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April, 1920



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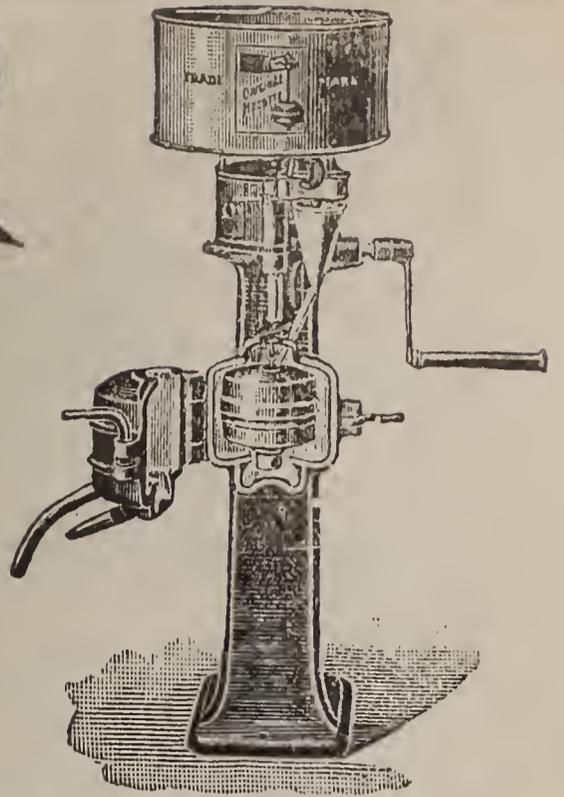


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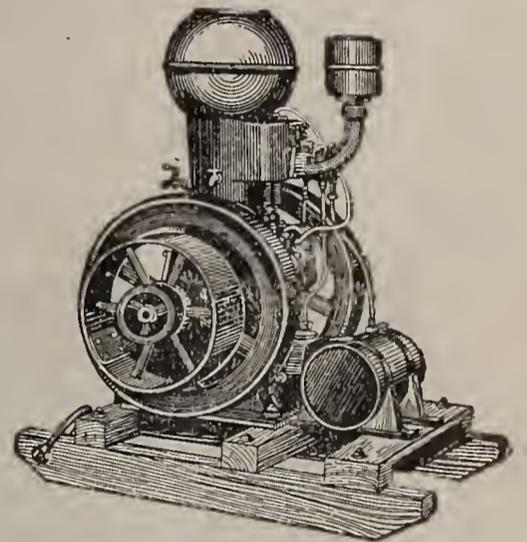
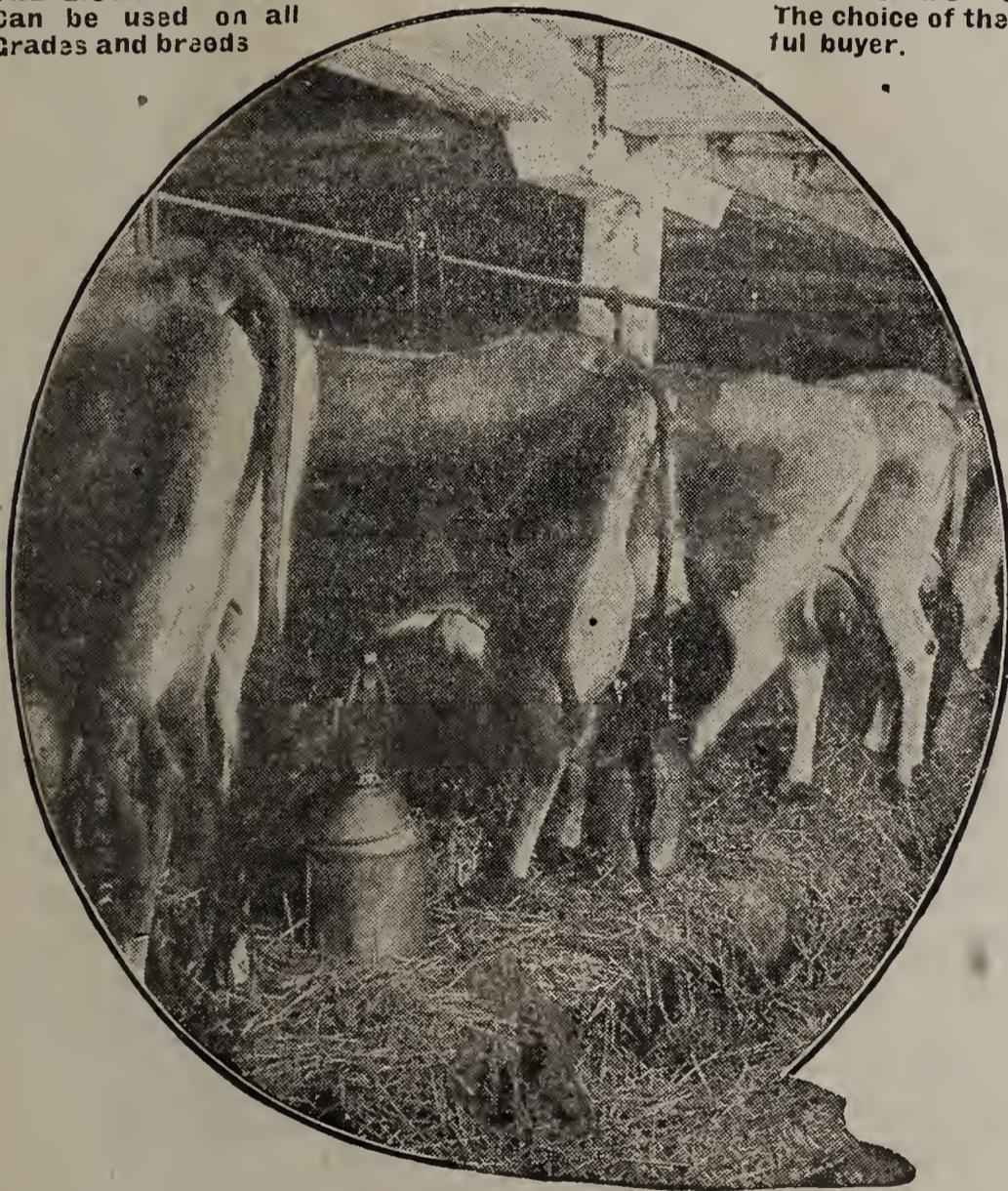


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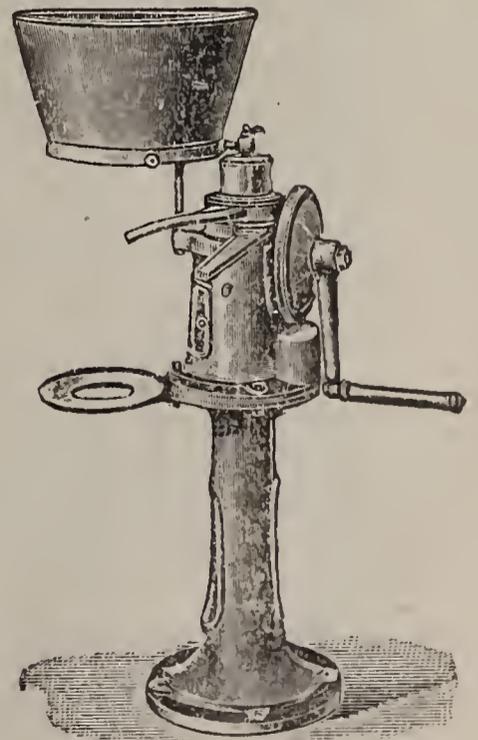
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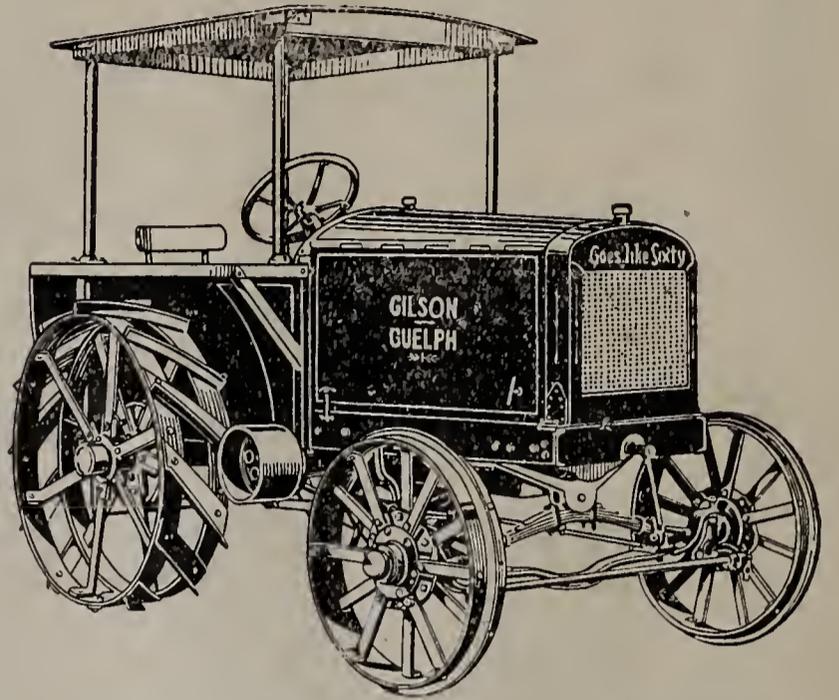
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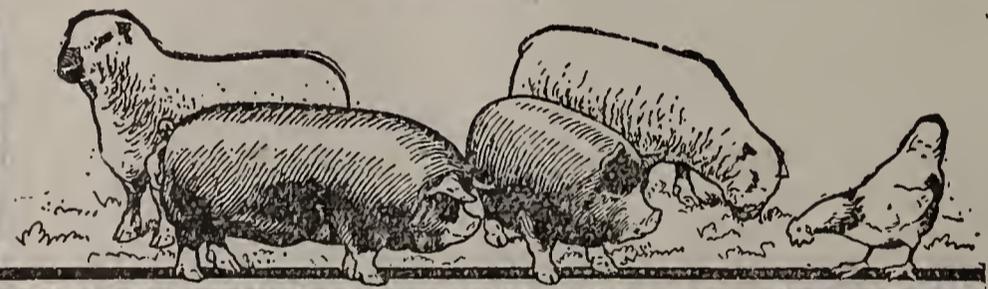


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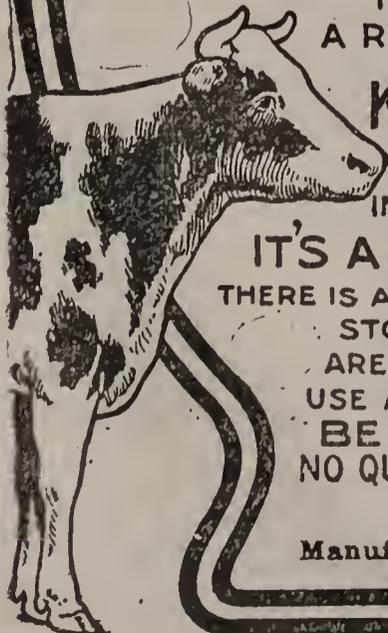
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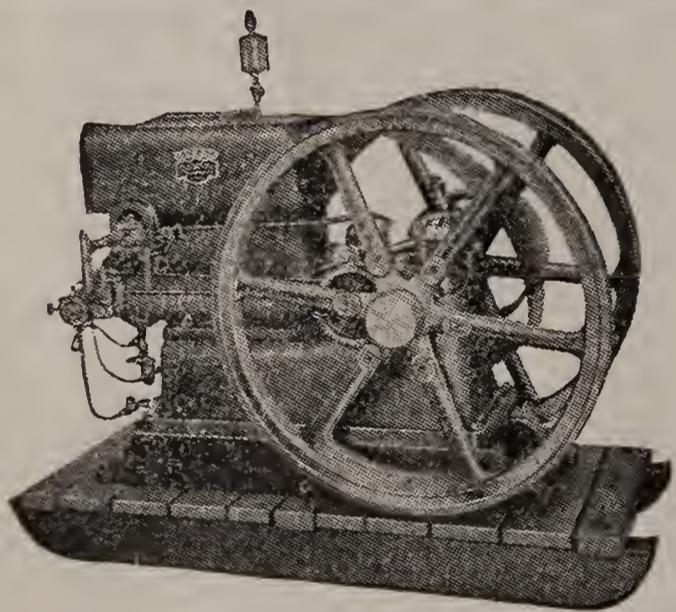
OFFICIAL CALENDAR

OF THE

DEPARTMENT of EDUCATION for the YEAR 1919

April:

2. GOOD FRIDAY.
5. EASTER MONDAY.
Annual Meeting of the Ontario Educational Association at Toronto.
(During Easter Vacation).
12. High and Continuation Schools, third term, Public and Separate Schools open after Easter Holidays. [H. S. Act, sec. 52; P. S. Act, sec. 7; S. S. Act, sec. 91] (*Second Monday after Easter Sunday*)
13. Normal and English-French Model Schools open after Easter Holidays.
15. Notice by candidates for Junior High School Entrance and Junior Public School Graduation Diploma examinations, to Inspectors, due (*on or before April 15*). [Circular 34, page 22, sec. 8 (1), page 35, sec. 3].
Normal School Final examination Group 1 begins.
20. Inspectors report a number of candidates for Junior High School Entrance and Junior Public School Graduation Diploma examinations. (*Not later than April 20*). [Circular 34, page 22, sec. 8, (3)].
30. Inspectors report the names of the Presiding Officers of the Mid-summer examinations.



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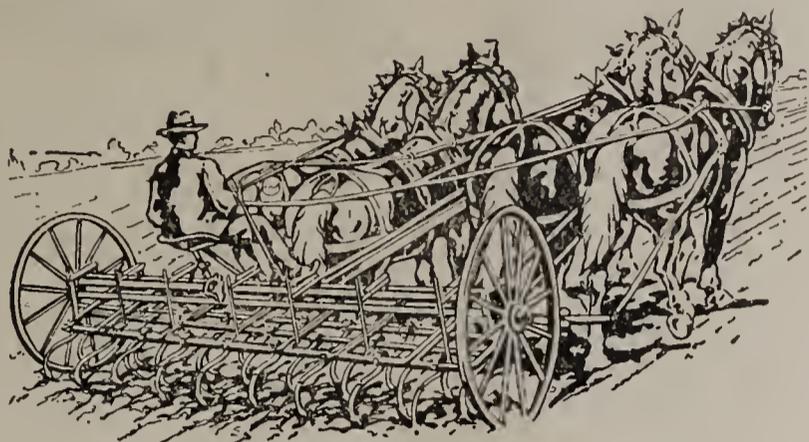
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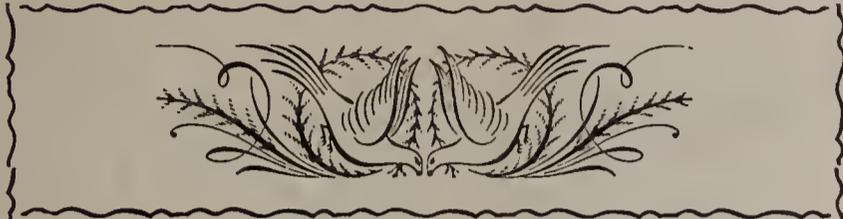
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THE O. A. C. REVIEW

"THE PROFESSION WHICH I HAVE EMBRACED REQUIRES A KNOWLEDGE OF EVERYTHING"

VOL. XXXII.

APRIL, 1920

No. 8

Highway Transportation in Canada.

By A. W. CAMPBELL, Commissioner of Highways, Ottawa.

VISITORS to Canada from beyond the border, and from Overseas, usually take occasion to remark upon the extent and variety of Canada's natural resources. Canadians are justly proud of mineral, timber, land and water resources. However, as long as much of Canada's natural resources remain inaccessible so that they cannot profitably be put to the uses of mankind, these resources are of small account in the national economy. Hence, efficient transportation agencies serving the territory capable of being fields of production are important factors in our national prosperity. Without a doubt, Canada's present material prosperity is due in a very large measure to her great systems of railway transportation. So great has been the faith of Canadians in the possibilities of their country that they have built more miles of railway per head of population than will be found on this basis in any other country on the globe. If the tracks of all the lines of railway were strung out across the Dominion, we would have ten through trunk lines extending across the country, from Halifax to Vancouver, and these would still be served by a few tributary branches. Unfortunately, perhaps, these lines of railway are stationary and can-

not be shifted at will where they are needed in the undeveloped portions of the country; hence, the cry is still heard in the west "more railways." Canada needs more railways, but it also needs, more urgently, a more extensive and a better system of the common beaten paths of travel extending in all directions. The country needs more and better highways, serving a greater area, contributing to Canada's present urgent need of increased production.

The railways of Canada handled freight to an aggregate tonnage of 127,543,000 tons in 1918. It is a conservative estimate to say that 99.99 per cent. of this vast amount of freight passed, in the first instance, over the common roads of the Dominion. Since the estimated mileage of roads open to public travel in Canada is, in round figures, 250,000 miles, it may be assumed that each mile of common road carried during the year, at least once, a burden of 508 tons, from the farm, the mine, the forest or the factory, to some railway. In addition to this tonnage it may be taken for granted, the average common road carried a great tonnage that never reached any railway.

Placing the total mileage of railways in Canada at 38,000 miles, it is seen that there would be about

seven miles of common road in the Dominion to each mile of railway. In this connection, it may be of interest to observe that Canada's road mileage is about equal to the mileage of railways in the United States. However, there are in that country about ten miles of common road to each mile of railway. While the number of persons per mile of common road in Canada is about the same as in the United States, the number of persons per mile of railway is twice as great in the United States as in Canada, showing that more emphasis has been placed upon adequate highway transportation in United States than in Canada.

While these statistical facts are of interest as showing the development of transportation in Canada, their bearing on the importance attached to the provision of suitable highways to meet all demands in Canada may be misleading. The eastern provinces of Canada, in particular, have been fully alive to the economic and social advantages of good roads, but the geography and climate of the country have demanded the construction, first, of railway lines across our far flung limits of territory, even if the building of something better than mere animal tracks has to wait for more settlement and the better organization of our resources.

