industry in the entire sphere of agriculture that is spread over such large and varied classes of people. Men and women in all vocations of life are represented in it. In view of this fact the instruction given must be more along practical lines, based on knowledge gained by actual experience, rather than the scientific side of the question. Right here we will state that the most serious drawback to education in poultry husbandry is a lack of that mass of accumulated experience which we find in other industries, hence the necessity of having the instruction based on actual experience. A thorough knowledge of the subject becomes an absolute necessity

in order that the greatest good may result to the greatest number.

The practical poultryman encounters difficulties at every turn, and trained men are needed to help him solve these problems. This opens a large field for usefulness to poultrymen who are adapted to teaching or investigating, and have the natural ability and the education to carry on the work successfully. The regular courses at our colleges should be so regulated that the poultryman who has completed his course will aid in building up the poultry industry rather than adding to the already too long list of commercial failures. The time spent on poultry in our own regular course is none too long for a student to acquire even a tolerable knowledge of the subject of poultry culture. Notwithstanding the importance of a thorough course we believe that even the short course of four weeks is well worth the time and money required to take it. Students taking this course should be able to give material aid in building up the industry in various parts of the Dominion.

With the rapid improvement in the devices for incubating and brooding, housing and feeding, and with the increased demand for poultry products, will come new methods of procedure, new difficulties will be encountered, and new problems for solution will arise. If the progress in poultry instruction and investigation is sufficient to meet the requirements of this new poultry culture, then those in authority and poultrymen generally will recognize the value of education and scientific methods as applied to poultry keeping.

THE O. A. C. REVIEW

REVIEW STAFF.

S. H. GANDIER,	Editor
C. M. LEARMONTH, Agriculture.	W. DAWSON, Locals.
W. R. REEK, Experimental.	P. E. LIGHT, College Life.
S. E. TODD, Horticulture.	A. C. BAKER, Cartoonist.
F. M. CLEMENT, Athletics.	MISS BELTON, Macdonald.
M. C. HERNER, Poultry	MISS FLAVELLE, Ass't Macdonald.
H. A. DORRANCE, Alumni.	MISS ROSS, Locals.
S. ROGERS, Staff Photographer.	
O. C. WHITE, Business Manager.	
W. W. Emerson, Assistant Business Manager.	

Editorial

Since the present Review staff holds office until June, we may appear previous in bringing this matter before you. It is necessary, however, that the officers for 1910-11 be elected before the end of the term in April and we deem it wise to say a word in this connection.

The Election of the Review Staff

In former years it has been the custom of the Review staff to select men who are recommended to the student body for election. This may have been a wise precaution and certainly insured the election of capable men. Such a method was almost necessary because the matter of "The New Review Staff" was not placed emphatically before the students for any length of time previous to the election. We are safe in saying that mistakes have rarely been

made when men have been chosen in this manner, for each recommended man had been thoroughly considered in relation to the office for which he was proposed and, in many cases, had been "tried out" and found perfectly satisfactory. This year, however, we wish the voice of the student body to assert itself more strongly; we want the support of the students behind every elected man so that the work of The Review may be continued in September with confidence and assurance. There will be no recommendations made by the staff this year. If the staff has favorable opinions of certain men, these men will be nominated by their supporters just as any other man will be nominated and the issue of the election shall then be left entirely to the students. The election will probably take place

towards the end of the month. Watch The Review bulletin board for definite date. By having their attention called to this matter now, the students will have ample time in which to consider candidates for the various positions on the staff. To give everyone a thorough understanding of the election, we here give a list of the officers to be elected:

Associate Editor, to be chosen from the present Sophomore year.

Agricultural Editor, from the present Junior year.

Experimental Editor, from the Junior year.

Horticultural Editor, from the Junior year.

Poultry Editor, from the Junior year

College Life Editor, from the present Sophomore class.

Athletics Editor, from the Sophomore year.

Alumni Editor, from the Sophomore year.

Artist, from any class.

Staff Photographer, from any year.

Locals Editor, from the present Freshman class.

Business Manager, from the present Junior year.

Assistant Business Manager, from the present Sophomore class.

This summary will serve as a guide in making your choice.

We might here suggest a few precautions which may not otherwise occur to you:—

Don't nominate a man just because he is "a good head." He may be deficient in ability.

Don't nominate a friend for the sake of mere friendship.

Don't overload a man who is already burdened with offices.

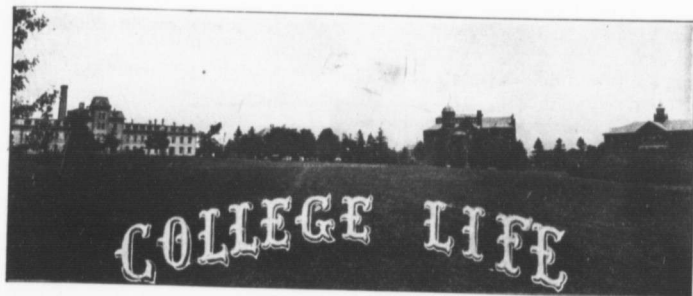
Don't nominate a man for the sake of a joke.

Don't leave the matter of "The New Review Staff" to the other fellow. Assert your individuality.

Don't forget that the success of The Review for the ensuing year depends upon your intelligence as electors.



THE PRODUCT OF AN ONTARIO WOOD LOT.



Conversazione

ONE might criticize the appearance in this number, of two reports on the conversat. Yet there is not much room for grievance, because mere man has written this account, whilst the color artists of Macdonald Hall have subscribed the other. We shall confine our comments to the subject of the conversat in general. Our fair writers has given us the benefit of their knowledge of color effect, the blending of a dainty costume with the color shades on the electric lights; the effects that the tints of the punch had upon the sandwiches; the sweet blending of the picturesque daintiness of the orange-tinted lampshades, with the dazzling splendour on the oriental boudoir.

The doors of Macdonald Hall were thrown wide open at eight o'clock on the eve of January 28th, to the guests of the 7th Annual Conversazione, given by the Junior Class of the Ontario Agricultural College and the students of Macdonald Hall. This function is the means adopted by the students to return past favors, and also to entertain friends and relations from far and near. Invitations are also given to our Sister-Colleges in Ontario.

We but voice the sentiments of the many, when we say that this social evening was the best ever offered. In decorations, music and arrangement it was hard to realize the possibility of improvement without the incurring of greater expense.

The decorations, although somewhat simpler than in previous years, were very tasteful. Care was taken to avoid the heavy effect generally given by the use of evergreens. In the gymnasium one could, without a strain on the imagination, believe oneself to be in the green forest at the hour of the setting of the blood-red sun. The four arches of the gym were gracefully festooned in sweet scented cedar boughs, pine and balsam branches. Almost hidden within the green were electric lights covered with red, rose-shaped petals, whilst the larger lights in the centre beams were hung also in red. The effect was very pleasing to the eye. Cosy corners were tastefully arranged at different parts of the room and gave an air of comfort to the whole decorative scheme.

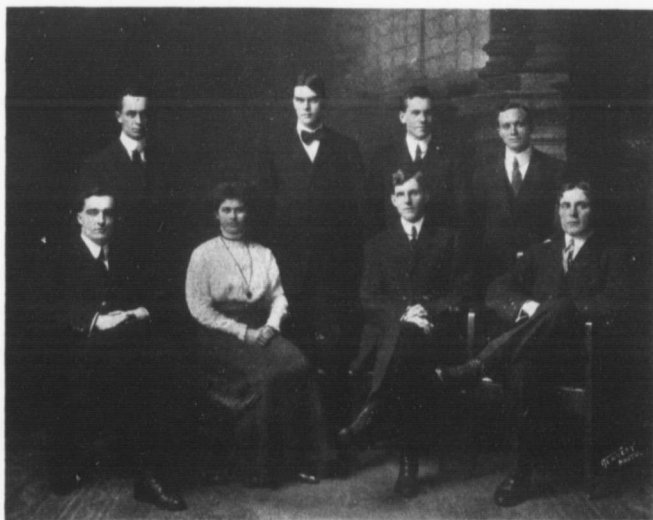
The students' sitting-room on the second floor was decorated in red and was known as the Red Moon. The

color scheme was clever and reflects great credit upon the young ladies responsible. The upper hall differed from the rest in that the electric lights were covered with a pretty shade of yellow. These threw a restful light upon the well covered refreshment tables which ran the entire length of the flat.

Perhaps the prettiest and most artis

building and were so artistically draped that one sought comfort in voluntarily.

The musical programme was of the best. Miss Morgan of Toronto, rendered very delightful solos during the evening and was called again and again. Mr. Blight, who possesses a marvellous voice, was at his best, and his appropriate selection caused the



CONVERSAZIONE COMMITTEE.

H. L. Keegan. H. A. Dorrance. A. J. Galbraith. S. H. Gandier.
W. W. Emerson. Miss L. D. Hogg. J. E. Smith. W. Toole.

tic adornments were those in the dining-room on the first floor. The west end was tastefully arranged as a Japanese sitting-room, whilst the eastern extremity suggested an Indian wigwam.

The programme was an excellent one, both in arrangement and choice of talent. Rendezvous were arranged in every nook and corner of the spacious

gymnasium to be crowded at each rendering. Mr. Hahn's selections were also well received, and applauded.

Thane's Orchestra of the city, provided the evening's music, and added greatly to the enjoyment of this pleasant function. Miss Jessie Hill, of Guelph, was the able accompanist.

Poultry.

A new position has been created at

the Poultry Department, and is that of "Lecturer in Poultry." To fill the position, Mr. A. H. McLennan of '08, has been chosen. Mr. McLennan is an en-

thusiast, and, as the name implies, is of Scotch origin—Scotch enthusiasm is another way of writing success. The need of assistance in this department is very obvious and Professor Graham is to be congratulated on the choice which he has made. We feel sure that Mr. McLennan will make good, both socially and in his professional capacity—*utile dulci*.

Literary Society, was a decided success. This event took place on the 19th of January at eight o'clock, and was excellently well attended, probably because the names of the contestants and the subjects of their speeches promised an enjoyable evening.

Mr. O. C. White easily won first place, both in the opinion of his audience and the judges of the contest. The subject of his speech, "The Farm Drainage Problem," is a subject of great economic importance to the Canadian farmer, and the suitability of his speech as an institute address was easily the best. Mr. White handled his subject in a masterly manner, and impressed his audience with the idea that he knew whereof he spoke. We congratulate Mr. White on his success.

Mr. J. E. Rettie, of Class '12, won second place. His speech was good from the farmers' point of view, and a good deal of useful information, on "The Cultivation of Turnips as a Commercial Crop in Ontario," was delivered to his attentive listeners.

The musical part of the programme was given by the following artists: Mr. Howard Russel and Mr. Robert Wilson, both of Toronto. Mr. Russel's vocal selections were greatly appreciated, and gave free use to a splendid voice. The element of humor provided by Mr. Roberts was funny without being vulgar and relieved the possibility of monotony during the evening.

The judges of the debate were—Mr. Theo. A. McGillivray, Professor W. P. Gamble, and Professor J. W. Crow. The Union Lit. Committee is to be congratulated on the success of the evening's entertainment.



A. H. McLENNAN,
Lecturer in Poultry.

Public Speaking Contest.

The 9th Annual Public Speaking contest, under the auspices of the Union



A Summer on the Montreal

W. R. REEDS.

The following article has just been received from Mr. W. R. Reeds, formerly Physical Director here, now a medical student at 'Varsity, who after leaving here last spring went prospecting in the north country. Mr. Reeds sends his best wishes and desires to be remembered to all the boys.—Ed.

PERHAPS the average person living in the older settled parts of Ontario is a stranger to the fact that there lies well within the boundaries of our Province a country ice bound for fully six months of the year. Almost to a day the Montreal seals her shores from the middle of November until the middle of May.

It was somewhat of a surprise to us, after gliding past the fertile fields of York and Simcoe Counties, and seeing the industrious farmer scattering the seed, the trees bursting forth into leaf, and the birds twittering gayly on every hand, to find, in less than a day's journey further north, only snow and ice everywhere in evidence.

Our purpose was to pass up the river by canoe from Latchford, and although we succeeded in carrying out our plans, it was not without some difficulties. The way was clear for some thirty or

forty miles, we were told, but after that we would find ice ahead. Camping on the bank of a river in the "good old summertime" is all that it's cracked up to be, but not just so desirable when the snow lies two feet deep on the level. However, by using evergreens very freely, we managed to exist, and be glad that nature was so kind. After battling against the fast-flowing river for a day and a half, we caught up with the vanguard of prospectors, who had pitched their tents hard by a supply station, awaiting the "forces of King Sol" to open up the way. Our friends advised us that we might content our selves to rest a week, as there was nothing in sight but ice, and lots of it. But sometimes good advice is not taken. It was not in this instance. Securing a fair supply of rations we pressed on, picking our course along the narrow strip of open water that

seemed to appear near one bank of the stream. By squeezing our way along wherever possible, portaging where absolutely necessary, and chopping a trench through in some places, by the end of the third day we reached our destination in the mining region, about fifty-five miles up-stream from Latchford.

The latter weeks of May were spent in work preliminary to actual mining operations, such as trail-cutting and preparing fuel for the summer's use. The snow being still deep prevented surface prospect work, except on the more elevated ground. Even this early though, we were reminded that we were intruders in a territory belonging to a lower, winged race, and that if we were to hold the footing gained, we must prepare for battle and resign ourselves to being punctured through and through ere we could hope to win out. The long, lean, gaunt, hungry "skeeter" keeps up operations from the first of June until the middle of August.

In a mining country in such close proximity to agricultural districts one would expect to find, and does find, not only old miners, but a large proportion of "tenderfeet," with a mixing of half way between class. Allow me to remark that only the first-named class are recognized as miners. A miner is an individual who knows the science of mining. He can temper steel to suit the various grades of rock; he can strike a drill squarely on the head ninety-nine times out of one hundred; he can timber a tunnel or a shaft; he knows the secret of breaking the great amount of rock with the smallest expenditure of labor. He has studied in a practical way the thousand different grades of ores and knows good looking stuff when he sees it. He is a great man, and best of all, he is a

quiet, unassuming individual. He doesn't swear unless under great provocation. The half-way-tween and tenderfoot are often ridiculously profane, apparently thus endeavoring to make retribution for ignorance in their occupation. However, this may be, all are good fellows to live with, and no better, bigger-hearted men can be found in any other class. With good company, a nine-hour work day, an invigorating climate and good grub, one can spend a very pleasant summer.

Just a word about the grub, though I know this is a vital subject to many of my readers. The suitability of food depends largely on the cook, and this is more markedly the case where provisions come from a distance. The bread must be home-made, and fresh meats are unobtainable. In our camp when a change of diet was desired a new cook was secured, and as we fared on the daintiest dishes provided by six different cooks in all, during four months and a half, no serious complaints could be laid. Men, however easily pleased, occasionally do get dissatisfied in this country, with the condensed variety of milk. I remember one sweet day a cow wandered down the trail from Elk City. That evening we were in the land flowing with milk, if not with honey.

Within the limits of this article I am unable to describe the various work pertaining to a mining camp. Permit me to state, however, that for the student with average bodily strength, and a willing hand, a summer spent in a camp of our great northern mining country would seem to me a very desirable vacation.

Hockey.

Inter-year hockey, without doubt, calls forth far more spirit and enthusi-



FRESHMEN VERSUS SOPHOMORES.

asm than any other sport. It is looked forward to with greater interest and the teams train much harder than for any other sport, not simply because the winners hold the challenge cup for the year, but because it is "the" winter sport that appeals to all Canadians.

The games here showed all the points of hockey from the cross-check, trip and slash of primitive times to the brilliant, scientific play of the "star." But the interest never slackened, in fact, it seemed to grow as the season advanced, the accompanying cut being a fair representation of the attendance at the "big games."

The season opened with a brilliant rush by the Freshmen, who actually snowed under the Sophomores to the extent of 10 to 1; and great was their joy. But it was not long lived, as just one week later they were obliged to take second place in a closely contested match with the Seniors; score 5 to 4. This was a surprise to all, even to the

grave and cogent Seniors themselves, but they smiled and said nothing. In the meantime the Seniors and Juniors had settled their little difference, the Juniors winning by 5 to 2; not much interest here. Two days later the Sophomores and Juniors met. Sophomores 0, Juniors 5; still less interest here. This left just one more game before the finals, but the issue of this was not doubtful for a moment, the Sophomores going down before the ever progressive Seniors by a score of 9 to 0. And now for the finals. If the Juniors win they are champions for 1910; if the Freshmen win there is a three-cornered tie, and the series must be played over again. But it was not necessary to continue the games. In a hotly contested match, the best of the season, the Freshmen went down to defeat by the very narrow margin of 2 to 0, or by the corrected score 1 to 0, the first goal being disputed, leaving the class 1911 champions for the third time.

Alumni

G. M. Frier, B. S. A., '08, was last year Dean of Residence and Assistant in English at the College. He resigned that position last June to accept a position in the Department of Agronomy at the Purdue University, Lafayette, Indiana. The head of the department there is G. I. Christie, also an O. A. College graduate.

A. A. Knight, B. S. A., '09, has been appointed Assistant to D. A. McKen, District Representative at Lindsay, Ont.



G. LE LACHEUR.

G. LeLacheur, an Associate of '08, who, during the past year, has been connected with the Macdonald College at St. Anne de Bellevue, P. Q., has given up his position there. At present, he is Principal of the Macdonald Consolidated School, at Hillsboro, P. E. Island. LeLacheur has reorganized

the school and put it on a more practical basis and we are safe in predicting a very bright future for the school with such an able man at its head.

J. B. Hoodless, who for some years has been superintendent of the farm of W. W. Wadsworth, at Geneseo, New York, has given up farm life and returned to Hamilton, and is now in partnership with his father in the furniture business.

Walter Hamilton, '04, a native of Ravenstein, York County, is now managing a large estate, "The L'Alarga Estancia," in the Argentine Republic. To give our readers some idea of the size of this estate, we may say that last year the wheat harvest yielded the owner 50,000 bushels. Hamilton has made good and is prospering.