In Ontario, an active good roads propaganda was begun during the last decade of the Nineteenth Century. Subsequently, a campaign for the betterment of the common roads of the Province was undertaken by Ontario. It was then my privilege as Instructor in Road Making to have a more or less active part in placing before the municipal coun-

cils of Ontario, as well as other public bodies in the Province, some of the benefits to be gained through a well considered plan of road improvement. I recall, with a great deal of pleasure, having been asked to address the students of the Ontario Agricultural College, Guelph, on several occasions in connection with this campaign. The students whom I addressed seemed to appreciate the close relation between improved road conditions and agricultural prosperity in the Province; and they showed an interest in the problem that was highly gratifying. The results of that campaign were found in a number of stretches of roads at different points in the Province being improved from year to year, with noticeable attention being given to the importance of draining the foundations of the improved roads, putting upon them, where suitable materials were available, a hard metal covering. A few years experience of the value of good roads led to an increased demand for more expenditure being made to permit of a general scheme of road improvement. In 1901, the Legislature of Ontario appropriated \$1,000,000 to be paid to such county municipalities as would assume a county road system. The amount of aid to be given was one-third of the cost of constructing or improving the county road system so assumed. The Province has since raised the proportion of its contribution to 40% for construction and 20% for maintenance. At present every county municipality in the Province has availed itself of provincial aid to a county road system. The amount of money that was paid by the Province in this connection last year amounted to over

\$5,000,000. This amount includes, of course, the payment of sixty per cent. of the cost of improving those roads designated by the various municipal councils as provincial county roads towards which the Province contributes sixty per cent.

The consequence is that the Province of Ontario out of a total mileage of 62,000 miles of road has now forty per cent. of this mileage improved to some extent. This record is a matter of satisfaction to all who have in any way been associated with the movement for the betterment of the common avenues of travel in the Province. It is still true, however, that the Province of Ontario has not an extensive mileage of the class of improvement that is demanded by the modern road vehicle.

The perfecting of the automobile for commercial traffic has reached a capacity for performance that would astonish our pioneers. This vehicle is now a part of modern farm equipment. The result is that the demand has grown from all quarters that highways be built in keeping with the possibilities of service of this vehicle. Consequently, it is not surprising that the Province of Ontario, as well as other Provinces of the Dominion, should look to the Federal Government for assistance in the financing of the improvement of the principal market roads of the country. Justification for federal participation in the task of building modern highways might be based on several grounds. However, the logic of the situation created by the range of the modern road vehicle is plain. Just as the Province of Ontario was called upon to contribute to the construction of roads carrying traffic that in

a great measure originated outside the municipalities affected, so the Dominion Government might fairly be called upon to contribute towards the construction of roads carrying traffic that is not only inter-county and inter-provincial, but international in character.

It was realized by the Dominion Government that if Canada was to recover from the strain from five years' active participation in the great struggle for world liberty in France, it would be necessary to ensure that all possible provision be made for increased production; hence, during the concluding months of the war, the Government appointed a Committee of Reconstruction and Development to consider the problems that might be expected to arise with the cessation of hostilities. From the Committee's report, in which reference was made to the importance of good roads in relation to the cost of production the following is taken:

"The problem of transportation necessarily begins at the farm or other point of production, and involves the consideration of improved highways, which subject should be taken up in consultation with the Governments of the several Provinces."

The outcome was that consideration was given by the Government to the wisdom of introducing legislation which would give effect to the objects and purpose of this report. As a result, on February 20th, 1919, the Minister of Railways and Canals gave notice of motion in the House of Commons that a Bill would be introduced authorizing an appropriation of \$20,000,000 to the Provinces of Canada to be paid during a period of five years from April

1st, 1919. In July, 1919, the Canada Highways Act, founded upon this resolution, received the assent of both Houses of Parliament, and became law.

The Canada Highways Act provides that forty per cent. of the cost of constructing or improving any highways in the Provinces of Canada, concerning which the details submitted by such Provinces as to location, cost, descriptions, specifications, time and method of construction, supervision, etc., are satisfactory to the Governor-in-Council, will be paid by the Federal Government. Regulations for giving effect to the purposes of this Act provide that the highways to be aided under the Act shall comprise such main and market roads as have been designated by the Provinces with a view to encouraging production and stimulating trade and commerce, comprising roads having the greatest local agricultural and commercial importance as well as roads of general importance. The intention is that these provincial programs shall be so adjust-

ed and arranged that the entire system shall be correlated and form, as far as possible, a general system of interprovincial highways.

Each Province availing itself of the provisions of the Act is required to submit a general map of the roads it proposes to construct in cooperation with the Federal Department, during the five-year period of the Act. Any stretch of road embraced in the general system outlined on this map will be submitted as a distinct project. The regulations under the Act call for full information showing why each project is in the public interest, and as to the justification for the proposed type of construction as shown by the volume and character of the traffic the road is required to sustain.

It is fully anticipated that each Province will avail itself of Federal assistance to its program of highway improvement, and that the end of the five-year period will see the completion of a fairly extensive system of the principal market, interurban and inter-provincial highways of the Dominion.



I crossed the hill and did not know,
 So thronged was life for me;
 Now down the farther slope I go
 Content, though wearily.
 For this deep joy my spirit hath,
 Although no height was won,
 No shadow falls across my path—
 I journey with the sun.

The Migration of the Bobolink.

By A. B. JACKSON, '20.

THE Bobolink has arrived! See down yonder in the flats! A dozen or so have collected in that budding elm tree leaning toward the pond. What wild music each bird pours forth in one long flow of bubbling, rippling melody! Every last ounce of strength and breath is put into each outburst; then a short rest and he is once more "wound up." Many are singing at once. When these "run down," others are again ready to take up the continuous chorus. 'Tis their college yell given this fine May morning to let all things know that "Bobs" has arrived once more at his northern summer home. All in the happy group are male birds. In their eagerness they have left their mates a week's journey behind. And perhaps it adds to their present happiness to know that for a week at least they have only to make merry and be gay; not burdened with the responsibility of any household affairs.

Our feathered songsters have been flying a good part of the previous night. During the two past months they have travelled many thousands of miles and escaped many perils to keep their appointment with us in the opening week of May. Yet Bob is rarely late, and we know almost to a day when to expect him. Where has he come from? By what route has he travelled and what dangers has he encountered by the way? In order to answer these questions let us go with him, when his summer work is completed, to his winter

home, then return with him in the spring.

Bob's mate is a demure, quiet, bird. She does not sing nor does she wear his attractive coat of black,



Bob in his wedding dress.

buff and white, but is plainly dressed in brownish and gray. The young birds are dressed like their mother, and even Bob himself, after the nesting season is over, forgets to sing and loses his bright wedding dress to don the same dull streaked costume of his wife. This is a very happy arrangement for him, because a conspicuous dress would greatly increase the dangers of his travel southward, where people do not like his visits. Bob and his family leave us early in August. However, others that have nested farther to the north continue to pass leisurely by for a month. By early September all

Bobolinks have left Canada. They travel either by day or by night in loose scattered flocks. At night during the migration period we may often hear their clear metallic "chink," which seems to be passed from one bird to another as they fly onward high up in the dark sky.

Large flocks collect in the rice fields of the Southern States in September just as the kernels of rice are in the milky stage. Here the Bobolink is called the Reedbird or Ricebird. They become very fat and are shot without mercy, not only to protect the rice, but for food. Again the southern journey must be continued. The birds from the Atlantic coast travel to the southern end of Florida, thence to Cuba, Jamaica and then across four hundred miles of water to the northern coast of South America. Those birds which passed the summer in central Western America, as far north as Manitoba and British Columbia do not migrate to any extent by way of Florida, but fly directly across the Gulf of Mexico to Yucatan and Central America. This makes a single flight of five to six hundred miles over the sea. If the weather is fine this voyage, as we might call it, is made in about one day's flying; but when met by gales and storms countless numbers are known to have been exhausted and drowned. Practically no Bobolinks take the safer land route through Mexico. The Ricebirds reach South America by October, and we might think that they would be able to find suitable winter quarters on the great savannahs of the northern part; but still the way leads southward; past the northern end of the Andes; over the Amazon and the forests of Brazil to the great plains and marshes on

the Upper Paraguay river. Here they collect in a territory about one-



THE TRAVELS OF THE BOBOLINK.

Black area—winter home; dotted area—summer home; arrows—migration routes.

third the size of their summer range.

The winter is passed with no household cares, amid an abundance of insect life, and Christmas is spent under the warm sun of the southern summer. But early in March, after five quiet months, the instinct to build another home and rear another family impels them to start on their travels once more. Bob again becomes arrayed in his wedding dress. The northward journey is made over the same route as is used in the fall, but now the males travel ahead and again burst into song on reaching the Southern States. The vanguard reaches Jamaica and Cuba early in April, and Florida about April fifteenth. They are due in New York on May first, and in Guelph on the third of May. The females come a week later and stragglers of both sexes continue to arrive till the end of May.

Thus this great journey of about

four thousand miles is made twice a year in order to spend less than three months in a northern breeding ground. Yet this is sufficient

time for them to rear their families, and that is the object of their long travels.



Taking the Sin out of Cinema.

By R. F. JUKES, '21.

THERE are a number of people in this world whose sole mission seems to be to take the joy out of life. Besides the Bolshevists we have certain so-called Social Reformers, the anti-pleasure league. They bray about cards being invented by His Satanic Majesty, that the theatre is the half-way house on the downward path, that the movies are demoralizing, that dancing spells moral ruination, that the peaceful pipe is the deadly organ of that siren Lady Nicotine, and that "the cup that cheers" must go the way of all things that tend to cheer a stagnated social order of things.

And yet we let them live!

Not many years ago we can clearly remember strong agitation from certain quarters against the moving picture theatre. Here, it was stated, the youth of our land was dazzled with pictures of high life, their imagination was fired by blood-thirsty hold-ups and Jesse James in celluloid. Boys appearing at the Juvenile Court, when asked why they broke into the drug store, confessed that they received their inspiration when they saw how easy it was done in the movies. Our girls of sweet sixteen were thrilled by glimpses of high society and dreamed all night of eloping with a tall,

handsome man with an educated mustache and lived in a mental atmosphere of limousines, laces and lackeys.

But the moving picture, like the Ford car, will outlive all criticism as surely as they both start with a crank. The Bureau of Censorship has had a salutary effect in chaperoning the cinema. Nature Pictures, Travelogues, Educative Reels and Near-News Films have made the man in the street quite familiar with all nature's wonders from the Crocodiles of the Congo to the glaciers of Greenland. The movies have brought the country to the city and the city to the country. They have become particularly a necessity in the life of the urban dweller, and almost rival the weather as a non-committal topic of conversation.

The moving picture director now claims to be an artist and the manager of a moving picture theatre must be somewhat of a psychologist. He must arrange his programme to hold the attention of his audience. While the late-comers are getting seated and the peanut fiend is at his worst, an educative film of some kind is shown. The audience will stand most at this stage. We see the performing monkeys and the trained oysters. Surf-bathers, aero-

planes, Armenians and the respiratory system of the frog, are dangled before us in rich profusion.

The next picture is a comedy, and we settle resignedly into our seats. Villainously mustached individuals chase one another madly from room to room with terrible slaughter of crockery and furniture. The garden hose is brought into play on the hero, who returns fire with a convenient seltzer siphon, until the room is knee deep in solid and liquid debris. At this stage the hero seizes a juicy lemon pie and, with the dexterity of an artist, plasters it on the face of the villain with one hand and clasps the heroine to his bosom with the other. The fade-out shows a close-up of the clinch.

After this touch of comedy our psychologist gives us something heavy—"The Cataract of Destiny," Episode 13. A synopsis of the previous twelve spasms is given by way of explanation and the thriller begins. We are hurled into the throes of a western stage-coach robbery abounding in hair pants and villainy. But the hero escapes with the heroine by crawling into a mail bag, putting the heroine in another, and rolling off unperceived by the head bad man. A few minutes later their escape is noticed. Chief No-Washee discovers their trail and the chase is away. The pursuers are gaining fast when the fugitives find themselves on the brink of a precipice, below which is a raging torrent. They cannot cross, their retreat is cut off. Clasped in one last fond embrace they await the inevitable. Their pursuers come up—showing close-up of the villain registering triumph, hate, rage, more triumph, more hate. The hero puts up a good fight, knocks down ten of

his assailants, but is pulled down from behind, bound and gagged. He is then put back into the mail bag, the bag is sewn up and weighted, and he is cast into the raging torrent below. Here, we are informed, he is to stay until next Thursday, when Episode No. 14 will be shown in this theatre.

While struggling to recover our mental equilibrium, our psychologist brings us back to earth with some slides announcing pictures that are "coming."

Next Week—Mary Pickwick in "Kilts."

Coming Soon — Jazzimova in "Only a Shadow," etc.

Then comes the feature picture of the evening, the excuse for all these preliminaries. It is entitled "The Lure of Lula," and has been advertised under such adjectives as "vibrating," "throbbing," "gripping," "pulsating with emotional appeal." It proves to be all of these, and for fifty minutes our feelings are ruthlessly harrowed up, until towards the last the heading says that "love will find a way." The villain and his satellites are foiled, the hero escapes from their clutches and meets his Lula at the old orchard in the moonlight where she has come to dream of him. "At last," he murmurs,—at this stage the audience begins to don hats and coats. The clatter of seats and the shuffle of feet spoil the effectiveness of the final clinch which concludes the picture and the show.

* * * *

Yes, the moving picture business has become a fine art. Its productions are discussed from kitchen to drawing room. Its stars have greater public notoriety than the crowned heads of Europe. We have long

had our baseball fans and our boxing fans. Now we have our movie fans. They discuss their film favorites with fluent familiarity.

"Have you seen Douglas Bare-

shanks in his last picture," enthused a sweet young thing recently. "No," was the reply, "but I hope it is."



Agriculture in Russia.

By FLETCHER THOMAS, '22.

IN order that one may understand the agricultural situation in Russia it is necessary to know something of the peasant people, and their mode of living. Russia is still primarily an agricultural country and work on the land provides the chief means of existence for the overwhelming majority of her people. There are no reliable and exact figures at present on the population of Russia; but in 1916 it was estimated that her population was 182,000,000. Of this immense mass approximately eighty-six per cent. were living in villages, and were engaged in one form or another of agriculture. Thus we see what an important place agriculture holds in Russia.

The picture of the peasant as painted in Russian literature leaves a somewhat heavy impression on the mind of the reader. To anyone who has visited Russia the mental picture of the peasant—or moujick, as he is called—will be somewhat as follows: The peasant lives in his small village commune; his freedom of movement is in the hands of the village authorities. His outlook is

limited, and his future welfare depends on the redistribution of land.

The peasant brawls at communal assemblies, puts a cross in lieu of a signature to documents drafted by the wily and shrewd Zharitza (village clerk). In this way his last bit of property goes for next to nothing if only the latter has the sense to treat the peasant to a bucketful of vodka (Russian liquor). During the spring, summer and early autumn the peasant works hard plowing his ground with a sokha (primitive plow), and sowing his grain broadcast. The womenfolk cut the grain with a sickle, after which the men thresh it with a flail on a flat hard piece of ground selected especially for this purpose. The grain is cleaned by being tossed up in the air, the chaff being blown away by the wind. No sooner is the grain threshed than the peasant hurries to town to dispose of his crop, often leaving scarcely sufficient for his own needs. During the winter the peasant finds work in the town, usually in some factory.

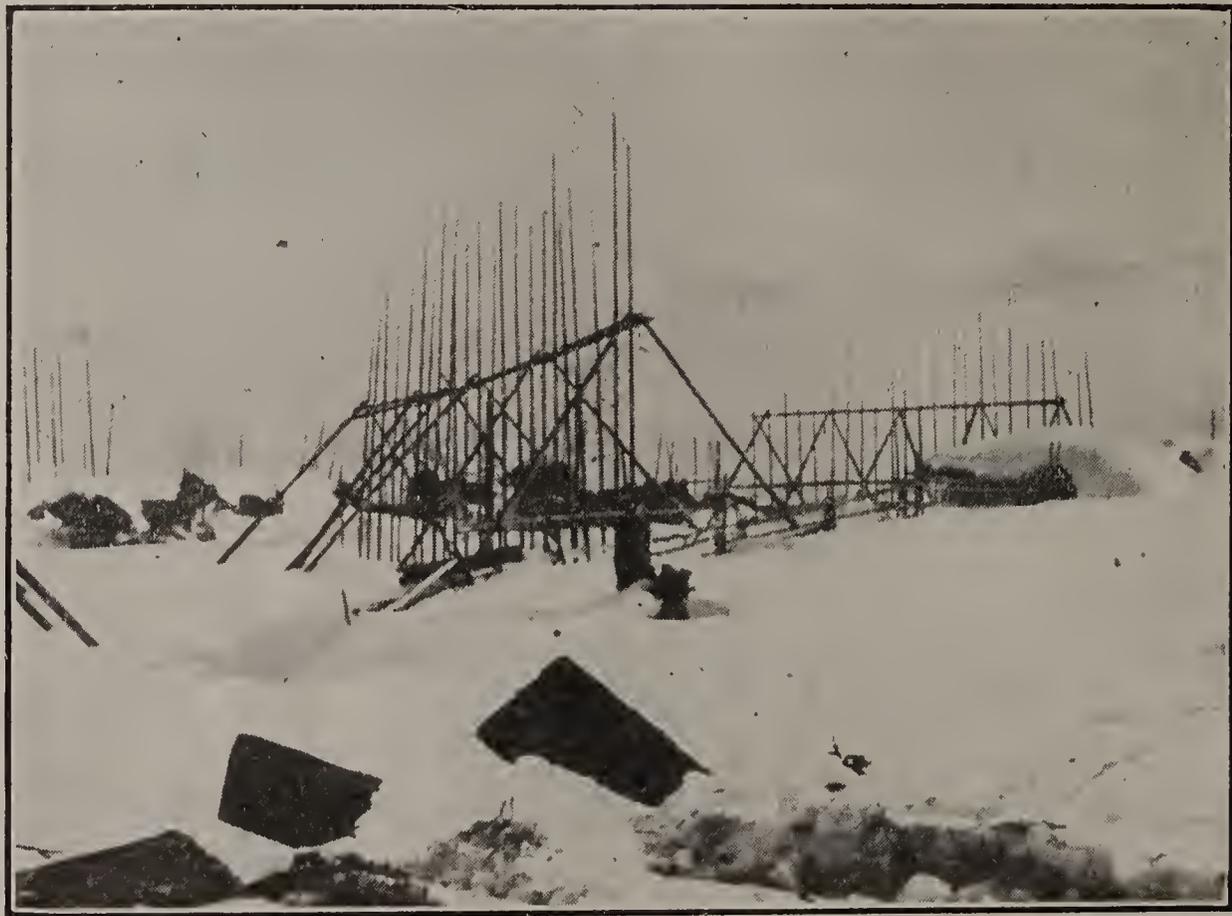
The Russian moujick is superstitious, illiterate, addicted to drink,

and lives under the same roof as his stock. Due to the lack of adequate fire-fighting equipment heavy losses are suffered by fires. Added to these misfortunes are crushing taxes, and impositions by church and state. In such a cycle of toil without hope or light, the peasant passes his life.

About 1861 serfdom was abolished by an Imperial edict. The peas-

cottage and garden only, whilst the arable land, pastures and forest belonging to the village were communal property. The plots of land, in the communal property, cultivated by each peasant and his family were in their possession until such time as this land was redistributed.

Under both systems the peasant



Frames on which grain is stacked.

ants with their freedom were given certain plots of land or allotments. Two distinct schemes were followed in the redistribution of the land—firstly, individual holdings, and secondly, communal holdings.

Under the first scheme the peasants received in perpetual tenure specified plots out of the lands assigned to the villages in which they lived. In addition to this, and apart from it they were given a fixed share in communal lands and forests belonging to the village.

Under the second scheme the moujicks were given in perpetual tenure a small piece of ground for

had to pay the purchase price for the land in annual instalments fixed by the law. The village, however, was held responsible for the completion of the purchase price in respect of all the lands held by the members of the commune. Not until all the members had paid up their purchase price could any member, even if he was under the individual holding scheme, claim ownership to his plot. The individual holding scheme prevailed chiefly in Western Russia; while the communal form of ownership was predominant in the northern and central provinces.

Some information concerning the Russian Co-operative Movement may be of interest. It will probably surprise many readers to know that in 1915 the Russian Co-operative Movement celebrated its fiftieth anniversary. The first co-operative society was established in 1865 in the Province of Kostroma. For about a decade the movement made progress, and a large number of societies were organized in all parts of the country. The Government of the Czar watched with suspicion the growth of this movement, and decided to check it. The formation of new branches of the society was prevented, and the existing societies were interfered with by all sorts of government hindrances.

Promoters of this organization were persecuted and frequently sent to Siberia. The turning point in the history of co-operation can be traced to the year 1905. The first Russian Revolution with its agrarian unrest and riots, although defeated, made a deep impression on the upholders of autocracy. From then on the co-operative movement had the support of the Government. The movement made rapid strides within the next few years. Powerful central organizations were built up dealing not only with consumption, production and distribution of commodities, but with finance and transportation as well. In the field of agriculture the co-operative societies now control in whole, or in part, the production of flax, hemp, butter, eggs, grain and hops. The Union of Siberian Creamery Associations comprise about 1,500 creameries, and 1,000 distribution centres. During the first three years of the war this union supplied the army with food

valued at about 200,000,000 roubles (9 roubles, 45 kopecks = £1.0.0.)

The heart of the Russian Co-operative Movement is the Moscow Narodny (People's) Bank. This bank is the only bank in Russia at the present time that has not been taken over by the Bolsheviki. Through the efforts of the co-operative organizations the peasants have been given money, seeds and machinery. The activities of the Bolsheviki have placed a heavy burden on the shoulders of the co-operative movement; but in spite of this fact they are planning the establishment of terminal grain elevators, warehouses, and the building of a number of local railways. This organization promises to have a far reaching effect during the coming reconstruction period.

It is very interesting to study a map of Russia. The best farming section lies far to the south in the provinces near the Black Sea. The origin of the Kherson variety of oats can be traced to the province of Kherson in this section. The Iowa 103 and Iowa 105, the most popular varieties of oats in the corn belt of the United States are descendants of the Kherson variety. Another interesting point about the province of Kherson is that it is the birthplace of Trotsky, the Bolsheviki Prime Minister. In the northern part of Russia there is timber and mining; but agriculture is negligible. The real rich part of Russia lies in the south.

The attention of economists and industrialists should be drawn to the problem of increasing Russian agricultural production. This is Russia's real gold field. The primary object of the economic policy in Russia

should be the development of intensive methods of agriculture. This is the simplest and surest way of making available the wealth of Russia. Since the vast agricultural population of Russia is made up of small holders it is a practical impossibility for the majority of them to own the necessary machinery for intensive cultivation.

A splendid future for Russia is inevitable, because she is rich in every natural resource, and in human labor, though backward in the use of machinery. Russia's natural resources, both in Europe and in Asia, are enormous and almost untouched. Alone she could supply the world's needs in cereals, rice and corn being excepted, if her fertile lands were all cultivated. Her territorial extent is approximately three times that of the United States, and probably no like area in the world has such latent agricultural possibilities. She stands first among the nations of the world in timber resources. Her coal fields are estimated at approximately 320,000,000,000 tons. She also has immense deposits of iron, while gold, lead, copper and other metals exist in great quantities. Russia ranks first in the supplies of iridium and manganese.

Russia has the most extensive system of inland waterways in the world, which in Northern Russia are open from May to October, and in the south from March to November. She ranks first in the production of barley, flax and rye; and second in the production of wheat, oats, potatoes and sugar beets. But with all her natural resources Russia's commercial showing is very disappointing. She ranks only sixth

in the value of exports and ninth in the value of imports. She cannot become prosperous commercially and industrially so long as eighty-six per cent. of her population belong to the peasant class. When the introduction of modern farm machinery releases a large part of this eighty-six per cent. from toil in the fields Russia's industrial possibilities must of necessity be developed.

The agricultural potentialities of Russia can scarcely be overstated. Estimates vary greatly, but it is practically safe to say that she has at least 288,000,000 acres of first-class wheat land, and that the greater portion of this is still virgin soil. The average yield of the portion now cultivated is but ten bushels per acre, while the average yield in the United States is about seventeen bushels per acre. Some idea of Russia's possibilities in the production of wheat can be gained from the following facts: If all her available wheat lands were utilized with a yield of but seventeen bushels per acre the crop would exceed the present annual supply of the world. The writer made an interesting calculation, and found that if her crop were put in the largest freight cars it would make a train which would reach more than one and a half times around the world.

If the Russian peasant learns to use modern farm machinery such as is used in America at the present time one or two things must result. Either about thirty per cent. of the farmers must move to town and develop new industries, or else Russia must increase her foreign trade so that her greatly increased surplus of grain can be exported.

Progress may be slow in Russia

for a few years until the internal trouble is definitely settled, and a stable government is formed. Since the beginning of the war the manufacturing capacity of belligerent and neutral nations has been greatly increased. Now that the war is over the manufacturers must look for markets for their products. Where then is there a greater opportunity for this than in Russia? The modern farm machinery of the more advanced countries can be exchanged for Russia's raw materials, and supplies.

Germany alone has thoroughly

studied Russia. Before the war she furnished one half of Russia's imports. She has the advantage of proximity it is true, but to-day because of her crippled condition resulting from the war she is unable to take advantage of her opportunities and exploit Russian possibilities. To-day is our day of golden opportunity in Russia if we do not muddle affairs. By the old fashioned system of fair dealing we can win Russia's confidence and friendship; and her economic possibilities may be of the greatest importance to us in future years.



National Book-Keeping.

The farmer must keep books, showing the loss or gain on every animal or crop raised. This is a very useful procedure, and might it not be carried into the regions where it is most sadly needed?

Why should not the nation open a set of accounts with every class or trade and every individual there concerned? For then it could be determined whether the professional man, agent, and middleman were keeping the nation or the nation keeping them; it could be deduced what these people are doing to earn the farmers' good potatoes, milk, bread and fruit which they are certainly consuming.

We hear great outcries about the high cost of living, yet every farmer ought to know the reason for it. The cost of living is high because we have a vast horde of useless people living upon us, and the only remedy is to turn these parasites into producers of essentials. Let the nation keep records of performance, and have various sorts of Babcock tests and trap nests for all the middlemen, insurance agents, government officials, bankers, professional men, capitalists, land agents and all others of their like. Justice and sane living demand that they return goods equal to the goods received.

But this is a free country and some may object. "Surely you do not mean to make a man work at uncongenial tasks?" Well, the nation may insist that the non-producer do enough at real production to pay for his keep. Society is helpless before the vast crowd of useless and semi-useless persons who prey upon those who do the real work of the nation. A national book-keeping would show the weak spots in the nation's business force, and the re-allotment of work amongst the staff would soon pull down the big running expenses.

—From a letter from J. C. Harris, New Denver, B.C.

Spring Song.

By BLISS CARMAN.

Make me over, mother April,
When the sap begins to stir!
When thy flowery hand delivers
All the mountain-prisoned rivers,
And thy great heart beats and
 quivers

To revive the days that were,
Make me over, mother April,
When the sap begins to stir!

Take my dust and all my dreaming,
Count my heart-beats one by one,
Send them where the winters
 perish;

Then some golden noon recherish
And restore them in the sun,
Flower and scent and dust and
 dreaming,
With their heart-beats every one!

Set me in the urge and tide-drift
Of the streaming hosts a-wing!
Breast of scarlet, throat of yellow,
Raucous challenge, wooing mellow—
Every migrant is my fellow,
Making northward with the spring.
Loose me in the urge and tide-drift
Of the streaming hosts a-wing!

Shrilling pipe or fluting whistle,
In the valleys come again;
Fife of frog and call of tree-toad,
All my brothers, five or three-toed,
With their revel no more vetoed,
Making music in the rain;
Shrilling pipe or fluting whistle,
In the valleys come again.

Make me of thy seed to-morrow,
When the sap begins to stir!
Tawny light-foot, sleepy bruin,

Bright-eyes in the orchard ruin,
Gnarl the good life goes askew in,
Whiskey-jack, or tanager—
Make me anything to-morrow,
When the sap begins to stir!

Make me even (how do I know?)
Like my friend the gargoyle there;
It may be the heart within him
Swells that doltish hands should
 pin him
Fixed for ever in mid-air.
Make me even sport for swallows,
Like the soaring gargoyle there!

Give me the old clue to follow
Through the labyrinth of night!
Clod of clay with heart of fire,
Things that burrow and aspire,
With a vanishing desire
For the perishing delight,—
Only the old clue to follow
Through the labyrinth of night!

Make me over, mother April,
When the sap begins to stir!
Fashion me from swamp or meadow,
Garden plot or ferny shadow,
Hyacinth or humble bur!
Make me over, mother April,
When the sap begins to stir!

Let me hear the far low summons
When the silver winds return;
Rills that run and streams that
 stammer,

Golden wing with his loud hammer,
Icy brooks that brawl and clamour
Where the Indian willows burn;
Let me hearken to the calling
When the silver winds return,

Till recurring and recruiting,
 Long since wandered and come
 back,
 Like a whim of Grieg's or Gounod's,
 This same self, bird, bud, or
 bluenose,
 Some day I may capture, (who
 knows?)
 Just the one last joy I lack,
 Waking to the far new summons,
 When the old spring winds come
 back.

For I have no choice of being,
 When the sap begins to climb,—
 Strong insistence, sweet intrusion,
 Vasts and verges of illusion,—
 So I win to time's confusion,
 The one perfect pearl of time,
 Joy and joy and joy for ever,
 Till the sap forgets to climb!

Make me over in the morning
 From the rag-bag of the world!
 Scraps of dream and duds of daring,
 Home-brought stuff from far
 sea-faring,
 Faded colours once so flaring,

Shreds of banners long since furled!
 Hues of ash and glints of glory,
 In the rag-bag of the world!

Let me taste the old immortal
 Indolence of life once more;
 Not recalling nor foreseeing,
 Let the great slow joys of being
 Well my heart through as of yore
 Let me taste the old immortal
 Indolence of life once more!

Give me the old drink for rapture,
 The delirium to drain,
 All my fellows drank in plenty
 At the Three Score Inns and
 Twenty
 From the mountains to the main!
 Give me the old drink for rapture,
 The delirium to drain!

Only make me over, April,
 When the sap begins to stir!
 Make me man or make me woman,
 Make me oaf or ape or human,
 Cup of flower or cone of fir;
 Make me anything but neuter
 When the sap begins to stir!



The Lecture Method in Teaching.

Its Use and Abuse.

By J. STERLING WATERMAN, '21.

IN view of the fact that many of the graduates of this institution will possibly, at some time or other, be called upon to teach the principles of scientific agriculture, in short courses, in schools or in other institutions similar to the O. A. C., and since very few have had any training in the methods of teaching, a discussion of one of the best methods to adopt should be welcomed by many.

At the first glance, the broad field of education presents a medley—many and varied studies, pupils of all ages and intellectual capacities, and teachers of nearly every quality and description. There are many sorts of schools and great diversity of purpose and method, even in schools of the same kind. In high schools, for example, there are general and business courses, courses scientific and courses classical; and it is reasonable to suppose that no one method of teaching will do for all. Teachers are at variance as to the best method of instruction, some preferring this method and some that. In the midst of this endless variety and fluctuation in the theory and practice of teaching, it is not strange that many educated people, even teachers themselves, adopt a sceptical attitude toward scientific method and regard each person as a law unto himself.

This is more in evidence in the colleges and universities of this country than in the lower schools,

i.e., public schools, collegiate institutes and technical schools. In the latter, there is shown some uniformity of method, since the methods taught in our normal schools and Faculty of Education are very effective, and have been adopted by the majority who have studied them.

In colleges and universities, however, there seems to be little uniformity of method in teaching, every teacher, professor or lecturer adopting his own method, which in many cases is not method at all, merely reciting the work to the class who are at liberty to get it down in notes or not, just as they wish. If the student succeeds in getting it on paper his mind is so occupied in listening and writing that at the end of the class period he has only a vague idea of what it is all about, until he studies his notes.

This is not teaching, and the aim of this type of lecturer is not to impress the work on the minds of the students so much as to get over the work in a given time. It is more or less a waste of time to both teacher and student. The former, in all probability, could employ his talents in some other line of work with a greater benefit to society, while the student under a conscientious, methodical instructor, will advance more rapidly, and retain permanently the knowledge gained.

This method of lecturing—it cannot be called teaching—is generally termed the Lecture Method: but it

is *not* the lecture method, any more than boiling grease without lye, is making soap. The most important feature of the Lecture Method has been omitted—that of obtaining from the students, in their own words, the ideas imparted to them during the lecture. Let us then see what the Lecture Method in teaching is. It consists of three parts: (1) the careful preparation of the material of the lecture; (2) the lecture itself; (3) the questioning of the class at the end of the period. This “quiz,” as it might be termed, enables the instructor to ascertain whether the class has assimilated the information imparted to them, and also to impress the more important points of the lecture. It also enables the instructor to note those who are indifferent, and those who need individual instruction.

The Lecture Method is the only method by which a teacher can get over the work required of him when he has a large class, in such case little or no individual attention being possible. It is a good method to use also when the students have reached the age when they have, or are supposed to have, common sense enough to pay attention and learn the work for the sake of the knowledge acquired.

Besides careful preparation of the subject matter, the lecturer should develop an interesting method of presenting it to the class. Small experiments often help, a funny story which has some relation to the subject in hand, or the practical application of the matter discussed to the conditions under which the students live. There are many ways in which the class may be interested in the work, but only brief mention can be made now.

It is in this presenting of the lecture that the “Lecture Method” is weak. The instructor may be compared to a boy throwing a ball against a wall; the ball being the lecture and the wall the class. As the ball strikes the wall, it rebounds as does the lecture presented to an inattentive class. But if the ball goes through an opening in the wall it stays there, as the knowledge is retained by an attentive class. So in order to impress the class, the preparation must be perfect and the presentation bright and interesting.

The third and the most essential element is the “quiz” of the class at the end of the lecture period. This, it must be said, is especially important and cannot be overlooked if the lecturer wishes to do his work thoroughly. It enables him to note whether the class has retained the matter presented. It enables him to pick out the dull students or those who have not paid attention. It enables him to impress the principal points of his lecture and should the majority of the class show slight knowledge of the matter presented, it shows him that something is wrong with his presentation..

Herein lies the difference between a good lecturer and a poor one. The former is one who conscientiously prepares his work, presents it in a bright, interesting manner to his class, clearly and methodically, making sure his students thoroughly understand each point before proceeding with the next. The poor lecturer, on the other hand, is characterized by poor preparation, slipshod presentation, and an evident purpose of filling in the time with a flow of words but no substance.

Let us look for a moment at the effect of lecture methods on the

student. If he knows that the lecturer will not ask him questions at the end of the period, or during a series of lectures, he will not give them his best attention unless compelled to by the force of an interesting presentation. Any student dislikes being asked a question in class which he cannot answer. It shows him up, making him an object of derision for the rest of the class. Consequently when he knows that the instructor is likely to ask him questions he will, in order to preserve his self-respect, pay attention so that he may be able to answer. Thus when he leaves the class he has a foundation on which to build his store of information that he afterwards gleans from his notes. Thus he will know his work.

It is a benefit also to the lecturer. His pupils will be a credit to him and his fame will spread in time. His industry will bring its own reward.