W. H. Irvine, one of the Dairy Specialists of '09, has secured a good position in his line at Montreal West. Irvine is manager of the Elmhurst Dairy, a firm catering to the high class trade of the city. At present the firm is making specialty of certified milk and expect in the very near future to branch out more widely in this class of goods. We bespeak for Irvine the greatest success in his work.

Percy Suckling, '02, has a very prettily situated and profitable fruit farm on the Salmon Arm, near Sicca more, B. C. Believing "that man was not made to live alone," he, in June last, came east and took back as a life com

panion one of Toronto's fairest daughters. We trust that the partnership thus formed will be a happy and prosperous one.

One of our Old Boys, who have made great names for themselves in the West, is Ernie L. Richardson, '97. After leaving the College, Richardson for two years managed a dairy farm at Myrtle, Ontario, but, believing that better opportunities presented themselves in Western Canada, he went to Winnipeg. Here he secured the position of bookkeeper and stenographer for a large financial institution, but remained there only one year. In 1900 we find him travelling westward again, this time stopping at Regina as Assistant Secretary of the Territorial Live Stock Association and Superintendent of Farmers' Institutes for the Territorial Government. Two years were spent in Regina, then a promotion and another move, this time to Calgary, as Assistant Manager of the Calgary Fair, the Live Stock Associations and Assistant Secretary of the Board of Trade. Five years later he received another promotion to the position of Manager of the organizations just mentioned, and remained in charge until 1908, when he resigned his position on the Board of Trade in order to devote more time to the other organizations. Besides the various duties connected with the different societies Richardson also does Exhibition Work for the Alberta Government, erecting exhibits at the various Expositions throughout Canada. This is a most enviable record, and to the training received at the O. A. C. College Mr. Richardson attributes his phenomenal success. Ernie is married and has two sons, whom he expects, will some day be students at the institution that did so much for him.

The class of 1882 and '83 will remember Jesse D. Robinson, of Elgin County. He is not a graduate of the College owing to circumstances at home not allowing him to return to the course for the spring term of either year. He has always taken The Review and kept himself in touch with many of the Old Boys by being a member in good



E. L. RICHARDSON.

standing of the Experimental Union, of which he was one of the founders. During his second year at College, Robinson was President of the Literary Society.

In 1885 Mr. Robinson took up the study of Veterinary Medicine, and two years later graduated from the Chicago Veterinary College. In November of

the same year he was married to Miss Agnes Stewart, of Balmoral, Elgin County. Dr. Robinson commenced the practice of his profession in Illinois and was for three years Assistant State Veterinarian for that State. In 1892 he left the Government service and moved to Washington, D. C., where he is at present located. On the death of his father, Jabel Robinson, ex-M.P. for West Elgin, who brought the first Grange Excursion to the O. A. College, Dr. Robinson purchased the home stead, "Linslade," a beautiful farm of two hundred acres, situated about four miles from St. Thomas, Ont.

The Doctor at present divides his time between the land of his nativity and the city of his adoption, spending the summer at Linslade and the winter at Washington. The many friends of Dr. and Mrs. Robinson in this country hope that this will soon be discontinued and that their continuous residence will be at Linslade.

One of the really Old Boys of the O. A. College is Thomas R. Pearson, who attended the College during the years 1875 and 1876. Filled with the intention of becoming a farmer he, in the spring of '77, went to British Columbia, where circumstances however, led him to change his mind regarding an occupation. Landing in Victoria on a Saturday, Pearson was offered a position as a clerk in the paymaster's office of the old C. P. R. Survey at a very attractive salary. This position was accepted and held until February of the following year, when he was promoted to the position of chief clerk in the office. In August, 1879, the offices were moved to New Westminster and two years later abolished, and this necessitated Pear-

son looking for another occupation. He then entered mercantile life, conducting a book and stationery business and being partner in the British Columbian Printing Company, and some twenty years ago entered the insurance and real estate business, which three years ago was merged into the Dominion Trust Company, Limited. Of this concern Pearson is a director, member of the advisory board, and local manager at New Westminster, B. C. Besides these various business activities Pearson has served three years as alderman of the city and was for several years Secretary of the Royal Agricultural and Industrial Society, the next largest exhibition in Canada to that at Toronto.

Whilst the circumstances referred to above would appear to have prevented his actively engaging in agricultural pursuits, he has never failed to take the most active interest in all such matters; has many times acted as a judge of poultry, cattle and fruit at different exhibitions, and has always been a prominent exhibitor of horses, Jersey cattle, poultry and fruit all of his own raising, and has been a successful prize winner. For a number of years Pearson has owned farms in British Columbia, for several years managed a large landed estate of several thousand acres and at present has three hundred and twenty acres, which he is about to improve and make into an up-to-date farm, and expects to remove his family from the more trying city life to the quieter one of the country. So you see even if he has not become a farmer in the active sense, the information gained during the two years at the O. A. College was time well spent, and a source of continual enjoyment to him throughout the subsequent years.



Student Life at Macdonald College

R. INNES, CLASS '11, MACDONALD COLLEGE.

OWING to the great similarity between the student bodies of the Ontario Agricultural College and Macdonald Institute at Guelph, and Macdonald College at Ste. Anne de Bellevue, P. Q., an insight into the student life of the latter may prove of interest to readers of The Review.

This college was founded and endowed by Sir William C. Macdonald, and is without a doubt the most modern and best equipped institution of its kind in the world. The buildings are admirably arranged and in their construction and fitting are beyond all praise.

The College is divided into three main schools, namely: Agriculture, Household Science and Teachers. The courses of instruction in the first two are similar to those outlined in the Guelph calendar, while those of the last are practically the same as those given in the Model Schools of Ontario. At present the School of Agriculture comprises only three classes. The Juniors, only sixteen in number, most

of whom were the first students at the College, are the Senior class. They represent the different countries of Canada, England, Scotland and New Zealand, and have, since the time of entering the College, done much in assisting the Faculty in matters relating to the student body, setting a worthy example for the classes that follow them.

The uniqueness of Macdonald College is in no way better illustrated than by its social organization, and no doubt the social side of the student life will prove of greatest interest in an article of this nature.

The students of the three schools pursuing for the most part widely different studies during lecture hours, mingle three times a day at least, in the common dining-room. Places at the tables are allotted every two weeks, five boys and seven girls being usually seated together. Care is taken that the same students are not placed together too frequently, thus preventing the tendency of too great intimacy. The society of the fair Science damsels



Class '11, who will be the first graduates in Agriculture at Macdonald College, with their Honorary Officers, Dr. J. W. Robertson and Mrs. O'Hara.

and pretty teachers-in-embryo, cannot fail to have a refining effect on the male students.

But opportunities for social intercourse are by no means confined to the dining-room. Concerts in the Assembly Hall, sleigh drives, skating rink, snowshoe tramps, Sunday afternoon walks—all have their place in the Macdonald College social scheme.

The most important social function is the Fancy Dress Masquerade, given annually by the Agricultural students in the men's gymnasium, and in a way takes the place of the *conversazione* held at Guelph.

However, we must not forget the receptions and entertainments held in the Boys' and Girls' gymnasium throughout the term. The different classes, separately, have a special social evening, which always proves to be greatly enjoyed by the other students, the Staff and their friends.

Several times during the week the students and Staff assemble at noon to listen to short addresses by prominent men and women who are frequently visiting the College, or for any announcements which the Principal has to make. These assemblies take the place of the daily roll call and announcements before lectures at Guelph.

Every second Saturday afternoon, we have the pleasure of listening to an organ recital, rendered by G. Harold Brown of Montreal, on the magnificent pipe organ in the Assembly Hall. He is ably assisted by other noted musicians and vocalists from different parts of Canada, who furnish a musical treat which cannot otherwise be enjoyed except in the most refined conservatories of music.

One of the most pleasant features of College life is the great success of the

Literary Societies. Besides those of each class, which meet every Thursday evening, there is the Macdonald College Literary and Debating Society, composed of all the students which has its meetings every three weeks. Literary and musical evenings at which original papers and addresses on social and other subjects are varied by song and instrumental music, alternate with debates on important questions of the day or on subjects of general interest. At present there is a series of inter

Montreal, Ottawa, and other cities. The excellent music rendered by the choir of students and Staff, and the large pipe organ, together with the eloquent addresses of the speakers, remind one of the services of a large cathedral.

Athletics also hold an important place in the life of the students. Each residence is equipped with a splendid gymnasium and swimming pool. These make it possible for the students to attend physical culture classes and in



LADIES' RESIDENCE, MACDONALD COLLEGE.

class debates in progress between the Agricultural students, which is arousing a great deal of interest.

The spiritual side of life is by no means neglected by the students. Christian Associations are established in both the Men's and the Women's residences, which, by Sunday morning meetings and Bible Classes, at which members of the Faculty often speak, are doing excellent work and receiving worthy support. Sunday services are held in the Assembly Hall both morning and evening. Speakers come from

Montreal, Ottawa, and other cities. The girls play games of basketball and baseball with teams from the Royal Victoria College and other schools in Montreal, besides various games amongst themselves. The rink is also reserved every Saturday morning for their hockey practice. The Men's Association has football, basketball, indoor-baseball and hockey teams, and although none are entered in any league, they are always well supplied with games against different classes at McGill, or other amateur teams. Inter-class

games in baseball are now in progress and are furnishing immense interest. Hockey is played on a large open-air rink on the girls' campus. This rink is lighted in the evenings, thus enabling the boys and girls to have an enjoyable skate before study hour.

The student bodies in the Women's and Men's residences respectively, are self-governing in nearly all that relates to behaviour outside the classroom. The Court of Honor among the women and the Residence Committee among the men make for more than good conduct. They nourish and sustain the spirit of loyalty to the College authorities and to high standards of living. They point to obedience, diligence and honor—that finer sense of justice which lies beyond the letter of regulations.

The life in the residences is very similar to that of the students at Guelph. Although well supervised by the committees referred to above, there are many things that occur which are not recorded in the chronicles of Macdonald College.

One main feature that is particularly noticeable about student life at this College is the extreme confidence the Staff places in the students, regarding their actions and social relations. The great aim of Macdonald men and women is to learn and practice the fine art of living happily together, while bending every energy to the tasks of the day. Co-operation is the habit of the College, and it finds free course in the relationships of the members of the Staff with each other, of the Staff with the students, and of the students among themselves.

Winter Sports at Macdonald Hall

NORA BURKE.

One day, not long ago, the writer had a severe attack of industry which chained her to her desk the whole glorious afternoon. In the intervals of mind wandering she discovered what slaves of sport the Macdonald girls are in winter at least, for after a few minutes of bustling preparation the Hall was deserted, as everyone went off with snowshoes, skates or bobs.

Almost every afternoon a group can be seen in front of the Hall, struggling to get their snowshoes firmly attached. After this, the trouble is to decide where to go. In every direction the prospect pleases. Some prefer trusting to the roads. Others, with the spirit

of explorers, dare the untrodden fields, and in imagination fancy themselves Cookes and Pearys, breaking the trail to the North Pole.

Now, I ask my discerning reader what prettier sight is there in all the world than a group of graceful girls swiftly snowshoeing somewhere? The moccasins set off to perfection their dainty "tootsies," and the snowshoes give their stride a peculiarly fascinating motion. How fleetly Macdonald girls can run with these wings (?) on their feet? How seldom they tumble! With what alacrity do they pick themselves up! How they soar over fences, leap broad ditches! How nimbly can

they lose a snowshoe and with almost equal nimbleness re-attach it! But why continue? All these things are to be seen every day round College Heights, and I am but insulting my reader's intelligence in pointing out to him these obvious facts.

The snowshoeing we don't do, is also worthy of mention. Next to the enjoyment of the actual thing is the pleasure of watching (from behind barred windows) our friends across the campus start out briskly in the moon light at eight-thirty. In imagination we roam abroad with them, and so deep and true and all-comprehending is our college spirit, that we rejoice with them in their joy.

Under the veranda is a small cluster of bobs, the result of Freshmen labors in the carpenter shop. They belong to those Macdonald girls who possess sufficient philosophy to enjoy the luxurious descent of a hill in twenty seconds, which must be followed by a laborious ascent in six hundred seconds (we believe these statistics are correct). We who know, realize the bliss of bounding and jerking down the hill, entirely at the mercy of the steersman, and drearily speculating on the way as to which is the lesser evil, the fence or the creek.

More problems arise from this sport than from any other. Is it advisable to take the hill head first or feet first? How many people will an eight-foot accommodate? Is it better to close your eyes and pray, or keep on steering? Is it good form to allow an O. A. College man to pull the bob up for you? These present fertile fields to the debating union.

Now, we come to the most popular of all winter sports—skating. Why do the Macdonald girls love it so? Be

cause —, but that's telling! Anyway they do love it, and deeply appreciate the privilege of using the O. A. College rink twice a week. Those are the days when people hurry around Macdonald. Dark are the looks a teacher gets who detains a class. Every minute from four to six is precious, and it is only the pangs of hunger which can drag us away in time for tea.

To some of the Macdonald girls s-k-a-t-e spells Hockey. From eleven to twelve Saturday morning, they may be found at the rink hard at practice. The matches so far have been of purely local interest, so it would be rather out of place to go into details regarding them here.

We are learning hockey, not only from our practices, but by demonstrations in the form of inter-year O. A. College matches. It certainly is fun to sit on the fence and criticize, acquiring wisdom from the mistakes of others. In hockey this is an educational principle far less wearying than that other one of "Learn to know by doing."

Last, but not least, of our winter sports is that commonly known as "getting a hookey." It requires more practice to become skilful in this than any other. First of all, one must be a good sprinter, because a hookey is usually preceded by a hundred yard dash from the door to the main road. Next, one must be a pastmaster in the vault, high jump and running broad jump, as all of these different methods are necessary in getting a hold on the sleigh. Thirdly, one must have perfect poise and balance to keep her place after once getting in. What a sensation though, to beat the car to town and at the same time clutch a ticket in your pocket—the saved car ticket!

Among Ourselves

"Oh, a Prom! They are such bores." This was the remark heard many times before the promenade given by the Union Literary Society on Friday evening, January the fourteenth. But the Union Literary Society knew better than to allow their prom to be a bore.

The committee, easily recognized by their badges and genial countenances, was a committee worthy the name, and although they were somewhat handicapped by the fact that the men were in the majority, they overcame even that difficulty by supplying an interesting musical programme. At the third promenade the musical programme opened with a duet by Mrs. Fuller and Mrs. Dietrich that was thoroughly enjoyed by all who had gone to the gymnasium for that number. At other intervals throughout the evening vocal solos were given by Miss Freeland and Miss Rowland, and a vocal duet by Messrs. Nunnick and Emerson, all of which received a much merited applause from the audience.

It is rumored that there were some present at the promenade who became so deeply absorbed in conversation as to forget that there was a musical programme, but of course this can only be an exaggerated account. And if the chairs placed side by side in sundry nooks and corners, were exceedingly well patronized, it is a well-known fact that it is easier to sit still than to walk about and pleasanter to talk when "far from the madding crowd."

Last, but not least, for both gay couples and lonely individuals was pro-

vided an ample supply of coffee and cake. Are we not justified in saying that the "At Home" of the Union Literary Society was in every way a success?

Conversazione.

The annual conversazione held in Macdonald Hall on Friday evening, January 28th, 1910, was a particularly brilliant and successful affair. According to general comment it was one of the most enjoyable in the history of the College. Besides the several hundred students of Macdonald and the O. A. College there were former students who had returned for the occasion, a large number from Guelph, and many guests from a distance. 'Varsity, Victoria, Queens, McGill, and other Colleges were represented. The Hall was beautiful with lights and flowers throughout and the many handsome gowns worn contributed to the effect.

A well-planned arrangement of rendezvous eliminated any crowding or discomfort.

The guests were received by the President and Mrs. Creelman in the drawing-room which was transformed to a perfect rose bower. Mrs. Creelman wore a grey gown with lace and carried pink roses and lily of the valley. The very attractive programmes were found in the dining-room which was magnificently decorated. The alcove to the rear was an Indian wigwam, the opposite end being rich in eastern gorgeousness. In the centre was a huge embankment of ferns, and the whole was flooded with yellow light.

Upstairs the decorations were equally effective. The students' sitting-room was very cheerful and inviting, all in red. The gymnasium—which served as concert room—suggested the depths of an evergreen forest. The rafters above were festooned in green, a solid wall backed the platform and from the green depths shone out the red letters O. A. C. The windows were also banked with the fragrant boughs and at the opposite end of the room the red letters M. H. were banked with the green. A row of red hollyhocks gave a splendid dash of color, and a cheerful wood fire crackled in the chimney recess.

The programme was a most enjoyable one made up of vocal solos by Mr. Blight, Miss Morgan, of Toronto, and Mrs. Hamilton, of Guelph, and instrumental numbers by Mr. Hahn, of Toronto, with intervening orchestral selections.

Refreshments were served after ten fifteen on the third floor from long tables prettily decorated with daffodils.

The committee instrumental in making the conversat such a success was Miss L. D. Hogg, J. E. Smith, W. Toole, H. A. Dorrance, W. W. Emerson, A. J. Galbraith, H. L. Keegan, S. H. Gandier.

Y. W. C. A.

Sunday evening, January 30th, Mr. Slater spoke at the Y. W. C. A. The subject was "India," and he compared girl-life in India with our life in a Christian land. The duty and responsibility of the Canadian girl was clearly brought out.

Miss Susie Little, Canadian Secretary, and Miss M. O. Anderson, College Secretary of the Y. W. C. A. spent Sunday, February 6th, at Macdonald Hall. Sunday morning Miss Little ad-

ressed the Mission Study class. She spoke on "China," the country which is being studied in the class. In the evening at the regular meeting of the Y. W. C. A. Miss Anderson spoke about the work the Association is carrying on in India under Miss Cook. Miss Little told us something about the life and work of Miss Macdonald who is General Secretary of the Young Women's Christian Association in Tokio.

A Demonstration.

A demonstration of unusual character was given last week. Twenty-seven noble Seniors decided unambiguously that one poor chicken should be boned—and boned it was. They armed themselves with knives of every description, long knives, short knives, sharp knives and paring knives.