It is not the intention of the writer to discuss in detail the "Lecture Method" in teaching, but merely to point out a few of the strong

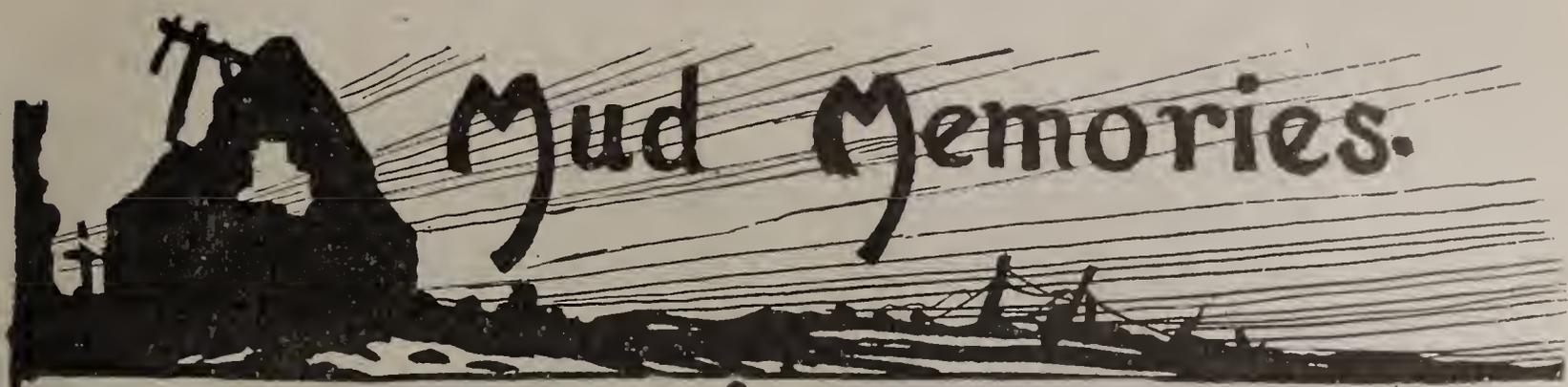
points and also some abuses—the latter deplorably common.

In closing, one more point must be mentioned—the far reaching effects of poor teaching in any agricultural short course, a high school, or an Agricultural College. Examinations must be passed. If the student is taught properly during the year, he will have a firm grasp of his subject, he will have no fear of examinations, and his knowledge will stay with him. If he has been "recited to" he will not know his work and will resort to "plugging." He may or likely will get his degree or diploma, but in a short time will forget what he "plugged" and will go into the world a discredit to the education.

So the good name of an educational institution depends to a great extent on the method of teaching adopted by the staff, and if they have in their hearts the spirit of loyalty so necessary in the life of any school they will not fail to adopt that method which will give the best results—and it is NOT that which consists of merely "shooting" the lecture at the class.



A centipede was happy, quite,
 Until a toad in fun
 Said, "Pray, which leg goes after which?"
 That worked her mind to such a pitch,
 She lay distracted in a ditch,
 Considering how to run!



FROM "FIELD AMBULANCE SKETCHES," By a Corporal.

IT is a glorious evening, but the sound of shelling seems to lay a burden on the heart. Was there ever a sound so dismal, so intolerably expressive of the hollowness and futility of life? The moaning of the wind round a ruined hearth, the whine of a dog that smells death in the house, the keening of an idiot, the heart-break in a peal of old bells—it is all in the sound of the shell. It speaks the perfect language of aimlessness and despair . . .

There is a "stunt" to-morrow, and I am waiting to see the men go up who are to face death in the morning. The meandering path of duck-boards by which they must come passes the door of the concrete "pill-box" where we are posted. In daylight one can trace them as far down as the old orchard, and as far up as the shattered "calvary," which now shows black on the sky-line and looks like a gallows under the moon. What a path to be the end of so many roads and trails and wanderings! And that broken crucifix, what a symbol! What a satire! . . .

But hark! The sound of a stumble and subdued voices down the track. And I can see black figures moving past the water in the shell-holes just this side of the orchard. Yes. Here they come. These are men who are "going over" to-morrow; the pilgrims on the last ascent.

I wonder who invented the comfortable myth of the gay unthinking "Tommy" going into action with a grin on his face.

Some civilian surely. For these men are silent and their faces as they appear, one by one, in the shaft of dim candlelight that streams from the dug-out door, are filled with the same strained preoccupation. To say that they look "fey" would be a romantic exaggeration; but they do look like men who have turned their backs on life; men who have become the puppets in the hands of an unintelligible fate. Their movements are oddly mechanical, as though they have not the full use of their limbs; and though they do not look afraid, there is a dullness in their faces more terrible than fear. More than one, when he finds himself in the light and sees me standing there, turns his head away for fear that I may see in his face what no one has ever seen. They are heavily and grotesquely laden. In addition to their ordinary equipment, they are carrying up a special supply of bombs; and on each man's back is strapped a shovel, pointing downwards like a beetle's tail, and a couple of rifle-grenades, sticking up like copper bulrushes.

Some of them seem already more than half exhausted by the mere weight they are carrying; a weight

which would make their progress up that slippery path a sufficient torment in itself, even if their destination were not Golgotha. How they endure it, I cannot think. It suffocates one to look at them. I cannot even wish them good luck.

One lad, white with fatigue, forces a joke:

“Keep a nice soft one for me,” he says, jerking his head towards a pile of stretchers at my feet.

I do not know whether to be more sorry for him or for the grey-haired man who comes next, and who cannot meet my eyes.

Gay unthinking Tommy be damned! This is no special breed of men. These are the lads who used to bring round your groceries; the men who repaired your windows and bath-room taps. Heroism is no easier to them than to you, Mr. Smug of the Evening Press, and the fact that they make the best of a bad job gives you no right to wash your hands of them. They are made of the same poor tender stuff as their mothers; and they are just as anxious about their wives and children and just as loath to leave them all for ever, as any man would be in their place.

Shame on you, Mr. Smug. Tear up that soothing humbug you are writing for to-morrow's issue; blot the “grinning Tommy” out of your flaccid mind; and remember—for the sake of Christ and humanity remember—that the steel helmet covers no more, and makes no better halo, than the bowler hat.

To-morrow when your readers are devouring your account of the latest “British Blow,” my stretcher-bearers will still be travelling this ghastly track with load after load

of smashed but still living flesh and bone—the twisted wreckage that was once a young man; the bloody mask that once gave a father's kisses. We cannot get rid of them by calling them Tommies; we cannot get used to the war by imagining it as Sport. We know that war is a foul tissue of crime and bestiality which no consideration of national expediency can possibly excuse.

And there is not one of those men who in his heart of hearts thinks otherwise; not even that dapper little white-faced officer who brings up the rear, and who is trying to lighten the burden of his perplexities by nagging the men near him like a tired nurse-maid.

Poor lad; for he is little more. It does seem hard that because a boy happens to have been to a public school and an ancient university, he should have to shoulder a responsibility like this.

“Playing-fields of Eton!”

Good Lord!

As I watch his absurd neat trench-boots twinkling away in the gloom, and hear his silly over-refined voice asking some fatuous question, it suddenly comes over me that he is the loneliest little man I have ever seen.

What a mercy it is that when the final word is given and they stream over the top to-morrow these men will all sink to the happy insensibility of worrying beasts; and that all vain regrets and tender memories, all visions of happy days and home-faces—the whole delicate rainbow web that fills the vacant dome of man's brain and makes it Mind—will have been swept clean away; leaving nothing for death to take

but a few tormented handfuls of common earth!

They are passing the "calvary": half a dozen little silhouettes on the sky-line, toiling and struggling among the shell hummocks. Ah! What was that? A red blink in the sky right over them! Crrrang! Heavy shrapnel! They are hit!

No! There they are again—four, five six, all present. They must have thrown themselves flat in the mud; now they are up again, and

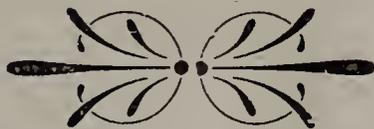
trying to run. I can just hear the little officer yapping at their heels.

There he is; the last man; crossing the highest hummock—I can tell him by his twinkling legs. Now he is beginning to go down hill; the earth is swallowing him up.

Down; down; down.

Nothing but a bobbing helmet now; he must be still running.

There! He is gone. They are all gone; gone into the country of the moon.



The Beautification of Home Surroundings.

By W. HAROLD REID, '22.

WHEN travelling through this wonderful Dominion, even the most unobservant cannot help being impressed by the many beautiful scenes which confront one's vision. Scenes which could not have been conceived or created by mere man but owe their grandeur to the hand of nature and thus are all the more beautiful.

Our present state of civilization tends to modify or even destroy much of the natural beauty of the land, as men are more and more grouping themselves together, creating big cities which exhibit, in many instances, little beauty other than of a material nature. As these cities gradually increase and spread many of the beauty spots are absorbed.

Such a transformation can be easily pictured and, what is more, such changes have come within the experience of most of us. That which was but a short time ago a green sward, dotted here and there with venerable old trees in whose branches countless birds had a happy home, now become a suburb of some great city. The old familiar scenes are gone forever and one's vision must be satisfied by a scene intersected with asphaltic streets, bordered on each side by rows of houses which are, too frequently, built so close together and so near the sidewalk that practically no visible trace remains of the previous natural beauty of that locality. However the fact that such conditions do not prevail

entirely gives us due cause to be thankful, at least those of us who have a love for nature.

As one passes along such streets, some residences, and the appearance of the surrounding grounds, leave with us a very favorable and pleasing impression while many of the places leave practically no impression on us. It is this type of place which will be considered, as to how

Consider first what means can be adopted for improving the general appearance of the place by changes in front of the house, allowing that the house is at least a short distance from the sidewalk. First and foremost it is necessary, as far as space permits, to have a lawn which, if it receives the due amount of attention, will in itself be a decided improvement. Then can be consid-



it can be brought up to the level of the other prettier and more attractive places. It is not intended to deal with large grounds to be treated from the viewpoint of a landscape architect, but a small lot surrounding the ordinary city residence. Such a lot is usually rather narrow, in fact little wider than the house so that it is divided practically into two plots.

ered the planting of shrubs. With a small front yard trees are practically out of the question, unless there are no shade trees along the street when it would be advisable to plant one, or in some cases two, pretty well to the front of the lawn or in the boulevard if there is one. If the lawn is quite small a hedge across the front very often is not suitable even if kept trimmed low,

but in many cases a border of dwarf roses can be planted, with good effect, along each side of the walk leading to the house. If the local conditions do not favor such a border then it may be preferable to make a small flower bed in the lawn or along the verandah. Generally the verandah lends itself readily to our purpose and the planting, in addition, of a few climbing vines will produce a vast improvement in appearance and also make it more private, adding greatly to its usefulness. Sometimes a flower bed bordering the verandah is not feasible and in that case long flower boxes along the front of the verandah, raised up about three or four feet, and filled with annuals, may be substituted and produce a very pleasing effect. The question of the house itself deserves consideration. In many cases in congested city areas there is nothing required by way of climbing vines, but a well-exposed, plain, bare wall will look much better if Boston Ivy is planted so as to practically cover it.

The improvement of the appearance of the house and grounds from the front has now been treated in a general way and we are then confronted with the problem of what to do with the backyard. In too many cases nothing is done with it and it is not even considered of sufficient importance to deserve any attention or care. Standing at the back door of any one of thousands of houses in many city areas practically the same scene is before you, with few exceptions—a small yard, untidy and unattractive, bordered on three sides with a tight board fence, serving as the dividing line between you and your neighbors. From any one posi-

tion you can command a view of possibly four or five such yards. Some will show signs that the owners or occupants are more or less industrious as exhibited by an attempt, at least, at cultivation and the presence of vegetables and possibly some flowers. Others will show rank evidences of neglect, resulting in an abundant crop of weeds which will be a menace to those trying to have their grounds as beautiful as possible. Such backyards are all too common and there is little doubt that if the occupant realized how easily it could be modified and what a wonderful transformation could be effected there would be little hesitancy in bringing it about.

In proceeding with the work in detail it is realized that the first requirement is to have the ground cleared and worked well. As the ugly looking fence cannot be eliminated from view it can be covered or screened. This may be done by planting climbing vines along it or what will be much more effective and which will produce a more pleasing effect will be to plant a perennial border all along the fence. This may extend out for four or five feet, choosing certain varieties for the background which will grow to the top of the fence at least, and then, to fill in the remainder of the border, selecting varieties which grow shorter, sloping down gradually towards the front so that at the edge there will be the low-growing border plants. In choosing the perennial for the border you have a wide range. However, do not plant a large quantity of any one perennial even though it is very showy and beautiful if it blooms for a comparatively short time. Try to work

it out so that there will be as much as possible in bloom at one time, and also so that there will be a continuation of bloom throughout the season.

The remainder of the ground may then be made into a garden. On account of limited space it will not be possible to produce a sufficient quantity of potatoes, for example, to really make it worth while. However a small garden plot may be used to good advantage to provide little luxuries for the table. A small plot will not require a great deal of labor to keep it in good condition, and it should be possible to have the vegetables come on very early when such are considered luxuries and often they are appreciated more when grown in one's own garden.

On the other hand if one does not want to bother with a garden at all the backyard can be made much more beautiful and attractive. The whole area can be turned into a lawn and one or two flower beds put in, consisting of annuals or plants of a different nature from

those in the border to give greater variety and so as not to detract from its beauty. A large bed of roses in the centre will show off to good advantage. Then a summer-house may be included which may take the place of the central bed. Climbing vines may be planted so as to practically cover it, or for that matter grape-vines may be used which will provide not only shade, but fruit as well. Without doubt a more beautiful effect will be produced if instead of vines, everblooming rambler roses are used which will climb to the top of the summer-house and produce an abundance of crimson flowers.

Thus it is not very difficult for the residence and surrounding ground that is commonplace and unattractive to be transformed into a place of beauty. As environment has an important influence over our lives it is well to surround ourselves with an environment that is uplifting and one that will tend to develop in us a love for the aesthetic.

“Swat the Scrub Bull”

By J. C. McBEATH, B. S. A., Dept. of Animal Husbandry, O. A. C.

THE great subject of conversation among the rural people to-day is the present scrub bull campaign. Already, meetings are being held in a great many of the counties in connection with it and at every agricultural meeting of any importance at all, the scrub bull is being “cussed” and discussed with a vim and vengeance that people have seldom put into other branches of their work. It seems as if the veil of

mystery has suddenly lifted and people have been enabled to see distinctly the vast importance that a pure bred sire of good individuality and breeding has on the stock of the country.

It is also true that a great many are taking exception to the campaign and they raise some objections which they think are perfectly legitimate, but which do not hold water when analyzed by the practi-

cal man, who has made a success of livestock by the use of a pure bred sire of good breeding. Some farmers are saying that the government has no right to try to make them discard their scrub sire and use a pure-bred of good quality. The government is not, in any way, trying to force anybody to dispose of his herd sire for a better one; everybody has a right to use any kind of an animal that he wants to and it is nobody's affair but his own. But what they are doing, is to make plain to the owners of grade and scrub pure-bred sires, the value of a bull that has a reasonable amount of individualism and breeding behind him, and then leave the whole question to be turned over and threshed out in the farmers own mind.

Although the present campaign in Ontario is a new idea in this province, such work has been going on for some time in different parts of the United States, particularly in Wisconsin which is one of the banner states of that country. In that state they are going about it in a little different manner than is being adopted in Ontario. Instead of the state government doing the greater part of it, the different breed associations are the "men behind the gun." They got the school children interested, in taking a census of the cattle in the different counties. After this was finished, meetings were held in different parts of the county and discussions on the value of good bulls were held. In order to give the campaign a starting impetus the different breed associations decided to donate pure-bred sires to a common cause. These pure-bred sires were given to a farmer in exchange for his scrub

pure-bred or grade sire, which was in turn sold for beef and the money received, used to carry on the campaign to a greater extent. In this way there was no money exchange between the farmer receiving the good pure-bred and campaign authorities; the farmer thereby getting a good bull for the price of beef, and a surety of reaping some benefit from the influence on his herd. The campaign was carried on very energetically and systematically and gave excellent results. Other counties and states have adopted their general methods and are carrying on campaigns in different localities with good results, and it is safe to say that if the rural people of this province are as easy to teach, and there is no reason why they shouldn't be, the campaign in Ontario should be a huge success.

In dealing with the scrub bull or grade sire there are one or two principles in breeding that are easily understood, and should be comprehended by all owners of bulls. The old saying that "like begets like" goes to a certain extent, but in using a grade sire one is not always sure of what one is going to get in the offspring because, in the use of an animal with several infusions of blood, there is always a breaking up and segregation of characters which does not get anybody any place in the development of their herd. Whereas, in the use of the pure-bred of good quality, there is always a chance of any resulting service being better than the parents. Pure-bred sires of good breeding are endowed with a character or power called prepotency, which means that an animal has the power to stamp on his offspring some desirable characteristic more than some

other. When we consider that the grade sire is liable to throw anything in way of calves and the scrub pure-bred has no prepotency, there is a reason why this class of animal should be discarded as soon as circumstances will permit and good ones substituted.

The Farmer's Viewpoint.

On the Scrub Bull Campaign.

(This article was contributed by Mr. Martin Johnson, a Middlesex County farmer. It presents the farmer's side of the case.—Editor.)

THE present agitation throughout the country for the elimination of the scrub bull is a commendable one indeed and deserves the hearty support of every one interested in agriculture. All recognize his pernicious influence, but how to get rid of him is the problem.

In dealing with this question it seems wise to try to ascertain why the scrub bull wields such a wide and baleful influence over the livestock industry. No one will question the fact that there are scrubs of the worst sort among the pure-bred sires, and that they are a serious menace to the industry. However, if the men in the pure-bred business would ruthlessly weed out every inferior individual, and send him to the block, they would soon eradicate the pure-bred scrub in Canadian herds and lay the foundation of a world-wide reputation for Canadian pure-bred cattle. In this article let us consider more particularly the grade scrub and his position in the cattle industry.

Why at the present time do we find so many farmers using a scrub bull on their herds? Some times it may be a case of small capital, but this by no means accounts for the great majority of the grade

bulls that are kept. Why do we find farmers driving their cows to a grade when there is one or more pure-bred sires in the neighborhood? The fact of a smaller service fee by no means explains it. The real reason in most cases is one we rarely hear mentioned in the public discussion of the subject.

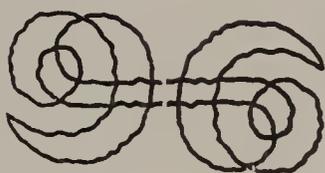
The impotence or semi-sterility of the pure-bred sire accounts for more scrub grades than any one other contributing cause. This may sound like an exaggerated statement, but let us look into the matter a little. In these days nine out of every ten farmers realize that it is a short-sighted policy to use anything but the best sire available. But in general farm practice it is essential to have the cows freshen regularly. Now when the pure-bred sire fails to breed the cows, what recourse has the farmer but to resort to the scrub or grade bull? Some may question the superiority of the scrub over the pure-bred in this respect, but the writer has time and again seen this fact demonstrated in ordinary farm practice, in his own community. And if the matter is looked into it will be found that this condition prevails to a greater or less degree through the

country. If then we can ascertain the cause of this condition and remove it, we shall have gone a long way towards solving the problem.

Is it not possible that the greater vigor and prepotency of the scrub is due to the method of feeding the pure-bred, not only after he comes into service, but before that time? Men in the pure-bred business naturally and properly desire to have their stock make the best possible appearance whenever they are under inspection and inspection is always solicited. This ambition is quite commendable up to a certain point, but in stock intended for breeding purposes it is quite possible to carry it too far. Over fitting does impair the vitality and fecundity of any animal, and the present day tendency seems to be to go the limit in this respect and the trouble does not by any means end with the breeder. In many instances

after the sire goes into service he is subjected to a system of feeding combined with a lack of exercise that saps his vigour and prepotency no matter how judiciously he has been handled up to this time. The grade is rarely, if ever pampered, and so usually comes into maturity under natural conditions.

One of the things needed to sound the death knell of the scrub bull is a realization both by the breeder and buyer of pure-bred that a vigorous constitution is the consideration rather than the sleek appearance of the super-fitted show-ring animals. An educational campaign along this line should do much to help the cause of the pure-bred sire. The farmers are generally awake to the deficiencies of the scrub bull, but while conditions remain as they are, they may have to make use of the poorer material.



Heavier-than-Air Craft.

By C. W. LEGGATT, '21.

FLIGHT is a problem which has engaged men's minds from the earliest times. It is questionable whether there ever has been a time since man first began to observe, and understand, when he has not watched the birds in the glory of their flight, and envied. We read of it in the writings of the ancient Greeks; how Icarus aspired to soar into the heavens on wings fashioned by his father Daedalus, and how,

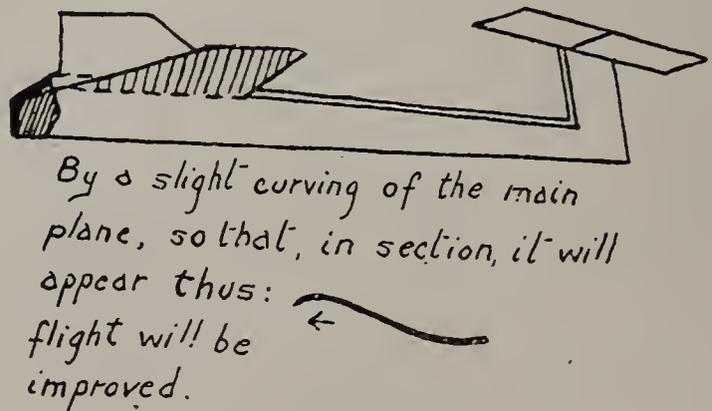
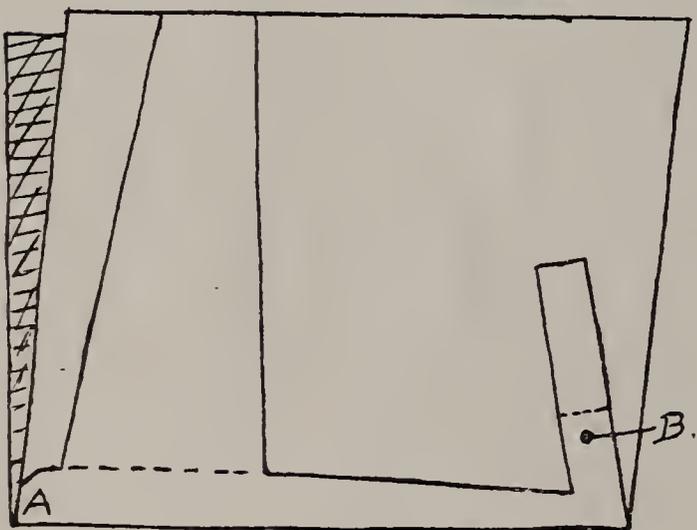
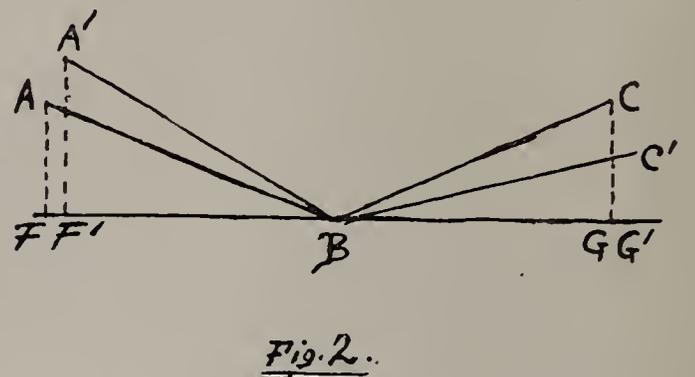
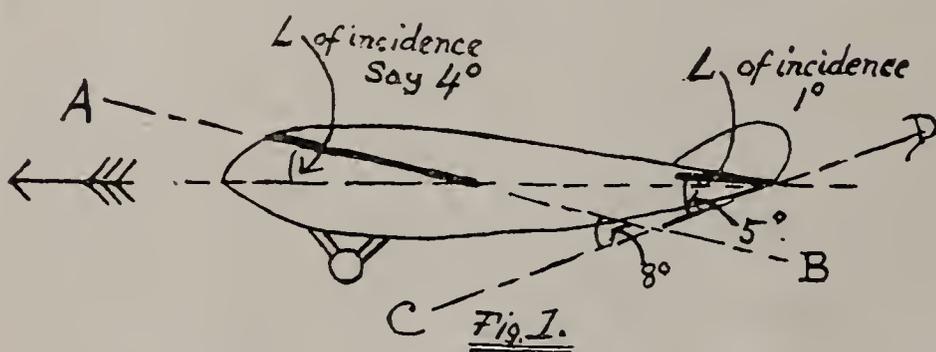
by trying to fly too high, the sun's heat melted the wax by which the wings were fastened to his body, and he fell into the sea and was killed. Not only the Greeks, however, but all the Ancients, speculated on the possibility of flight, and wove legends around imaginary heroes, to whom flight was an accomplished fact.

It was not, however, till many hundreds of years later that any

practical suggestions were made. Some of these were quaint in the extreme. One inventor suggested the construction of a large envelope, carrying it to a mountain top, and there inflating it with the rare air found at such an altitude. He then proposed to launch it and float about in the more dense air of the valleys! His idea nevertheless had the germs of feasibility, for it was in a balloon supported by rarefied air that the

The first of these, the helicopter, may be dismissed with very few words. For practical purposes it is hopelessly inefficient; the power required to produce direct upward lift by means of an overhead helix or screw, being far in excess of that required to produce flight by other methods.

It is commonly thought that a bird obtains lift from the downward flap of the wings. That this is not



By a slight curving of the main plane, so that, in section, it will appear thus: flight will be improved.

Fig. 4.

first practical human flight was accomplished. This was in a hot-air balloon, invented in 1872 by the Montgolfier brothers of France.

The purpose of this article, however, is to deal with heavier-than-air craft, and to give an idea of the principles which control their flight. Of this class there are three types: the overhead screw, giving a direct upward lift, or Helicopter; the flapping-wing, or Ornithopter (so named from its imitation of bird flight); and the Aeroplane type, i.e., one supported by stationary planes.

entirely so, however, has been demonstrated: hence the failure of the early experimenters with this type of machine. What actually happens in the case of bird flight is, that with the downward, which is also a backward, stroke, the bird is given forward impetus; the wings are then brought forward and upward more or less gradually, affording the while a plane surface by which support is given. From this it is obvious that the flight of birds is much more nearly allied to that of the aeroplane, than to the com-

mon conception of flapping-wing flight. In the aeroplane, however, the supporting surface remains stationary, while forward movement is given by a separate mechanism, consisting of engine and propellor, an arrangement even more efficient than that with which Nature has endowed birds. The power plant will not be considered here, since it is not essential to flight, though it is to sustained flight. The early modern attempts were made on gliders, or machines not power driven, and this is the types that will be referred to in the remainder of this article.

If a stiff piece of paper is held almost edgewise to the wind, but with the leading edge slightly higher than the rear, or trailing edge, an upward lifting effect is noticed, and the paper is acting as a kite. Similarly, if there is no wind, but if the experimenter holds the paper in the same manner, at the same time walking quickly forward, an uplifting effect is again noticed, the paper is then acting as an aeroplane. (The angle given to the paper, relative to the direction of the wind in a vertical sense is called the angle of incidence). It is, however, an aeroplane only by virtue of the fact that it is held in a certain sense relative to the wind by the experimenter, for if left to itself it will flutter to the ground out of control. The problem that confronted the inventor then, was so to design the machine that it would in itself maintain the correct relation to the wind.

In the first place an aeroplane must be able to fly straight, that is, to keep its nose pointing in the direction of flight. To do this it is given what is known as weather-cock stability. A weather-cock is a

thing familiar to everyone. It consists essentially of a pointer, pivoted on an axis, having a large flat surface behind the turning axis for a tail. If it changes direction relative to the wind, the latter strikes on one side of the tail, bringing the pointer into the wind again. This is the principle applied to give directional stability to an aeroplane. A large flat vertical surface, placed some distance behind the turning axis of the machine, acts in exactly the manner described above, and is called the Fin.

The next consideration is longitudinal stability, which is the power of keeping a level course in a vertical sense; and this brings in a new factor, the distribution of weight. If we take the bit of paper mentioned above, and weight it in the centre of the front edge with, say, a piece of ceiling wax, and launch it, it will probably "knife" vertically to the ground. The reason for this is that the centre of gravity has been placed very much in advance of the "Centre of Pressure;" which is the point about which all the up-lifting forces exerted by the plane, act. A brief consideration of this point shows that, for ideal conditions of flight in a horizontal path, the centre of gravity should be coincident with the centre of pressure, for it is plain that with the centre of gravity in advance of the centre of pressure, (or what is the same, of the centre of support), the fore-end of the machine will dip, and vice versa. Now, in considering a machine without motive power, it is obvious that, in still air, flight in a horizontal path would be impossible; hence the effect of an actual coincidence of the centre of gravity with the centre of support would be that of a more

or less slow, vertical descent, like that of a parachute. However, this is not the effect desired; what is wanted is a forward movement with a slow descent. This is attained by a very slight advance of the centre of gravity over the centre of pressure. Theoretically, this would cause the machine to "glide" in the desired manner, but there is always the tendency to "knife" vertically; there is no longitudinal stability. To obtain this, a small plane is placed in rear of what now becomes the main plane. This plane is given a lesser angle of incidence than the main plane. A diagram will help to explain how it acts.

In Fig. 1, the arrow represents the normal flight path. Now suppose the nose dips till the line A B represents the flight path; what happens? The angle of incidence of the main plane is reduced to 5° but that of the rear—or tail plane is reduced to -3° . The wind therefore strikes on the upper surface of the tail-plane, depressing it till the normal flight is resumed. What happens, however, if the nose rises till, say, the line C D represents the flight path? The angle of incidence of the main plane has been increased to 8° , that of the tail to 5° ; that is, the angle of the main plane has been doubled, but that of the tail multiplied by five. The lift of the latter, therefore, has been increased by more than twice the amount in proportion than has that of the former. The tail is, therefore lifted till, once more, a horizontal flight path is resumed. This angular relation between the main and tail planes is called the "longitudinal dihedral."

There is yet one more point to be considered: that is lateral stability,

or the power of self righting when one wing dips. This is attained to some extent by means of lateral dihedral. Lateral dihedral is the elevation of the tips of the wings above the level of the point where they meet at the centre, giving the appearance of a much opened V when viewed from the front. Again the use of a diagram will simplify explanation.

When a plane such as A B (Fig. 2) is inclined to the horizontal D E, its lifting effect is reduced to that of a similar plane of length F B, which is the horizontal projection of A B on D E. F B is called the horizontal equivalent of A B. Suppose the end A tips up till the new position A' B C' is reached, the horizontal equivalent of A B is reduced to F' B, while that of B C is increased to B G'. That means that the lower plane has now more lift than the higher: a righting couple is set up which elevates the lower wing till equilibrium is restored.

In conclusion, it might not be out of place to describe how to make a small flying model in paper embodying these principles. Get a piece of stiff drawing paper and fold it in half. Then sketch a design on it (similar to the one in Fig. 3.) Cut it out with a pair of scissors, cutting the two thicknesses of paper at once to get both sides exactly the same. Fold outwards along the dotted lines, and weight with sealing wax at A. At B put a minute spot of wax, and pinch the two vertical parts of the tail together to prevent them from spreading. The glider should now appear as in Fig. 4. Care being taken that the paper is not twisted in any way, and that the folding has been done accur-

ately, the model should glide very well, if the right weight of sealing wax has been added. This can only be found by experiment, but should approximate to the weight required

to make the model balance a point about one-third the distance from the leading to the trailing edge of the main plane.



—“APRES LA GUERRE”

—*“In jesting guise,—but ye are wise,
And ye know what the jest is worth.—*

MR. Gadsby, of Toronto, is a humorist. We have long suspected him of humorous intent, but never without positive proof would we bring such a serious charge against any man; more particularly against an eminent journalist who contributes so regularly and so authoritatively to that bulwark of financial respectability, the Toronto Saturday Night. We said to ourselves, who are we to judge his motives? Perhaps he is not to be held responsible for those “funny” essays; perhaps he does not realize how “funny” they are; consider the mental agony of a shy, retiring literary man suddenly dragged from coy concealment to be branded before a grinning public as a *humorist!* We said, we will make allowance; we will reserve judgment; we will not disturb this lofty and contemplative soul with the loud and blatant horse-laugh, lest we suffer the same fate as when we laughed at “Prof.” the other day.

However, some of Mr. Gadsby’s statements of late have left us no choice in the matter; sadly, resign-

edly, we are driven to that unavoidable conclusion. Whenever our room-mate buys a “Saturday Night” we at once turn to Mr. Gadsby’s page; some readers may be attracted by “Gold and Dross.” Mr. Gadsby’s page contains no dross; it is “absolutely priceless” and glitters with jewels. We chortle with delight when he attacks the so-called Farmers’ Party; we choke with glee as he vividly pictures the “expected Farmers’ Parliament” as “favoring tobacco in the more edible forms,” droppin’ their “g’s” and murdering the English language; for as city-folk know, all farmers wear chin-whiskers and cowhide boots, carry rawhide whips, chew tobacco, flourish red bandanas, and interject “Wa’al, I swan” or “Du tell” in high-pitched nasal whenever conversation lags.

You have never seen him in the country, unsophisticated one? Ah, but the place to find him is not in the country; he exists only upon the musical comedy stage and in the imaginations of Mr. Gadsby et al.

Yes, obviously Mr. Gadsby is a

humorist. To obtain a parallel to his rich and racy jesting before the uncrowned kings for whose delectation he writes, we must go back to other days when other jesters, decked in cap and bells, made merriment for other sovereigns. Mr. Gadsby has revived the office of king's fool, and in his own clever way has improved upon the original. Improving upon the original is one of the best things Mr. Gadsby does.

Humorists in all ages have their privileges. When Mr. Gadsby describes the United Farmers as "actuated by pure selfishness" and as "perfect hogs," we chuckle admiringly over his delicate word-artistry; when he remarks that "All they want is the earth for themselves, a barbed wire fence around it, and somebody else paying the taxes," we remember that other great humorist, Mark Twain, who was also given to exaggeration; when he prophesies that "it is even within the mark to suppose that the farmers may pass laws to conscript loafers in the city and put them to honest work at a dollar a day in the fields" we remember Baalam's Ass, who was also a prophet,—or was it a profiteer,—these terms are so confusing! When he says that "the object of the United Farmers of Canada is to abolish competition and then take the gains of monopoly for themselves" we confess that we think of the free unsettled acres of the North and West, and wonder how the U. F. of C.—and Mr. Gadsby—are going to get around that problem of competition; but when he charges that "they have in their hearts a much closer union" with the United States, and that "if they have their way they will abolish the

British North America Act and British connection," we shudder at the terrible fate which is creeping, nay, leaping upon us.

True, some may accuse him of trying to sow discord between Farmer and Laborite, East and West, but we have no such criticism to make; the grand old political game is hallowed by age-old association; and moreover, as we said before, humorists in all ages have their privileges.

You have heard a ventriloquist in conversation with his lay-figure? Mr. Gadsby sometimes employs the same method with equally surprising results. His favorite dummy, one "Abner" by name, has a mania for propounding very difficult questions. For instance, he inquires: "Can you tell me any farmer that ever did anything worth remembering?". That query was a poser to Mr. Gadsby, and we ourself had some trouble in answering it; however, from circumstantial evidence we conclude that a Simcoe County farmer named Drury must at some time or other have done something worth Mr. Gadsby's remembering; else he would not remember it so frequently. "Abner" also wishes to be told "What's this fellow Drury done?" We leave that one to Mr. Gadsby; we don't know.

Having answered one of Mr. Gadsby's questions, we take the liberty of asking one in return. Mr. Gadsby states in one article that "At forty a man is either a fool or a philosopher. He may go on being a fool or he may become a Conservative." In another he proclaims himself a "Liberal of the moderate tariff type." The problem, gentle reader mine, is this: how old is the axiomatic Mr. Gadsby? Contestants submitting correct answers will be

presented with Volume I of our Monumental Work—"The Human Hoof: How and When to step on Oneself: together with a Brief Dissertation on the Art of Putting One's Foot In It."

"Humorists in all ages have their privileges," but there are limits. When they vilify the dead and hold as nought the sufferings of the maimed it is time to set those limits. Too many men of the O.A.C. and the farm returned broken for life; too many returned not at all, for any man, whatever he may be, to asperse them and their service without challenge. No consideration of personal or political advantage can justify you, Mr. Gadsby, in making such statements as "The farmer, who was such a peaceable man during the war—so peaceable that he wouldn't go near it nor let any of his family go—is now giving battle to everything that reminds him of the past. He is not grateful, refuses to understand what men like General Currie did for this country, and frequently says: 'Don't talk to me about the war. I'm tired of it.'"