With the magic words, "The subject of my demonstration this morning will be," the onslaught began. Truly miraculous things were accomplished with that poor bird. The way in which the bones appeared and disappeared with a "now you see me and now you don't," was quite marvellous. One worthy Senior attempted to remove the tendons, but it was too much for her sole efforts. Blutcher to the rescue! One of her class-mates clasped her hands around the demonstrator's waist, and with a "long pull, a strong pull, and a pull altogether," the day was won and that defenseless chicken of tender (?) years met its Waterloo.

Soon that chicken appeared to be a very weak creature, in fact, it might be said that it had absolutely no backbone. After going through the internal upholstering department the chicken was in good shape again, illustrating once more "things are not always what they seem."

Much Ado About Nothing

Girl—What are you going to give up for Lent?

Another girl—Dancing with the O. A. College men.



A Short Course Girl (on not being able to find the chamios in house practice, was heard to say)—Do you know where the Kamoyse is?



Miss F—That's a soap factory behind the Institute.

Miss R. (innocently)—Oh! I always wondered what that was.



Short Course girl—Did you notice Miss — wearing a solitude ring?



Lecturer in Physiology—Now, class, last week we took scarlet fever, to-day we will take small pox.



Miss A. (in chemistry)—Where is that Fehling's solution?

Miss E.—I am failing, but not in solution.

Lenten Resolutions of a Senior Mac-Girl.

1. Not to call on Mrs. Tuck.
2. To shun Williams and the Kandy Kitchen like the pestilence.
3. Not to hesitate to reprove the jrs. for any misdemeanors, great or small.
4. Never to speak of "Dems" or criticisms at the table.
5. To study each evening from 8 to 10.
6. To patiently and without anger answer all the Juniors' questions on "foods."
7. To make absolutely no complaint regarding the meals.
8. Not to skate all afternoon with one girl, but to sit down and "give the boy a chance."
9. To gently, yet firmly insist that no Junior Normal shall even mention educational sewing when in a Senior's presence—wishing no harrowing memories.
10. To be punctual at Gym.
11. To enter classes for the Athletic concert without a murmur.



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.

I.—ELEMENTARY AGRICULTURE AND NATURE STUDY.

School Gardens in Ontario.

The editor would be pleased to receive photographs of other school gardens in Ontario. He plans to reproduce as many of them as possible in the Bulletin.

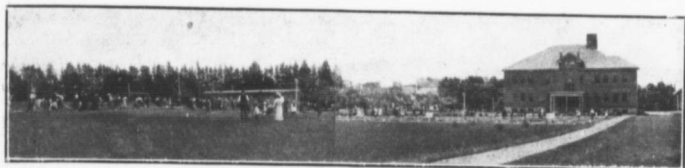


Vineland School Garden, 1909, Lincoln County, A. J. Painter, Teacher.

The School Garden at Vineland is a credit to the pupils of the school, their teacher and the community at large. It was commenced in the spring of 1908, when additional land was bought for the purpose by the Trustees. As may be seen there has been no encroachment on the play ground space. In this district there is no danger to a garden from stray cattle, and certainly the absence of a fence adds to the appearance of the garden. Mr. Painter is an enthusiast in Nature Study, and for many years has used the subject with good effect in the instruction of his classes. His garden now gives him many additional opportunities of applying the pupils' out-door experiences in their school work. The lawn mower is an essential part of this school's equipment.

The School Garden at the Macdonald Consolidated School, Guelph, was established in 1904. It provides for a plot for each child in the school as well as class plots, a kitchen garden for the Domestic Science Classes, observation plots and some small experimental plots. Alongside this garden are the gardens of the teachers who attend Macdonald Institute for instruction in

Elementary Agriculture and Nature Study. In 1909 there were 150 children's plots and 150 teachers' plots in the combined gardens. The teachers-in-train find the association with the children's gardens of great practical benefit.



Children's and Teachers' Gardens at Macdonald Consolidated School, Guelph, 1909.

The Ontario Agricultural Experimental Union—Schools' Division—Distributions to Schools, 1910.—The Schools' Division of the Experimental Union has prepared an extended list of offerings for 1910. This extension is warranted by the experiences of 1909, when more than 125 schools co-operated in the work of Children's Gardening and Schools' Experiments. The division aims to unite the schools in a common plan of gardening or experimenting with plants as a real foundation for the Nature Study or Elementary Agriculture taught in the classes.

The offerings are as follows:

1. **Seed Packets of Flowers and Vegetables for Children's Gardening—2c each.**—The Union will be pleased to co-operate with Horticultural Societies or Civic Improvement Societies in distributing these packets through the teachers and schools.
2. **School Collection of Forest Free Seedlings—Free.**—Sent to schools that have school gardens.
3. **School Collections of Seeds for Demonstration Plots in Agriculture, Horticulture and Forestry—Free.**—Including seeds of different kinds of wheats, onions and trees; sent to schools that have school gardens.
4. **Picture of the Ontario Agriculture College—Free.**—Sent to schools which undertake to have it framed and given a place in the school.
5. **The Schools' and Teachers' Bulletin—10 cents.**—A monthly publication which aims to keep teachers informed regarding vocational education.
6. **School Collection of Agricultural Seeds—25 cents.**—Comprising over twenty packets of selected seeds, such as are sown on Ontario farms.
7. **School Collection of Tree Seeds—25 cents.**—Comprising the seeds of about twenty different kinds of forest and cultivated trees.
8. **Weed Seed Collection—25 cents.**—A mounted collection of the seeds of thirty-five common weeds, useful for reference or as a suggestion for weed seed mounting.
9. **School Collection of Tulip Bulbs—\$1.50.**—A collection of 120 bulbs, suitable for a formal bed or for planting in a border.
10. **School Collection of Hardy Climbers—\$1.00.**—A collection of Virginia Creeper, Boston Ivy and Climbing Roses, for training on the school walls, covering outbuildings, etc.

Any person desiring further information regarding this work should address the **Director, Schools' Division Experimental Union, O. A. C., Guelph.** Order lists and circulars of instructions will be ready for sending out about the 1st of March.

Nature Notes.—Mr. N. Tripp reports from Forest, Lambton County, the wintering of Robins and High Holers in that vicinity. A Robin with a white band behind the head and on the lower part of the neck was seen by several observers

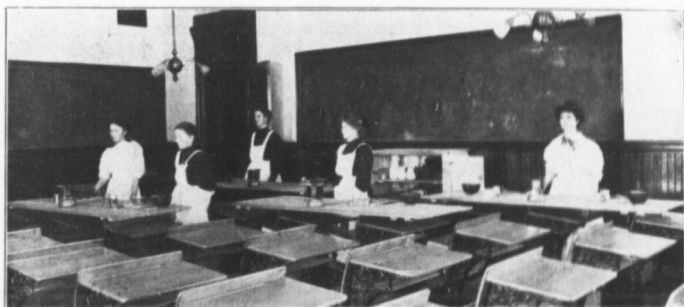


TABLE TOPS SET ON DESKS OF ORDINARY SCHOOL-ROOM.

II.—HOME ECONOMICS.

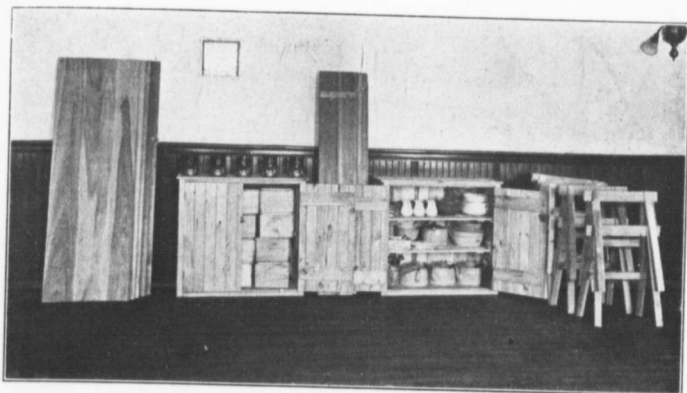
Domestic Science Equipment for Village and Country Schools.—The problem of teaching Domestic Science in village or rural schools is one largely of equipment. The following lists and pictures show, however, that the difficulties are not insurmountable. If it were thought advisable to commence the work with only enough equipment for the teacher's use in demonstrating (after such a manner as Chemistry and Physics were first taught in the schools), the initial cost would not need to be very great. The estimates given provide for individual work by twelve pupils.