Who "wouldn't go near it nor let any of his family go!" "Having done as little as they could to win the war!" Who frequently says: "Don't talk to me about the war. I'm tired of it!" If any civilian has the right to declare himself tired of war, it is the farmer, who doggedly carried on through fair and foul, misadvised, misjudged, misrepresented, browbeaten, cajoled, begged to produce, bullied to enlist, with no clear light nor leading; seeing indispensable men — about-town, carpet-knights, base-wallahs, pay-parade patriots refuse aid while the women of the country toiled to take the place of the men overseas. We

agree with you when you say "Canada has done very well by the returned soldier," but we cannot assert with you that "the returned soldier . . . has got all that was coming to him *and then some.*"

If the graves of the dead and the sacrifices of the living mean nothing to you, Mr. Gadsby, they matter tremendously to us.

In your own words—"While the war was on we did a great deal of lying about the war to keep our own and other people's spirits up, but that is no reason why we should go on lying about it now." "So soon does history grow cold. Already names like Vimy, Ypres, Passchendale—names that are written in blood—are as if written in water, so dim is the past to which they belong."

The Saga of Slush

The "Saga of Slush" is submitted for publication by the Committee for Salvage and Research of Grub Alley. It is apparently an episode from a previously unknown Epic celebrating the exploits of the Agri-colli, a branch of that great Kanhan race from which we are descended. The authorship is still in doubt; but it must have been composed by a contemporary of the author of that other Epic fragment, "The Battle of Squirt."

High on the College Hill,
Hard by the Massey Hall,
Close on the campus field,
Fierce was the fray fought.
High rose the snowdrift there,
Hard was the icy crust,
Deep lay the sloppy slush
Made by the melting.
Thither came war-wolves

Thronging for Thor's delight,
 Eager for Odin's play,
 Helmless and weaponless,
 Heedless of harness.
 Friends of the Frost-King they,
 Lords of the Northern Land,
 Lovers of Winter-war,
 Lovers of laughter.
 In the fair time of peace,
 Far o'er the fertile fields,
 Plowland and meadowland,
 Tillers and toilers;
 But in black time of war,
 Famous land-ravagers,
 Sailing in serpent-ships
 Far o'er the swan's bath,
 Winning them war-fame,
 Sackers of cities.
 Fierce flamed the fighting then,
 Fast were the snow-balls flung,
 Thick on the frames of men
 Thudded the ice-chunks.
 Slamming the snow-ball home
 Stern strove the heroes all;
 Stumbling and staggering
 Gasp'd they and grappled.

Stark in the soaking slush
 Many a warrior fell,
 While through the storm of blows
 Moved the Valkyria
 Choosing the slain;
 Packing the ice-ball hard,
 Cheering the weary on,
 Where by the struggle's edge
 Lingered the laggards.
 Forward and backward rolled
 Boiling the battle's tide;
 Over the press of men
 Wild shrilled the war-shout.

* * * * *

After the strife was done
 Then in the banquet-hall
 Spoke to them softly
 Soothsayer Sutton;
 Weary of battle-brunt
 Loudly the war-wolves all
 Cheered as they hearkened
 The honey-tongued herald;
 Then with the H2O
 Full-brimming the beaker
 Deep drank Waes-hael to all
 High-hearted heroes. * * * * *

~ The Veteran ~



Departmental Notes.

Animal Husbandry Department

A new herd sire to replace Proud Diamond has recently been added to the college herd. Village Lad, bred by Mr. W. A. Dryden, Brooklyn, Ont., ex-President of the Dominion Short-horn Breeders' Association, was dropped in September, 1918, and is a big, growthy, roan calf. His sire, Archer's Hope, was winner in his class twice at Toronto as a young-

ster. Another son of Archer's Hope sired the get of sire and progeny of dam which won at Chicago recently.

In order to introduce some fresh blood into the Yorkshire herd, an imported boar, Bourne Bar None 62, bred by Edmund Wherry, Bourne, Lincolnshire, England, has been obtained. This fellow was a year old in January, and is big, strong and growthy, with plenty of depth, thick-

ness, length and strength of bone, although not the extreme bacon type.

The department recently marketed a bunch of steers which have been fed for the past year and a half in the endeavour to determine the relative values of scrub, dairy, cross-bred and pure-bred steers as feeders. There were fifteen, three of each lot, and the entire bunch was sold on the Toronto market on March 12th. The grades, cross-breds and pure-breds brought fourteen cents per pound, live weight; the scrubs, eleven cents per pound; and the dairies nine cents per pound. It is hoped to continue similar experiments for at least three years.

Last fall twenty-four lambs were bought on the Toronto market, eight wethers, eight ewes and eight rams. The feeding period extended over fifty days, and although the gains were not extraordinary, there was a marked difference in the selling price of the three lots. The wethers brought 18 1-2 cents per pound; the ewes 18 cents; and the rams, 16 1-2 cents. The difference of two cents per pound between the rams and the wethers tells its own tale.

Previous to this year the breeding ewes here have been fed grain all through the winter. But this year the ration has consisted of a rather poor quality of hay, containing very little clover, together with roots and silage. Only during the last week before lambing has a grain mixture of oats and bran been given, at the rate of one-half pound each per day. The ewes have never been in better condition and the lambs were never stronger nor got on their feet more quickly than has been the case this year.

The department is indebted to Mr. Robertson, Acton, for a bunch of Dorset Horned ewes; to Telfer Brothers, Paris, for a bunch of Hampshires; and to E. Robson, Denfield, for a bunch of Lincolns. These breeds are not represented at the college, and the good classes which these gentlemen kindly contributed for the use of the students have helped greatly in the Animal Husbandry work this year.

Field Husbandry Department

The following is a list of the officers, directors, auditors and members of the different committees in charge of the co-operative experimental work of the Ontario Agricultural College and Experimental Union for the year 1920:

President—H. K. Revell, Goderich, Ont.

Vice-President—J. B. Spencer, Ottawa, Ont.

Secretary and Editor—C. A. Zavitz, Agricultural College, Guelph.

Assistant Secretary—W. J. Squirrell, Agricultural College, Guelph.

Treasurer—A. W. Mason, Agricultural College, Guelph.

Directors—Dr. G. C. Creelman, Hon. H. Nixon, J. W. Widdifield, M. P. P., C. M. Laidlaw and D. McArthur.

Auditors—S. H. Gandier and R. R. Graham.

Committees on Co-operative Experimental Work

Agriculture—C. A. Zavitz (Director), W. J. Squirrell, A. W. Mason, C. R. Klinck, A. E. Whiteside.

Agricultural Botany—J. E. Howitt

(Director), T. C. Raynor, W. J. W. Lennox, W. C. Evans.

Forestry—E. J. Zavitz (Director), A. H. Tomlinson, H. A. Dorrance.

Agricultural Chemistry—R. Harcourt (Director), A. L. Gibson, P. L. Fancher, J. L. Dougharty.

Apiculture—F. E. Millen (Director), Roy Jarvis, O. A. Sippel.

Farm Literature—C. J. Stevenson (Director), R. R. Graham, J. P. Sackville.

Agricultural Physics—W. C. Blackwood (Director), R. R. Graham, R. C. Moffatt, F. L. Ferguson.

Bacteriology—D. H. Jones (Director), A. Davey, J. P. Sackville.

The by-law in reference to committees on experiments is as follows: It shall be the duty of each Experimental Committee to decide upon its own course of experiments for each year, to purchase and distribute the material to be used by experimenters, and to receive and compile the reports and submit them to the annual meeting.

All the money grants to the various committees on experiments should be expended for purely cooperative work.

Bacteriology Department

A study of the Yeast and Mold content of creamery butter, work upon which was commenced in 1918, has been carried on again during the past season on a more extended scale, 285 different lots of butter having been analyzed for yeasts and molds.

Our object in carrying on this work has been to secure information on the following points:

1. Yeast and Mold content of raw vs. pasteurized cream butter.

2. Efficiency of creamery pasteurization and extent of recontamination of pasteurized cream butter as indicated by yeast and mold counts.

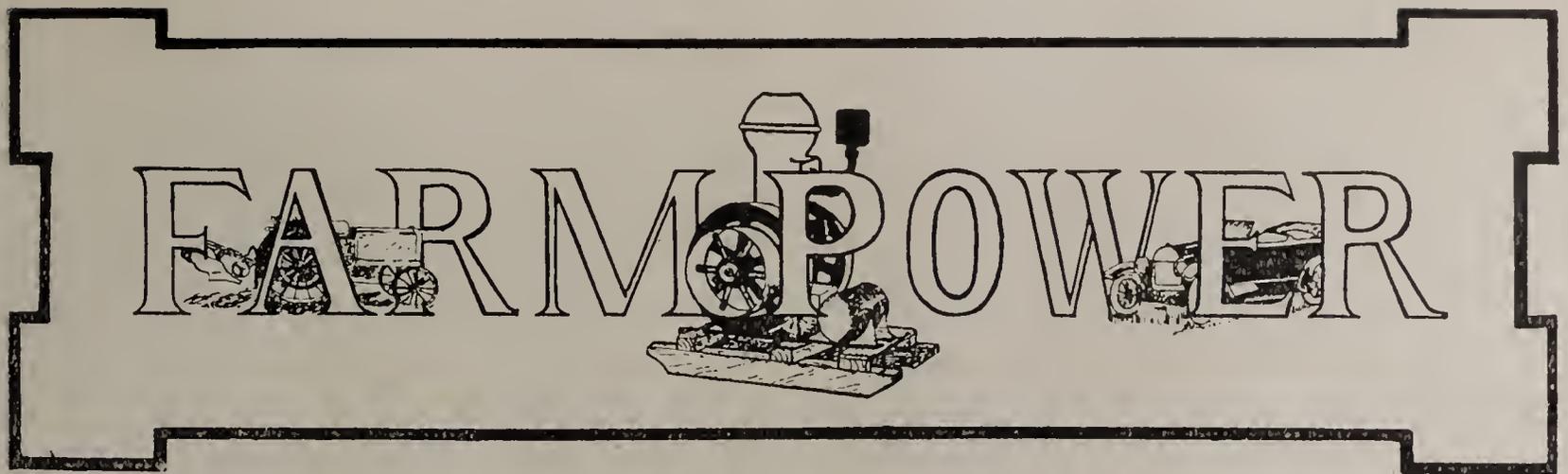
3. Relation of yeast and mold content of butter to flavor and keeping quality.

4. Correlation, if any, between the yeast and mold counts of butter with the findings of the Storch test.

In creameries where raw cream is churned the counts as a rule run high. Where pasteurization is practiced, counts vary, depending upon the germ-killing efficiency of the process and the amount of recontamination which occurs; in creameries where efficiency is the rule the counts are usually low, while in others where the butter-maker is not so careful higher counts are obtained.

This method of checking up the work of the pasteurizing creameries has been found of much value both by the creamery inspection forces and also by the creamerymen concerned. It has resulted in the showing up of the inefficient methods which can be detected in no other way.

The relation of yeasts and molds in butter to flavor and keeping quality is a matter which is under consideration at the present time.



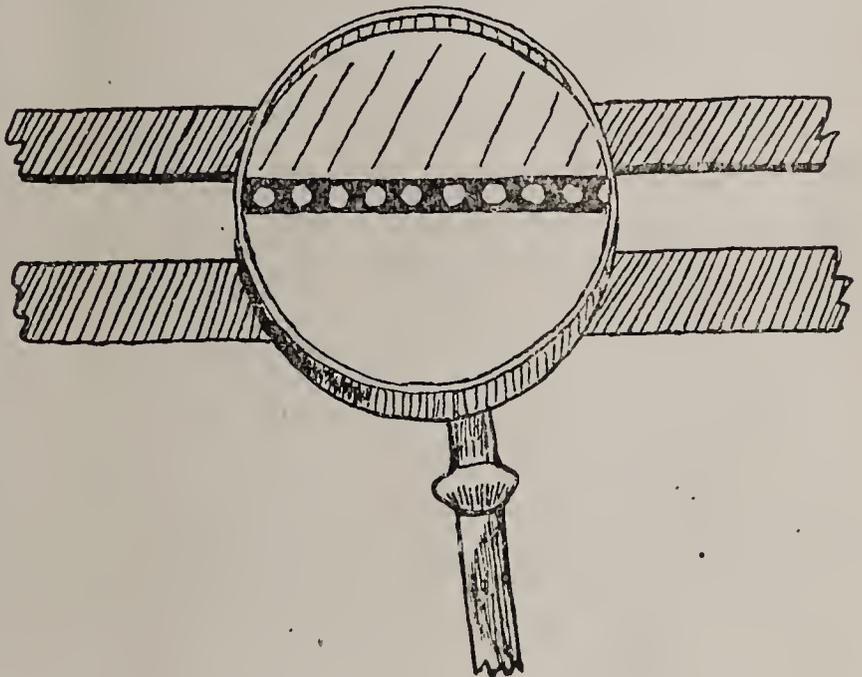
The Value of Good Oil for Farm Motors.

By STUART D. IRVINE '21.

WE saw in a former article that an engine was first of all dependent upon its fuel or carbureting system. Second to this, perhaps, in importance comes lubrication. When any two parts of a mechanism rub together, it is necessary to use some means of preventing excessive friction, and this is most commonly done by applying lubricating oil between them. If these two surfaces were allowed to continue moving together, the temperature of each would be raised, as well as, a large number of scratches or grooves would result in the surface of the softer metal. The amount of lubricant applied to any two surfaces varies directly with the pressure and rapidity of movement of each of the two pieces of mechanism. All the moving parts of an automobile must be lubricated, but as some of these move more rapidly than others, and are subjected to greater pressure, it is only reasonable to expect that we should use the proper oil or grease recommended for this particular piece of mechanism. So in this article, we will try and point out the advantages gained by spending those few extra cents in buying good lubricating

oil, over and above that of a cheap, inferior one.

At present, most lubricating oils are mineral oils made from different



Film of Lubricant under microscope between a bearing and shaft.

distillates of crude petroleum. In the distilling of this petroleum it is necessary that a good, high-grade oil be obtained, which has a flash-point much higher than the degree of heat to which it is subjected in actual use. If this is not the case, the heat created by the combustion of the gaseous vapor will burn the oil leaving a dry surface for lubrication—hence wear results. In purchasing cylinder oil it is therefore necessary to obtain one which will stand up under high temperatures of

the cylinders without thinning. If an oil becomes of such a nature that it loses its characteristic viscous qualities, it will creep past the rings of the piston and readily foul the spark plug. Such often occurs in motorcycle engines when the operator uses too light an oil, thus necessitating the cleaning of the spark plug with gasoline, as well as, the combustion chamber and outlet valve seat more often than would otherwise be necessary. When the internal surface of the cylinder head becomes badly covered with carbon, pre-ignition follows, and the power of the engine is lessened very materially. Also, another advantage of having the piston rings and cylinder wall separated only by a thin film of oil, is the greater power which is absorbed by the face of the piston—hence the greater efficiency of our engine. Many a motorist has had to renew the rings on the pistons of his engine after two or three years running, due to scoring of the cylinder. The oil during the colder weather had settled in the crank case, and the splash or non-circulating system of lubrication was not sufficient to throw this chilled oil upon the interior walls of the cylinder, and the rings were cut or badly scratched as a result.

An oil which has a low flash-point should not be used in the crank case, because when the motor is run for a considerable length of time, this oil becomes heated and a thin smoke is seen escaping from the breather tube. Any motorist who wonders why he uses so much cylinder oil on a long trip can trace the reason back to the day when he thought he was saving money by buying a cheaper grade of oil at the filling station.

Whether we are concerned with a stationary or portable type of engine, the first and one of the most advantageous things to know with regards to the successful operation of our engine is the kind and grade of oil specified to use. Many motorists wishing to make an outward display of their autos, purchase such accessories as rear-view mirrors, spot-lights, gradometers and seventy-five cent cylinder oil when the 'best' quality sells at one dollar and twenty-five cents per gallon.

A simple method of testing the cylinder oil used is to drain a small quantity out of the crank case, pour it into a long narrow tube or measuring cylinder and allow to stand for twenty-four hours. If good oil, it will show a small amount of black sediment at the bottom of the tube, while if poor oil, at the end of a few minutes it will turn to a dense and dark color, and after twenty-four hours have passed, it will show a voluminous black sediment many times darker than that of the good quality of oil. Many instances are known to the writer of men who obtained high mileages per gallon of cylinder oil. Other conditions being average, these men will all testify to the truth of the statement, 'the best is none too good.'

We can very rapidly see then without much further consideration, the great necessity of an operator of farm motors using his sound judgment in purchasing an oil for lubricating purposes, one which is perhaps not the dearest in price, but one which will maintain a constant oil film between two working surfaces under their existing temperature and pressure.

The New Moto-Milking Machine.

A SMALL electric milking machine mounted on wheels so that it can be moved from cow to cow has made a considerable stir in the dairy world, and among agricultural students in general. This new milker requires no pipe line, no installation, is ready to use when unboxed providing electric power is available, and is so simple and convenient that it is suitable for the vast number of dairy farms where from eight to twenty cows are kept.

Cups with rubber linings fit over the cows' teats, and a gentle suction sucks the milk out. Then, following this, compressed air is forced around the teats, squeezing and massaging them so they will be kept in the best possible condition. We can readily see that the milking is done almost exactly as if the calf was responsible, and the method is far more natural and calf-like than squeezing the teats by hand. This gentle massage by compressed air is comfortable to the cow and makes her let her milk down faster. Fast milking is generally believed to increase a cow's milk production as time goes on, and this is a fact that has been proven to be true by men who conducted an experiment with a certain make of milking machine at the Dairy Barns, O. A. C.

The new electric milker is simple

in construction. An electric motor drives a slow moving piston which makes suction on the back stroke and compressed air on the forward stroke. This piston gives the slow pulsation of suction and pressure which is satisfactory to the successful milking of the cow. Rubber tubes connect the pump to the milk pail and teat cups. There are no pulsators, no gauges, no tanks, no belts, no pipe lines, no stall-cocks, no springs, and the high speed pump and gas engine are eliminated. Any three-fourth K. W. farm lighting plant will run the milker, the power cost being about two cents per day, as far as electricity consumed is concerned.

Two cows are milked at one time, and one man can milk from eighteen to twenty cows per hour. Thus, one man does the work of about three, not only releasing the other men for other work, but making the owner entirely independent of hired help so far as his dairy is concerned. The labor saving usually amounts to between three or four hundred dollars yearly. In a rush season, or if the help should leave, the farmer, providing, of course, he has electric power at his disposal, can order one of these moto-milkers during the day and be using it the same evening.



After all, the best thing one can do when it is raining, is to let it rain.

THE O. A. C. REVIEW

REVIEW STAFF

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E. T. CHESLEY, '22. *Associate Editor*

W. A. FLEMING, '20, *Agri.*

E. L. EATON, '20, *Exper.*

C. M. DICKEY, '20, *Hort.*

W. P. SHOREY, '20, *Poultry.*

S. D. IRVINE, '21, *Query and
Farm Power.*

J. G. MCCRIMMON, '21, *Alumni*

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MISS MURRAY, '23, *Mac. Rep.*

J. A. MACADAM, '21, *Col. Life.*

H. R. CLEMENS, '21, *Athletics.*

F. J. WELLAND, '22, *Locals.*

EDITORIAL

College Spirit.

A MAN who comes to college and finds no other interest there outside his lectures and his term examinations, might as well stay at home and join a correspondence school. A college whose student body loses its interest in student activities, might better be classed as a large sized boarding house. And until the latter half of the Spring term, the O. A. C. showed a discouraging tendency in the boarding house direction.

There were two reasons for this. During the war, there was an excusable decline in all other interests. That is the first reason. The other lies in the fact that due to the return of so many men from overseas, practically every class started in as a Freshman year, which takes

at least one term to get acquainted with itself, and to be able to use its members according to their various abilities. The attitude of the returned man is easily understood. In France, where life itself was so uncertain a matter, all other things became correspondingly unimportant. That it should take some months for these men to acquire a normal interest in things is natural: in fact, most of the college veterans have got back to the civilian point of view in a surprisingly short time.

If College Spirit means anything it means this—the interest that every individual student takes in every branch of college activity. This interest has been allowed to flag. The question is not why it

has flagged, or who is to blame, but how we can best revive it. We have new executives: we have a new year to begin in September, 1920, and for the sake of the O.A.C. in the days to come, we must start that year with a different spirit than was apparent in 1919.

The new Athletic executive is working with this idea in mind—to make their branch of college life mean something to every single student, and not to the trained few. The Literary Society must do the same. If the Alpha and Delphic Lits, which used to do good work, have become deadheads; then Mock Parliaments, or something else that will keep up interest, must be substituted. The Dramatic Club must be revived. Slipshod executive methods must be discarded, and an audited financial statement from each major society be presented to the student body at least once yearly.

Election to executive positions should be made to mean more than having names printed on society note paper. There has been too much passing the buck: piling all the work and responsibility on the shoulders of a few men who were willing to take it. College emblems must be standardized and made to mean something, so that no man can leave the institution plastered over with year pins and crests that are worth little more than the material they are made from. Interyear spirit which since February has begun to mean something, is good, provided that it is not allowed to form dislikes or prejudices. But it is not the main issue.

The "Review" has set itself the task of aiding the different societies in rejuvenating this college spirit. We intend to push these suggestions until they are accomplished facts.



City-Born Country Lovers.

EXCEPT among land speculators, there is a very cool reception extended the city-born person who desires to enter into farm work. There can be no possible doubt on this statement. It is true even among those whose duty it should be in every way to encourage those sturdy-minded few who would turn their backs on the comparative comforts of the city to enter into the underpaid and much maligned farming profession.

This is a most astonishing thing when it is so apparent that the top-heavy condition of our cities to-day is making a dangerous lack of balance that if not soon righted will

bring about a very serious state of affairs. The slogan "Keep the boy on the farm," has been tried and has apparently failed to meet the situation, but the "Get the boy on the farm" remedy is persistently ignored by those officials whose work it is to look after the country's agricultural needs.

The reason seems to be a deep-rooted prejudice against the city-born as an individual unsuited to successfully carry out the duties of a farmer. And yet we find the city youth after being turned aside from the farm discouraged by long faces and gloomy prognostications, gain his B. S. A. degree and become a

controller of the agricultural destinies of the country, either as a teacher or government official. A most astonishing thing, truly, but born out by many actual cases.

Success in farming depends first of all on the character of the individual and secondly on his training and education. It has yet to be proved that a city-born boy who loves the country and receives proper training, education and encouragement will not make a good farmer. This being the case, the whole attitude against him becomes one of prejudice, and at a time like this when the country cries aloud for workers, a matter of prejudice should not be allowed to interfere with the solution of the land problem. We well know that case after

case might be cited of city men who have made a bad mess of the farming business. But this means little, for counter cases could be produced in legions. It is altogether probable that many of the best farmers of the past generation, fathers of the successful farmers of to-day, were city born. We should not say only probable, for it is a fact.

Therefore let all those whose work it is to control our country's future; to build up her agricultural prosperity; teachers of agriculture, and all other influential men of the land, put this unfounded prejudice aside, and with the pressing needs of the country before their eyes, give the city-born lad a helping hand instead of a scornful laugh.

E. T. C.



A Matter of Manners.

IT is a sad but undeniable truth, that we are prone to accept ill reports of people and institutions, and to forget the good: it is equally true that the reputation of a college may be injured by the action of a very small minority of its members. No better example of this thoughtlessness, or lack of common courtesy, on the part of a few, could be shown than the behavior of some members of the audience at our recent Philharmonic concert. Mr. Trueman and his executive had worked hard to give a production worthy of the O.A.C. and the musical taste of its student body: they had brought Miss Doherty from Toronto to augment the college talent with her singing. And yet there

were some people who had so little appreciation, and such lack of consideration for any one else, that they kept up a continual chatter throughout the whole performance. There is no better or surer way of giving the O.A.C. the reputation of being a collection of ill-bred yokels than this sort of thing; it is all the more unfortunate because it is the fault of the few, while the majority of the students have to suffer both witnessing such ill-breeding, and from the stigma that it leaves on their Alma Mater. The sooner that those who indulge in this practice are made to feel that it is discreditable both to themselves and to the college, the better for every one concerned.

Why Not?

OUR Library is the one department of the College which is not seriously affected by the H. C. of L. or the question of professional salaries. It still remains the widest and most constant source of wisdom on the campus. And yet it is the one building in which you can almost always find nine out of ten empty chairs.

One reason for this seems to be, that just at the time when the average student is free from lectures and athletics, and would like to make use of the reference books or weeklies, or needs a quiet spot to read, the library doors are closed as tight as a bank.

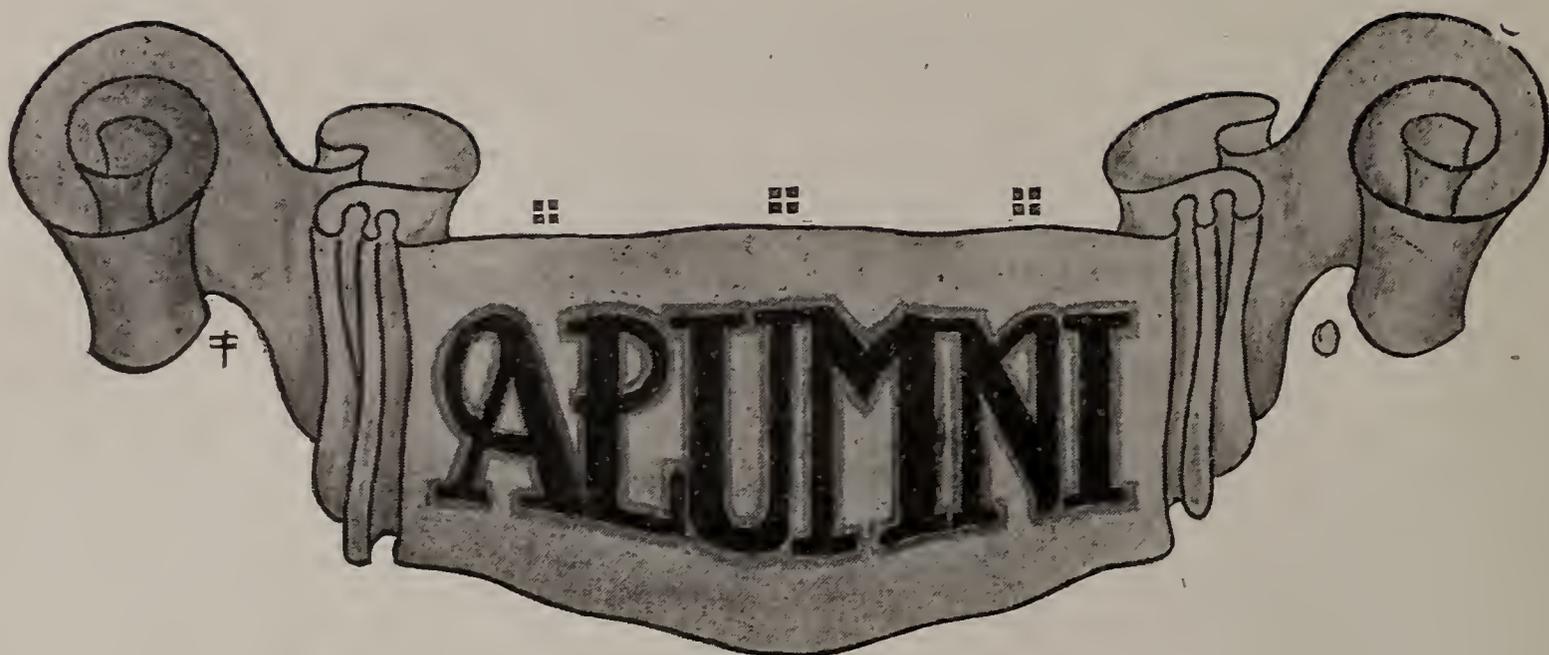
Not long ago the President accused one of the years of ignoring the privileges of such an excellent reading room. But when is one to use it? He must either miss lectures for the purpose, or else go there from 4.30 p.m. to 5.30 p.m., when, of all times, he needs the little bit of exercise he does get.

It is in the evenings that the use of the library would be most appreciated. It would be a refuge for the man down town who has to stay, perhaps for some meeting, and a veritable haven for the man in residence who lives next door to a violin or has a room-mate of that sunny disposition which brings more friends than quietude. And yet this one reliable source of knowledge and peace is closed in almost all but lecture hours.

The only difficulty is to supply a guardian for the extra hours. Surely this could be arranged among the students. The taking out of books could still be done by day and all that would be needed would be someone who would be responsible for the place. At least some scheme might be tried by which the use of the library could be extended to that time of the day when we most often feel the want of it.

R. E. B.





From a letter recently received we learn that G. E. De Long, '18, is now on the Field Husbandry Department staff of the University of Alberta at Edmonton.

J. C. Macdonald, '97, who is now the managing editor of the "Family Herald and Weekly Star," visited the College lately.

E. C. Stillwell, '19, is on the Animal Husbandry Dept., of the University of British Columbia at Vancouver, B.C.

G. S. Taylor, '14, is farming in Prince Edward County, and his address is R. R. 2, Bloomfield, Ont.

Another ex-O.A.C. man on the farm is W. F. Malcolm, '17, whose address is Tralee Sta., Ont.

M. J. McQueen has secured a position with the Soldiers' Settlement Board in Toronto. His address is 32 Adelaide St. E.

J. B. Kitchen, an Associate of '99, who was managing the City Dairy Farm at New Lowell, Mass., has bought a large farm near Fergus, Ont.

J. E. Creary, '93, is manufacturing poultry feeds at Niagara Falls, Ont.

W. A. McCubbin, B. A., who was formerly on the Biology Staff here, now has a position on the Department of Agriculture, Harrisburg, Penn.

Prof. F. Sherman, Jr., who was head of the entomology department some years ago is now State Entomologist with headquarters at Raleigh, N. C.

A. C. Wilson, '97, is Chief Seed Analyst for the State of Illinois, with his headquarters at Springfield.

H. H. Miller, an Associate of '05, is now with the Funk Bros., Seed Co., Bloomington, Ill.

C. D. White, '82, is at present in charge of St. Andrew's Mission, "Atikimik," Grouard, Alta.

J. M. McIntosh, '16, is the Agricultural Representative for Sault Ste. Marie district with his headquarters at Algoma.

H. C. Wheeler, '07, is on the Soil Survey work in the same state.

"Tom" Fortier, '15, is now growing fruit as his address shows — The Gables Orchard, Annapolis Royal, N. S.

A letter from F. B. Cotsworth, '16, of the Soldiers' Settlement Board, Matsqui, B.C., encloses the following news item:

Carnecross-Bowell

On Saturday, February the 14th, occurred at New Westminster, B. C., an event of considerable interest to members of Class '16, "Carny" took the plunge. It was a quiet wedding due to the strategy of the bridegroom who laid his plans in a manner which "outpussyfooted" Pussyfoot. The bridegroom was attended by his batman, F. B. Cotsworth, and Chauffeur R. J. Skelton motored the happy pair home. The bride, who before her marriage was Miss Alice Bowell, of New Westminster, was completely taken by storm when the dashing young artilleryman arrived home from the Front a few months ago. We, who know him well, hope he will now reform, and anyway we wish them many long years of happy wedded life.

Year '15 Please Notice

"Bill" Townsley has sailed on the Sea of Matrimony. Fine weather still prevails.

Year '14 Special Notice

Watch Barnet—there's something in the wind.

Year '16 How About This

It is rumored that 'ere many moons have passed "Bob" Skelton will have forsaken the peeved ranks of the bachelor army.

Year '13 Take Notice

"Bob" Ramsey hath taken unto himself a wife.

Donaldson-Chase

An event of much interest to many friends was the marriage of Miss Lila C. Chase, daughter of Mr. and Mrs. Bedford Chase, of Port Williams, to Capt. Ralph W. Donaldson, son of Mr. and Mrs. John Donaldson, of Port Williams. The wedding, a very quiet one, was solemnized in the chapel of the Union Theological Seminary, New York, February 10th, the Rev. Prof. Ross officiating, assisted by Rev. Ross Collins. The bride, dressed in a travelling suit, was married from the residence of her aunt, with whom she has lived since early childhood, and where she has been engaged in teaching miniature painting.

The happy couple returned on the 19th inst. to Bridgetown, their future home, followed by the best wishes of a host of friends, for a long and happy life.

Capt. Donaldson was a member of Class '15 and is now on the Soldier Settlement Board as a Field Supervisor with headquarters at Bridgetown.

Mr. and Mrs. James Lodge announce the marriage of their younger daughter, Muriel, to Mr. John A. MacNeill, on Saturday, March the twentieth, at St. Thomas, Ont. All those who knew Jack, who was a '17 man, will join the "Review" staff in wishing Mr. and Mrs. MacNeill a long and happy life together.

Dr. M. F. Cogan

Dr. M. F. Cogan passed away in Hamilton recently after a short ill-

ness from influenza and pneumonia. The deceased was thirty-nine years of age and a son of Isaac Coglan, of Cataraqui. He was a graduate of the O.A.C., but took up the study of medicine and graduated from Queen's medical college in 1914. Upon graduation he became superintendent of the General Hospital and served that institution for two years. He volunteered for service in the C. E. F., and served on medical boards in Kingston, Montreal and Toronto. Some months ago he took up the practice of his profession in Hamilton, and was just becoming established when he was taken ill. He is survived by his father and several brothers, who reside in Western Canada.

List of Graduates

(Continued from the March Issue)

- 1899—C. D. Jarvis, Dept. of Education, Washington, D.C., Specialist in Agricultural Education.
- 1900—T. D. Jarvis, International Nickel Co., Copper Cliff, Ont., Pathologist.
- 1902—F. S. Jacobs.
- 1904—J. P. Johnston, Fingal, Ont., Physician.
- 1907—W. S. Jacobs, Munson, Alta., Farmer.
- 1908—D. M. Johnston, Union Stock Yards, Boniface, Man., Stockman.
- 1908—D. H. Jones, O.A.C., Prof. of Bacteriology.
- 1908—M. Jull, Macdonald College, Que., Prof. of Poultry Husbandry.
- 1909—W. D. Jackson, Carp, Ont., Agric. Rep.
- 1909—J. W. Jones, Charlottetown, P. E. I., Silver Fox Industry.

- 1909—M. J. Joubert, Dept. of Agric., Bloomfontein. S. A.
- 1913—G. J. Jenkins, Farmers' Dairy Co., Toronto, Bacteriologist.
- 1913—S. C. Johnson, Deceased.
- 1916—J. T. Johnson, S. S. B., London, Ont.
- 1916—G. Jackson, Canada Ingot Iron Co., Guelph, Travelling Representative.
- 1918—M. W. Jones, 32 Adelaide St. E., Toronto, Supervisor, S. S. B.
- 1918—N. James, Agric. College, Winnipeg, Man., Lecturer in Dairying.
- 1919—T. H. Jones, O. A. C., Lecturer in Horticulture.
- 1894—Dr. P. B. Kennedy, Berkeley, Cal., Prof. of Agronomy.
- 1895—W. A. Kennedy, Conquest, Sask., Farmer.
- 1895—A. A. King, Ladners, B. C., Physician.
- 1896—D. F. Kidd, Cookstown, Ont., Farmer.
- 1896—J. W. Knight, Hopkinsville, Ken., Dairyman.
- 1903—A. P. Ketchen, Deceased.
- 1903—L. S. Klinck, Agric. College, Vancouver, B.C., President.
- 1906—C. R. Klinck, O. A. C., Plant Breeder.
- 1909—A. A. Knight, Lindsay, Ont., Agric. Rep.
- 1910—S. Kennedy, Killed in Action.
- 1910—H. L. Krauss, 363 Cass Ave., Detroit, Mich.
- 1911—V. King, Killed in Action.
- 1913—H. L. Keegan, Agassiz, B. C., Experimentalist.
- 1913—H. M. King, Agric. College, Vancouver, B. C., Assoc. Prof. in Animal Husbandry.
- 1914—M. Kelleher, Goderich, Ont., Farmer.