Following is a list of the equipment showing the exact cost of each item:

Article.	Cost.	Article.	Cost.	Article.	Cost.
12 Bowls, brown	85	3 Tea strainers.	15	3 Draining pans.	69
12 Bread tins	95	3 Match box stands.	24	4 Dishpans	2 00
12 Teacups & saucers.	1 25	1 Emery knife.	20	6 Broilers	48
12 Tin measuring cups.	1 25	3 Soap dishes.	25	3 Cake tins	35
12 Egg beaters	30	12 Pepper shakers.	1 50	4 Graters	40
12 Forks	50	12 Salt shakers.	1 50	3 Strainers	75
12 Case knives	1 25	1 Bell	50	24 Pattie pans.	20
12 Paring knives	1 25	4 Lemon Reamers.	40	2 Tin dippers.	40
12 Plates	85	6 Stoves, kerosene.	6 00	2 Fibre pulls	70
12 Saucepans	1 68	12 Plates, dinner.	1 25	1 Colander	35
12 Tablespoons	50	6 Plates, soup.	60	1 Pail, enamel.	70
24 Teaspoons	40	4 Jugs.	60	1 Pan, enamel.	18
12 Wooden Spoons.	60	1 Jug	45	3 Tea kettles.	2 70
12 Stewpans.	2 40	1 Butcher knife.	30	1 Saucepan	30
12 Strainers	65	1 French knife.	60	1 Saucepan	25
2 Trays	80	2 Spatulas	80	1 Saucepan	23
1 Bowl, yellow	25	6 Teaspoons.	10	1 Saucepan	30
1 Bowl, yellow	35	3 Tablespoons.	13	1 Double boiler.	85
1 Bowl, yellow	45	4 Brushes	20	1 Kettle, covered.	60
3 Scissors	1 50	2 Stove mitts.	50	*1 Stove (to burn coal or wood).	30 00
5 Trestle Tables.	20 55	4 Asbestos mats.	20		
6 Frying pans.	90	1 Corkscrew	25		
		4 Egg beaters	60		
		4 Wash basins	92		
				Total	\$100 05

*The above may be replaced by a twenty-dollar wood stove or a ten-dollar two burner coal oil stove.

Teachers or trustees desiring further information regarding this line of work in Domestic Science, should write the Department of Home Economics, Macdonald Institute.



CUPBOARDS WITH EQUIPMENT STOWED AWAY.

III.—INDUSTRIAL ARTS.

In the following extract from a paper read by Mr. G. P. Keys, of Horning's Mills, before the Dufferin County Teachers' Association, the psychological basis for a vocational foundation to instruction is clearly stated:

"The crying need of our school system to-day is Industrial Education. In proof of the existence of this need witness the thousands of pupils who are leaving school, calling it useless, without ever seeing the bearing of the curriculum on their life. Witness the teachers who are growing old and discouraged because they know they are wrong. They have labored with their might and have put their breath and being into their toil, yet in their hearts they know it's in vain. Why is it in vain? Because the human mind is so constituted that it cannot assimilate, and hence cannot apply what has no meaning to it. Meaning is the apprehension of relations. If the child does not see the relation between the education his teacher is trying to give him and his own needs, it is a dead thing to him, and its infliction on him is a weariness to the flesh. How make the curriculum vital to him, how make him see its relations to himself, and how create a need for it, without which conditions, assimilation, let alone application, is impossible? Relate it to his felt need,—the life around him. More than that, make the life around him—which is his felt need and which is his apperceptive mass—not only the starting point, but the basis throughout of the educative process. Make Industrial Education the core-subject."

News Notes.—Mr. Geo. K. Casselman, of Morrisburg, has been appointed instructor in charge of the Manual Training work at Brockville.



Those Sporty Freshmen!!

Gerow—How much would you suggest for our banquet this year?

Ackers—I think 15 cents a plate would be just great.



G. T. Johnston—We tossed a copper to see who would take her home.

J. T. Johnston—Who won?

G. T. J.—Won! I lost, and had to see her home.

Sunny Jim—Say Wright! What is the latest definition of Faith?

Wright (impulsively)—Faith! Why that is the application of hair restorer by a bald-headed barber.



Professor Gamble—What is adhesion?

King—Adhesion is the position a body takes while at rest—and when it will not combine with oxygen.

The Mandolin Club.



The Mystery.

All was over, day was ending
 As the student sought his bed.
 Tears and ribald laughter blending,
 Showed he had a dizzy head.
 Liquor n'er had trickled slowly
 Down his most capacious throat,
 Shandy, port or whiskey fiery
 Had not changed this lamb to goat.
 What had happend to so quickly
 Equilibrium's state to foil?
 Was it cognac, gin or brandy,
 Soda fizz or linseed oil?
 Seven year rye or rum or lagar,
 Hock or port of double grade,
 Alcoholic stimulations,
 Highballs, malt or lemonade?

Alcoholic stimulations,
 High balls, beer nor lemonade,
 Joy drinks, long drinks, port nor sherry
 Cider strong, nor true home-made,
 Lemon hot nor old Scotch whiskey,
 Seven year rye nor linseed cold
 Could produce those symptoms risky,
 Send that youth to dreams untold.
 Slings of gin or whiskey soda,
 Champagne sparkling, sherry hot,
 Did not cause this youth to stumble,
 'Twas dope inside the coffee-pot.



Darling (to Mr. Jarvis at Zoology)
 —I have read of certain plants which
 seize upon insects and devour them;
 Are these plants of the carnivorous
 class?



Tomlinson (to Sampson at conver-
 sat)—Are you looking for someone,
 Mr. Sampson?

Sampson (who looks worried)—Yes,
 I am engaged to Miss W—, but unfor-
 tunately I omitted to jot down a des-
 cription of her at the time, so that I
 am entirely at a loss to know how to
 proceed.

R. L. Moorhouse—How many of you
 fellows want to buy this book.

Voices—What is the cost price?

R. L. M.—\$2.40.

Knauss—Pshaw! I don't want it,
 that is exactly the price of 48 glasses
 of beer.



Making preparations for his first conversat.

At the annual meeting of the Phil
 harmonic, Mr. Wright was elected
 dramatic manager, and it also was
 moved that his assistant should be
 a Macdonald girl. Mr. Wright
 objected to this arrangement, and
 said:—"The assistant must be a
 boy—girls are absolutely useless—I
 have no use for them." Then when
 everybody smiled, the color mounted
 to his ears, the love-light blazed in
 his blue eyes, and he said in a voice tense
 with passion:—"Well, I mean it's bally
 hard to choose the (Wright) girl."

J. E. Smith was examining some flowers in the greenhouse recently, when a beautiful girl from—? came in; soon she exclaimed: Oh, Mr. Smith! This flower will never come to perfection.

Smith (in his most beseeching voice)—Then, permit me to lead perfection to the flower.

Wanted—A young man to take charge of a pair of horses of a religious turn of mind. P. S.—Only a third year man need apply.

Cooley (in hotel)—Please Waitah, which side of the table will I sit on?

Waitah—Kindly do as others do and sit on the chair.

Underhill—But beauty is only skin deep.

Stevenson—Well! I'm no cannibal.

(Overheard at the last snowshoe tramp, when party were negotiating a six-foot fence.)

Milner—Which side can I help you from best?

Miss E.—Both sides, please,—if you don't mind!

Prof.—Did you say that grass was a Paniceae?

Lloyd-Jones—I did not, sir.

Prof.—Which one was it then?

Lloyd-Jones—The one next to it.

Prof.—No; it could not be that one.

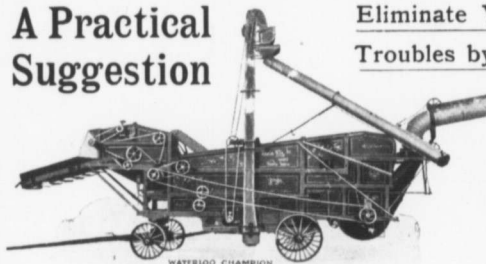
L-Jones—Yes it was, you lobster!

(Kelly's little say at Public Speaking):—

Mary—Mary—Mary had a little lamb, You've heard that rhyme before;

But have you heard that Mary passed Her plate, and had some more.

A Practical Suggestion



WATERLOO CHAMPION

Eliminate Your Thresher Troubles by Using the

Waterloo Champion

The Thresherman's Favorite

IT CLEANS THE GRAIN FIT FOR MARKET

Send for our 1910 Catalogue of PORTABLE and TRACTION ENGINES, THRESHING MACHINES, WIND STACKERS, SELF-FEEDERS, Etc., Etc.

The Waterloo Manufacturing Co., Limited WATERLOO ONTARIO

WESTERN HEADQUARTERS—PORTAGE LA PRAIRIE, MANITOBA.

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



**"Take My Advice and
You Can Save Money"
"Metallic"**

will make your house, barns, or any building **Absolutely Fireproof** and **Weatherproof**—will reduce your insurance rates and practically eliminate the annual repair bill.

A Fireproof Roofing

"Eastlake" Metallic Shingles are made from the finest quality galvanized steel—only the **Best** and **Toughest** will hold the bold, clear "Eastlake" pattern. The patented telescopic side lock and gutter make it the **Easiest** and **Quickest** to lay, and the **Counter-sunk Cleat** insures a **Perfectly Weather-tight** roof.

For the Ceilings and Walls

"Metallic" is the **best** interior decoration. It gives a handsome appearance to any room—is **sanitary** and **will last** a lifetime—never cracks like plaster and wood. Unequaled for offices, stores and residences.

THE FARM BUILDINGS at the Ontario Agricultural College are roofed with "Eastlake" Shingles, some laid over 18 years ago—**ALL in PERFECT CONDITION TO-DAY.** A proof of their great durability.

Our illustrated booklets "Eastlake Metallic Shingles" and "Interior Decoration in Metal" will interest you. Write for them.

MANUFACTURERS

The Metallic Roofing Co. Limited
TORONTO & WINNIPEG

2172

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

Freshman Class Scoring Clydesdale in Judging Pavilion.

Doc Reed—Now, you have seen this mare's action. There are ten points allowed on the score card. How many will you allow her.

General chorus—Ten.

Doc—Well, look here boys, if we took this mare outside she would most likely do better than inside here. How many points would you give her then?

Intelligent Freshman—Eleven.

Main—What is the latest discovery in Entomology?

Austin—That the humming bird has 36,000 eyes—and that Canada needs a navy.

Curtis (at conversat)—Ahem!! Allow me to introduce Mr. Thunder.

The Freshmen are hereby requested not to lift any more than three of a horse's feet at once while looking for a bog spavin.

Professor Howitt (to Davis, '12, who was enjoying a wad of pepsin)—When you have finished your lunch, you might answer this question.

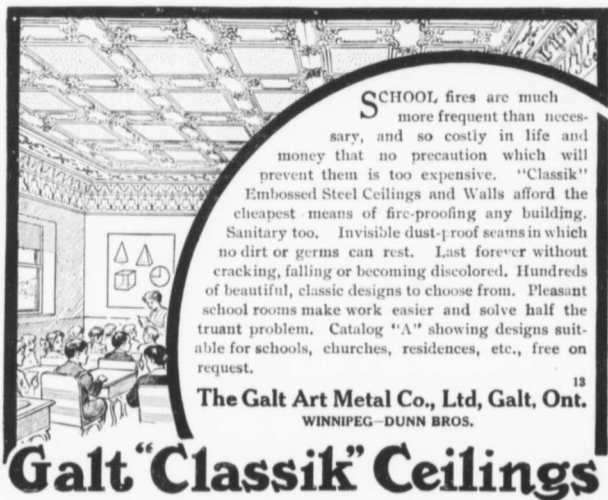
Professor Graham—When does a heifer become a cow?

Powell (boldly)—When she lays an egg.

Murray—I hear the Freshmen are going to Toronto next week.

Ma—Who is going to take them?

White (talking tobogganing with the girls)—I'll admit that I did hug her once.



SCHOOL fires are much more frequent than necessary, and so costly in life and money that no precaution which will prevent them is too expensive. "Classik" Embossed Steel Ceilings and Walls afford the cheapest means of fire-proofing any building. Sanitary too. Invisible dust-proof seams in which no dirt or germs can rest. Last forever without cracking, falling or becoming discolored. Hundreds of beautiful, classic designs to choose from. Pleasant school rooms make work easier and solve half the truant problem. Catalog "A" showing designs suitable for schools, churches, residences, etc., free on request.

The Galt Art Metal Co., Ltd, Galt, Ont.
WINNIPEG—DUNN BROS.

Galt "Classik" Ceilings

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

Be Sure It's a "Cockshutt" Then Harrow

HERE are two of the lightest draft Disc Harrows made anywhere—and the strongest. They are made of the very best materials, and no matter how rough or uneven the soil may be, these Harrows will do the work better, quicker and with less strain on the horses than any other Harrow.



WE have great pleasure in offering to our patrons this harrow, which we believe to be the best out-throw harrow manufactured.

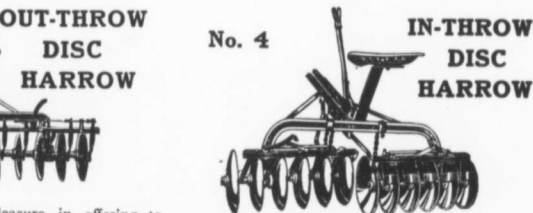
We desire particularly to draw your attention to the spring pressure which is applied to the boxings at the inner end of the discs. The users of out-throw harrows no doubt have experienced great difficulty in keeping the harrow cutting level when set at the full angle, as the outer end of the harrow will have a tendency to go in deep, leaving the inner ends out. The spring pressure we have on these harrows prevents that, and this spring pressure is regulated by the use of a convenient lever. The amount of pressure to be applied can be easily adjusted, which insures the gangs cutting evenly no matter at what angle they are set.

We oil these harrows with tubes from the top of our scraper holders, and we use hard maple boxings in these harrows which we have found will outwear any other style of boxings in an out-throw disc harrow. Besides they are easily and cheaply replaced in case it is necessary to do so after years of wear.

We wish to call your attention to the bracing of this harrow. The hitch is very close to the work, and is in a class by itself with regard to any out-throw made.

Samples of this harrow you will find at your nearest Cockshutt agency, and we believe if you would see one that you would purchase it in preference to any other.

Drop us a post card and we will send you our Catalogue free so that you can read all about these Harrows, and also get acquainted with the full line of Cockshutt Implements.



WE sold a great many thousands of these harrows last year—every buyer was highly pleased.

Before commencing the manufacture of this new In-throw Disc Harrow, we noted all the merits and defects of disc harrows, and we have combined in this one all the good features of all disc harrows, with many of our own which we have proven to be beneficial.

The frame is made of channel bar steel—strong enough to stand the strain under all conditions.

Notice how the braces are set on this harrow—also how convenient the lever for setting the harrow to cut at any desired angle. Notice the chains attached to the beam for regulating the depth of the harrow and preventing it from going too deep at inner end when harrow is set at full angle. Oil is conveyed to the bearings by tubes running from top of scraper holders, keeping the bearings dust proof and making them last longer.

Steel balls, accurately turned and perfectly polished, run in chilled bearings—this relieves end thrust of sections and makes draft very light. Cast balls (commonly used) soon wear flat on one side and bearings then become useless.

With a touch of the foot, scrapers can be set to clean the harrow in heavy or sticky soils. Notice the shape of the discs—they are made to cut and turn all the soil. This is not only the best looking disc harrow but the best working disc harrow—examine it at any of our dealers.



THE COCKSHUTT PLANT

Send us a postcard to-day and we will send you a Catalogue of Cockshutt Implements

COCKSHUTT **FLOW**
CO. **BRANTFORD**
LIMITED

HACKNEY'S

The Old Tobacco and Pipe Shop.

Established 1884.

Next door to Royal Bank.

SUEY WAH,

LAUNDRY

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

16 Wilson St., Guelph, Ont.

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.

Springhill Ayrshires

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

ROBT. HUNTER & SONS**Sharp, Stiff Discs and
Sure-Cleaning Scrapers**

When you require a
Disc Harrow, be sure
and examine the

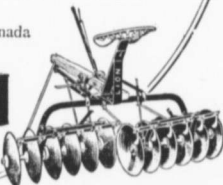
"Lion." It is one of those famous Frost & Wood machines that work so satisfactory. The sharp, stiff discs will pulverize and loosen the surface of the land just exactly right. Even if the soil is sticky, the "Lion" works O.K., because it has sure-cleaning Scrapers that absolutely prohibit the discs from getting clogged. Two horses handle the "Lion" comfortably and there is no side draft. It is built of the very best materials throughout, as is all Frost & Wood farm machinery.

Frost & Wood Co., Ltd., Smith's Fall, Canada

Please send for
catalogue
and get com-
plete particulars
about Frost &
Wood in-throw
and out-throw
harrows.

42

Frost & Wood
"Lion" Disc Harrow



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

First Year Zoology—Long armed squid or cuttle—Culham.

Scientific name—Culhamensis Gordi
osis.



Professor Edwards (pointing to
wards Campbell—That rusty spot is
the product of the organism prodigi
osis.



Chemistry—Is the science or study
of how to burn your hands without a
fire.—Darling.

Physics—Is the study of how to
make a feather drop as fast as a piece
of lead.—Reeds.

Composition—Is the study of how to
make nothing cover two pages.—
Motherwell.

PHOTOGRAPHS

at special rates to students.

W. J. WINTER, Upper Wyndham.

"Eclipsed by None."

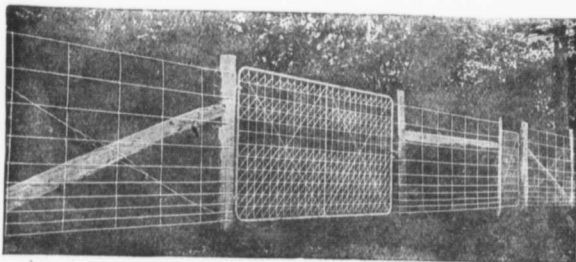
WALKER'S ELECTRIC BOILER COMPOUND

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, Correspond-
ence invited.

The Electric Boiler Compound Co. Ltd.

Guelph, Ontario.



PAGE FENCES AND GATES

Styles for all uses—lawns, parks, farms, railways. All
heights. Cost less to erect and give better service.
Our nearest place will quote you 1910 prices and send
you Free Illustrated Booklet. Please ask for it now.

14,000 Miles of Page Fence in use in Canada

73,000 Page Gates in use in Canada—Our 1910 Gates will be galvanized

Largest Canadian Makers of Fences and Gates

THE PAGE WIRE FENCE CO., LIMITED

502 WALKERVILLE TORONTO MONTREAL ST. JOHN WINNIPEG VICTORIA

"PAGE FENCES WEAR BEST"

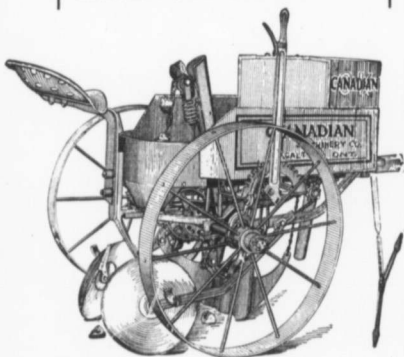
Please mention the O. A. C. REVIEW when answering advertisements.

Let O. K. CANADIAN MACHINES DO YOUR WORK



Seed Potato
Cutter

This little implement saves you lots of valuable time. Will cut the seeds into 2, 3, 4, 5, 6, 7 and 8 pieces, according to the operator's wishes.



Automatic Potato Planter.

1909-10 No. 3 Model

Furnished with or without Fertilizer Attachment.

Spreads the fertilizer, opens the trench, drops the seed, covers it and marks for the next row all in one operation.

One lever controls plow and discs and puts machine in and out of gear.

Its dropping device consists of an endless chain of cups, which will not bruise or mar the seed in any way. The fertilizer attachment will spread from 200 to 1500 lbs. per acre.

Write for full particulars.

CANADIAN POTATO MACHINERY CO

130 Stone Road - Galt, Ontario

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.

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.

RENNIE'S SEEDS

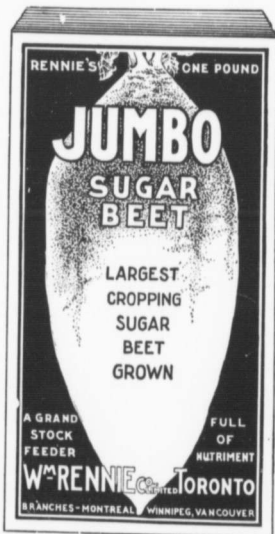
THE FINEST IN THE LAND

- | | |
|--------------------|-------------------|
| Flower Seeds | Spring Bulbs |
| Vegetable Seeds | Plants |
| Seed Grain | Shrubs |
| Field Root Seeds | Fruits |
| Clover Seeds | Garden Tools |
| Grass Seeds | Garden Implements |
| Tree Seeds | Garden Requisites |
| Bird Seeds | Poultry Supplies |
| Feeding Stuffs | Incubators |
| Agricultural Books | Grinding Mills |
| Fertilizers | Insecticides |
| Bibby's Cream | Equivalent |

CATALOGUES FREE

WM. RENNIE CO. LIMITED Toronto

ALSO MONTREAL, WINNIPEG, VANCOUVER.



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

∴ 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.

Address at once

International Stock Food Co. - - - Toronto, Canada

Sole Manufacturers of

INTERNATIONAL STOCK FOOD**THREE FEEDS FOR ONE CENT**

INTERNATIONAL STOCK FOOD, THREE FEEDS FOR ONE CENT, is a purely vegetable **MEDICINAL** preparation composed of roots, herbs, seeds, barks, etc. It is equally good and **very profitable** to use with horses, colts, cattle, cows, calves, hogs, pigs, sheep or lambs, because it purifies the blood, tones up and permanently strengthens the entire system, keeps them healthy and generally aids digestion and assimilation, so that each animal obtains more nutrition from the grain eaten. In this way it will save you grain and **MAKE YOU LARGE CASH PROFITS.** You don't spend money when you feed **International Stock Food.** You save money because the **GRAIN SAVED** will pay much more than the cost of the **International Stock Food.** Refuse all substitutes and get paying results by using only the genuine **International Stock Food.**

THREE FEEDS FOR ONE CENT

DAN PATCH MAILED FREE—When you write for Stock Book mentioned above ask for a picture of Dan Patch 1:55, and it will be included free of charge.

International Stock Food Co., Toronto, Canada**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.

Stark (to Darling)—Are you in for the Ontario Liquor Law?

Darling—Yes, you bet I'm in for the liquor, but not for the law.



Cooper (judging poultry)—Professor Graham, is this the spur?

Professor Graham—Why no! That's a toe.



Moorehouse—If you boys want to make a noise in here you'll have to get out to do it.



Bartlett (handling freshly-cut green bone)—Say Jerry, what is this—shavings?

Jerry—Yes, we feed them to the geese.

Bartlett—Well! That's something new to me—that surely is economical feeding.

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 Furnish-
 ings, 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 mod-
 ern 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 accomplish-
 ment:—"Square Deal for
 Every Man."

**WE
ARE
HERE**

To Please
Our
Patrons!



**Complete
Assortment of
Candies**

**Best
Brands of
Bon-Bons**



BONBONS

The Kandy Kitchen

LOWER WYNDHAM STREET

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



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

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

Professor Graham—If you were examining a White Leghorn, and found red feathers, how would you account for their presence?

Rusty—I would say some enemy hath done this.

It isn't every football team can boast of having a “Carpenter” as spare man.

Mr. Le Drew (in Political Economy lecture)—Is water, wealth?

Dent—Not in the dormant stage.



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 Hoxie 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.

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Office: Corner Wyndham and
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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

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Men's Furnishings.
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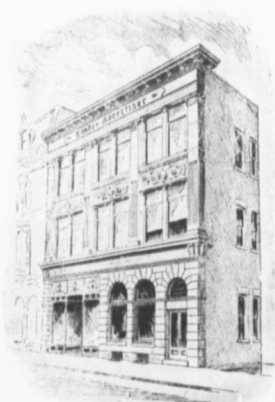
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Pain Quickly without blistering, removing
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Dear Sir,—

I have just used one bottle of your
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remedy of my own, and it was no good.
I saw ABSORBINE advertised, and got
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Respectfully yours,

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

Have also a big assortment of Gents'
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That carries the full stock of all
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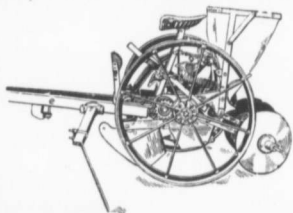
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Booklet on Potato Culture mailed free.

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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!

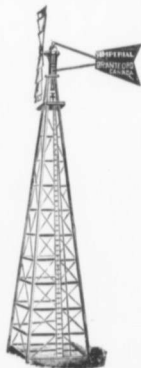
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Towers girded every five feet apart and double braced.

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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

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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

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IT is the typewriter you will eventually use.

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Successors to P. Spragge.

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**Caustic
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A Safe Speedy and Positive Cure

The Safest, Best **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 druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. **THE LAWRENCE-WILLIAMS CO., Toronto, Ont.**



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

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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!

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

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Finest Society and Commercial Printing,
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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.

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Properties in large or small amounts.

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Very Best Service.


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

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Work done by practical tailors.

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Only expert workmen employed. Work done
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Sells the Best Meats
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Cut Flowers a Specialty.**GEO. DUNBAR, 99 Quebec St. East.****LEE WING, CHINESE LAUNDRY**

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Get a copy. Ask nearest office.**PEDLAR People of Oshawa**

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For Hospitals, Veterinary and Domestic Use

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Exhibited at the Ontario Agricultural College during the week of February 3-5, is the latest arrival in the Spramotor Family. It embodies all the knowledge we have in this business, now fifteen years in building. The automatic features of this machine were first developed in our Horse-power Spramotor. The Motor was developed from ten years' use, and when this combination was put in use it worked like a charm. Experts agree in pronouncing it perfect.

Those contemplating power machines should investigate this latest development.

200 lbs. pressure can be easily developed. 50 lbs. air pressure can be easily developed.

Attachable to any gasoline engine of 2 horse-power.

Absolutely guaranteed. Automatic in operation. Easy to operate. Simple. All parts accessible. The finest material, workmanship, and highest possible grade throughout.

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You might just as well have the very best on the market. Scientific feeders who aim for the biggest and best results heartily endorse these four:—

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The above four represent the most perfect mixture of food ingredients for their respective purposes. Finely ground and properly balanced. The grinding alone adds greatly to the digestibility.

Every sack carries an analysis tag, showing the percentages of Protein, Fat and Fibre guaranteed.

Ask your dealer for these feeds and you are sure to get quality. Accept no substitute—the best is always the most economical and satisfactory in the end.



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INVITE INSPECTION OF THEIR PERMANENT EXHIBITION OF AGRICULTURAL IMPLEMENTS AT THE ONTARIO AGRICULTURAL COLLEGE, GUELPH, ONT. ASK TO SEE IT.

Manufacturers of Ploughs, Rollers, Harrows, Manure Spreaders, Turnip Drills, Scufflers, Wheelbarrows, Pulpers, Pneumatic Ensilage and Straw Cutters, Wagons, Sleighs, Drag and Wheel Scrapers, Side Scrapers, Root Planters, Cement Mixers, Stone Boats, Beet Pullers, Trucks, Stable Fittings, etc.

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In the Ordinary Process of Cropping, Nitrogen, Phosphoric Acid and **POTASH** are Removed from the Soil, and unless these are returned in some form, the Land will Eventually Become Unproductive.

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There are few national institutions of more value and interest to the country than the Royal Military College of Canada. Notwithstanding this, its object and the work it is accomplishing are not sufficiently understood by the general public.

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