- 1914—G. F. Kingsmill, 152 Albert St., London, Ont.
- 1914—H. R. Kirk, Plenty, Sask., farmer.
- 1914—J. S. Knapp, Galt, Ont., Agric. Rep.
- 1915—W. M. Kedey, Killed in Action.
- 1915—W. Kerr, Canada Farm Products, Inc., Charlottetown, P. E. I., Manager.
- 1889—A. Lehmann, University of Alberta, Edmonton, Prof. of Chemistry.
- 1891—F. B. Linfield, Agric. College, Bozeman, Mont., Dean of Agriculture.
- 1900—W. Linklater, Agric. College, Stillwater, Okla., Prof. of Animal Husbandry.
- 1900—J. M. Livingston, Vancouver, B. C., Merchant.
- 1903—L. A. La Pierre, Paris, Ont., Farmer.
- 1905—H. H. LeDrew, O.A.C., Lect. in Economics.
- 1905—A. Leitch, O. A. C., Prof. of Farm Man. Dept.
- 1905—W. J. W. Lennox, 28 Front St. E., Toronto, Dom. Seed Expert.
- 1905—F. M. Logan, Regina, Sask., Ass't Dairy Comm.
- 1908—E. Lewis, Deceased.
- 1909—C. A. Lawrence, St. Catharines, Ont., Farmer.
- 1909—A. J. Logsdail, C. E. F., Ottawa, Ont., Ass't to Dom. Horticulturist.
- 1910—J. Laughland, Mond Nickel Co., Sudbury, Adviser.
- 1910—C. M. Learmouth.
- 1910—J. G. Lloyd-Jones, Fronpelen, Caersus, Mont., Wales, farmer.
- 1911—B. H. Landels, Killed in Action.
- 1911—P. E. Light, Livestock Branch, Dept. of Agric., Ottawa, Markets Editor and Statistician.
- 1911—W. V. Longley, Hallock, Minn., County Agent.
- 1912—T. H. Lund, O. A. C., Demonstrator in Bacteriology.
- 1914—C. M. Laidlaw, Burwash, Ont., Ranch Expert.
- 1914—E. Lattimer, University of Alberta, Edmonton, Ass't Prof. of Animal Husbandry.
- 1914—H. D. Leppan, Pretoria, S. A., Agronomist.
- 1915—D. G. Laird, S. S. B., Charlottetown, P. E. I.
- 1915—W. A. Locke, Dixon's Corners, Ont., Dairyman.
- 1916—C. E. Lackner, Chesley, Ont., Dairyman.
- 1918—S. N. Lord, Columbus, Ohio, Medical Student.
- 1919—C. F. Luckham, O. A. C., Farm Surveys Dept.
- 1919—C. A. Lamont, Livestock Markets Division, Federal Dept. of Agric., Edmonton, Alta.

Ronald Macdonald

The death of Ronald Macdonald on March 6th removed one of the best known and most popular O. A. C. men of Guelph. He was stricken with rheumatic fever about the middle of February, and despite a strong fight, complications developed and the end came.

"Pig Mac" was born in Edinburgh, Scotland, but came to Canada about fifteen years ago. He graduated from the O.A.C. in 1912 and for a couple of years was engaged in the dairy business. Then he turned to newspaper work and was with it until his enlistment in the early part of the war. After thirteen months

Continued on page xi.



The Associate Tea

On Wednesday afternoon, Feb. 25th, the Senior Associates entertained their class juniors to a tea. The guests, including Mrs. Fuller, four members of the staff—Miss Roddick, Miss Dickey, Miss Conover and Miss Stockton, were received by Miss Blain, president of the class. The tea was held in the sitting room at the east end of the second floor, and comfortable willow chairs, bright cushions and lovely roses made it the cosiest spot imaginable. Tea was poured by Mrs. Fuller, and the good things to eat testified that the Associates' cooking lessons had not been in vain. After a pleasant hour of chatting and music, the guests took their leave with many expressions of appreciation of the Seniors' kindness.

G. E. F.

The girls of the Hall were delightfully surprised on Wednesday, March 10th, by the visit of three of the graduates of '19, Miss "Bonnie" Brown, Kathleen Lethbridge and Ethel Nichol. Miss Lethbridge is dietitian at Queen Alexandra Sanitarium London, Miss Nichol is at Speedwell Hospital and Miss Brown whose engagement to W. C. C. Caldwell, '19 has been announced, has, since her graduation, been living at her home at Watford, Ont.

Miss Dorothy Falconbridge '19 has since Christmas been dietitian at An-

nesly Hall, Toronto. Previous to her work here, she has been engaged in dietitian work at Sherbourne Club, Toronto.

Being in need of many shekels, the I. O. D. E. decided to give a tea. The date chosen was Saturday afternoon, February 28th, which was especially fortunate in that many of the guests who had come up to the College for the Conversat, the evening before, were able to stay over for the tea.

Promptly at four-thirty the guests began to arrive, some from the afternoon's skating, some from the "Movies" or from showing out of town guests the wonders of the O. A. C. campus. The drawing room with its cheery grate-fire and flowers was the most popular spot, but the first floor corridors with the small tables and cosily arranged chairs were equally inviting.

Tea was poured to the right of the central stairway and delicious sandwiches and cake were served from the tea table. After a jolly hour over the tea-cups the party migrated to the gymnasium to dance until six o'clock, when the guests departed. On the whole the "tea dance" was a very pleasant little anticlimax after the dance the evening before, and much credit is due Miss Rebbeck, regent of the chapter, who arranged the function.

Note—The coffers—or rather the tin box of the treasurer of the I. O. D. E. is once again full.

After Cookery Class, Friday, Mar. 4

Oh dear, oh dear, I've had too much

Oh, please send for the doctor

I'm 'fraid, of all this ice cream stuff

I've had more than I oughter!

The girls of Macdonald Hall were honored on Sunday, February 15th, by a visit from Madame Henriod of Neuchâtel, Switzerland, in company with Miss I. G. Brown, Educational Secretary of the Y. W. C. A., being guests of the Y. W. C. A. of the Hall.

In the afternoon an informal gathering was held in the Drawing Room when Madame Henriod entertained the girls with a very interesting talk of her experiences during the war. She served her country and the cause of the Allies in various capacities, among them that of a nurse. One of the interesting and beneficial problems we learned of, was that of the refugees; especially the Belgians as their centre was in her home town.

After the gathering Madame Henriod and Miss Brown were shown through the buildings and entertained to tea by Mrs. Fuller.

In the evening the Y. W. C. A. meeting was held in the Drawing Room and was well attended. The address of the evening was given by Miss Brown on "Woman's Opportunities" and was much enjoyed. After it Madame Henriod again favored the girls and delighted them by answering questions, telling them of her attendance at the Students' Convention at De Moines; her impressions of American and Canadian cities she had visited and the work she and her husband will undertake on their return.

Her pleasing voice and genial manner won for her the admiration and good will of the girls, who will always remember her as one of the outstanding

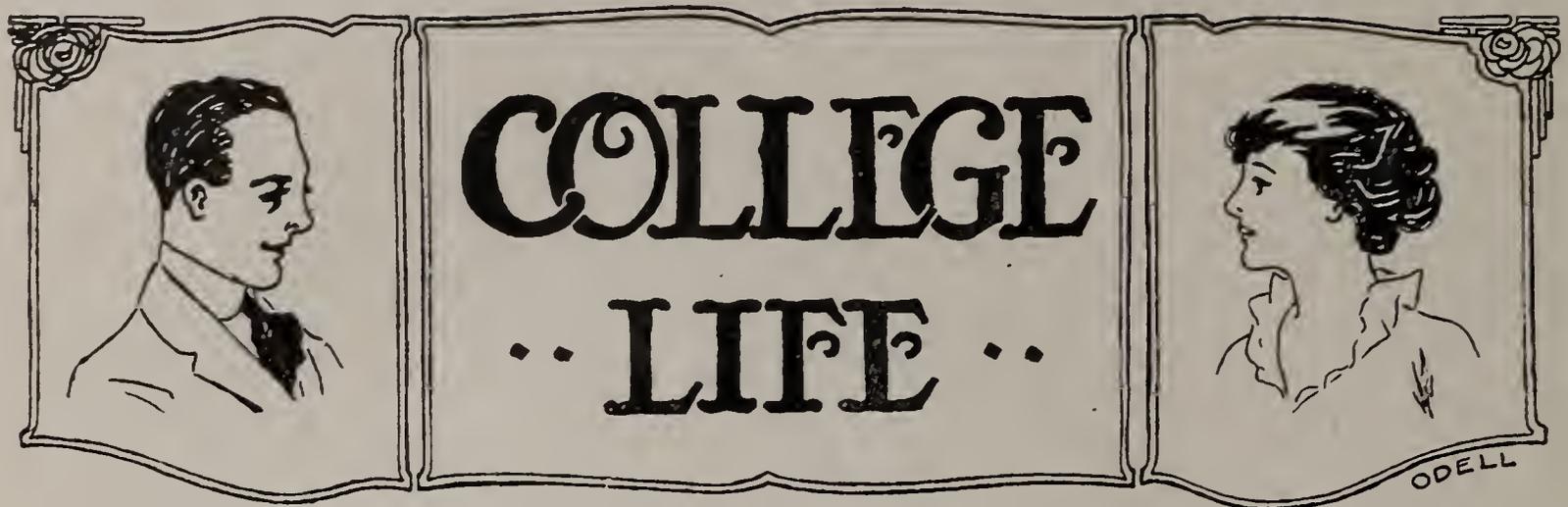
guests of Macdonald Hall during this year. They feel that they were particularly favored, as this was the first girls' school and residence visited and possibly the only one in Canada as her visit in our fair Dominion was for a week only.

C. E. M.

Jazzerwocky

(With apologies to Lewis Carroll.)

'Twas grillig, and the Jazzlewags
 Did glomp and scrimble o'er the
 board ;
 All gladsome were their dazzlerags,
 And the loud Nigs uproared.
 "Beware the Tickle Trot, my son,
 The feet that twink, the hands that
 clug ;
 Beware the Shimmy Shake and shun
 The thrustful Bunny Hug."
 He put his pumpsious shoon on foot,
 He bent his knees to slithe and
 sprawl,
 Till, fagged and flausted by disdoot,
 He brooded by the wall.
 And, as in broody ease he lay,
 The Jazzerwock, with shoulders bare,
 Came swhiffling through the juggly
 fray
 And grapped him by the hair.
 One, two ! One, two ! And through
 and through
 The prancing maze they reeled and
 pressed,
 Till both his feet ignored the beat
 And woggled with the best.
 "And hast thou learnt at last to jazz?
 Come take my arm, my clomplish
 boy ;"
 O hectic day ! Cheero ! Cheeray !
 He chwinckled in his joy.
 'Twas grillig, and the Jazzlewags
 Did glomp and scrimble o'er the
 board ;
 All gladsome were their dazzlerags,
 And the loud Nigs uproared.—Punch



The Conversat

The dance fired music, music fired the dance.

The glow diffusive lit each countenance.

—George Elliot.

There is a good deal more in college life than study and chapel on Sunday; and the best parts of it are not to be found on the curriculum. When we have all forgotten that "Prunus domestica" is the name of a vegetable and that the horse has an advantage of ten ribs over the ox (or is it twelve?) we shall still remember the girls we met and the dances we stole on the night of the twenty-seventh of February.

For the first time since the ambition of the Teuton ran away with his brains the O. A. C. held its one-time Annual Conversazione, and from the dining room came "the sound of revelry by night!" Our noble hall of nourishment has made its debut, and with all respect to the corridors and cosy corners across the way, we believe that the innovation has come to stay. One could not help feeling as he looked on the scene that those walls were built, not for the clatter of knife on plate, nor yet for fish on Friday, or cheese on Sunday, but for the strains of the waltz, "for fair women and brave men."

Who could deny that the girls were fair? Was not Mac Hall there, both past and present, "with all her bravery on and tackle trim?" Were not our

lady friends from the four corners of the Province adding to the colour of the scene and the heart beats of "Drury's yeomen?" As for the men who brought two partners, or those who drank punch between each dance—were they not brave?

From eight to nine Dr. and Mrs. Creelman welcomed over a thousand people. Among the distinguished visitors were the Hon. and Mrs. H. C. Nixon, the Hon. and Mrs. Beniah Bowman, and representatives from the colleges of Toronto University and from Guelph city. Never has the O. A. C. seen so many of its friends together and we hope that this year is only the first of many more like it. The hall was full and there were few who did not dance. Heads of Departments were seen, "wearing all that weight of learning lightly like a flower," the junior staff "tripping gently on the light fantastic toe," and even seniors forgot their knowledge and found that it is not good for man to be alone. The card room was deserted for the dance or the cosy chair, though we have it on good authority that the All Powerful was once discovered playing patience with himself. Such are the penalties of greatness!

Those who were there will remember the wonderful gowns, some daring, some dainty and demure. If one but had the technical vocabulary and could differentiate between tulle and georgette or detect

a panier effect on sight, what pages he could write! But no male could lay his clumsy hand to such a theme. As well ask a sergeant-major to write a book on humility!

As for ourselves—if any held briefs for the standardization of dress their theories were all dashed to the ground that night.

But to go on to the other decorations. The flowers that lined the walls and the arrangement of the sitting-out parlours showed the tasteful touch of feminine hands. It was delightfully simple and many couples admired the shaded lights. In the centre of the floor was the orchestra, thoughtfully camouflaged in palm-trees, a sort of coral island set in a dazzling sea. Twenty-four dances they gave us and none were more popular than the waltz of the moon variety. As "Bubbles" was being played and the "moon" shone dimly through the clouded skylight, coloured balloons floated down on the dancers, and proud were the gallants who secured one for their lady. The lights went up and some of the bubbles were burst.

We owe our thanks to year '21 for an excellent programme which went without a hitch from nine to three. The fact that the bugler who sounded the "stand to" before each dance was a full sergeant (presumably "with pay") showed that they did things well. The committee-man who came upon two fair guests enjoying a soothing weed under the very nose of our Alfalfa King and rose to the occasion by borrowing a match, is to be commended on his presence of mind. Rendez-vous could not have been more efficiently arranged and the freshman who was claimed by two rival ladies must blame it on that fatal gift of beauty. However, the problem of supper turned out to be a large one and perhaps next year a different meth-

od will be used. If the dancing were stopped and dumb waiters brought out, undoubtedly a good deal of time could be saved, or else a system of sittings based on initials might be arranged. Also some better meeting place for partners before the reception might be thought of. Apart from this the organization of the committee could not have been improved upon.

Students were seen returning to barracks at about 5.00 a.m. Taxis are said to have broken down and other happy accidents to have occurred, but it is safe to say that all were in bed by breakfast time. We know of one dress suit that was slept in.

"No sleep till morn when Youth and
Pleasure meet,
"To chase the glowing hours with flying
feet."

And no lectures on the morning after!

R. E. BALCH

Year '22 Banquet

"There was a sound of revelry by night."

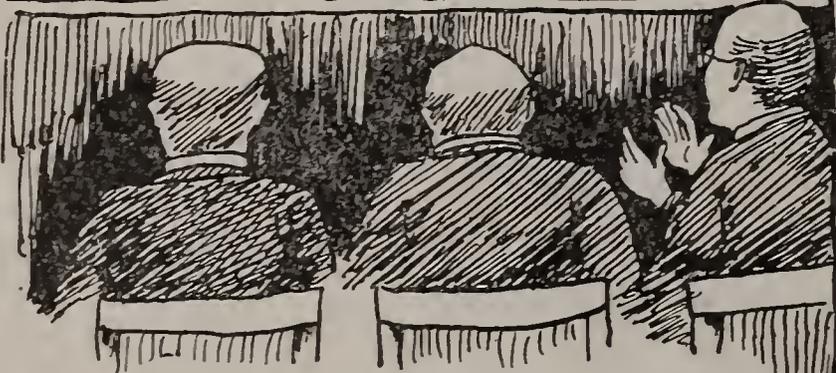
Yes, year '22 held a banquet in the Arcadian Hall, on the evening of February the twentieth. It was a wonderful success and the committee in charge are to be congratulated for the efficient manner in which the evening's entertainment was arranged.

Shortly after six-thirty the sophs, with their fair partners, sat down to a sumptuous spread. At first there may have been some trace of trepidation lest a fork would slip or the conversation would lag; but it could not last: after perusing over the original menu card and successfully mastering the various courses from soup to fruit, even those of the most reticent natures were as freely at home as in the college dining hall. But hark! a hush fell upon all as Dr. Creelman, the toastmaster, arose from the seat of honour at the head

THE ATHLETIC CONCERT



Drs. Shutt Fraser & Edwards enjoyed the "Rose-Light" dance.



Masgrave And Bird (on the wing) in their Pugilistic Boxtrot



INTERMISSION.
"CALLING MR. CRAWFORD"

table. After a brief speech interwoven with deep humour he proposed a toast to the King, and the happy crowd responded by singing the national anthem. "Doc." Shutt then ably proposed a toast to the ladies in his usual deep sonorous voice, while "Rusty" Rogers in replying, (no doubt inspired by his subject), excelled even his usual fluency. Ah! it was a study for a psychological student to watch the eyes of the fair ones scintillate as "Rusty" waxed eloquent. Dr. J. Hugo Reed, the honorary president of '22 in proposing a toast to the year created much merriment in his reference to antiseptics and cooling lotions. "Davy," our worthy president replied in a manner as only a '22 president could reply. The last toast, to the married men, was proposed by "Baldy" who used some very apt similes and told of his leap year hopes. Mr. Twinn responded so convincingly that some were nearly led to believe that the taking of the matrimonial plunge had, perhaps, a few redeeming features.

The floor was then hurriedly cleared, the programmes were filled, an irresistible selection was played by the orchestra, and the event of the evening commenced. The worshippers of Terpsichore surely guided the fantastic toe with more enthusiasm than usual. But alas! ere long ten-twenty arrived and a shadow of disappointment appeared as the coterie from Mac. Hall reluctantly departed. The flying moments sped rapidly on till one o'clock resounded, and the memorable '22 banquet was of the past.

A. ARCHIBALD.

O.A.C. Philharmonic Society Concert

*Let the voice of melody ring forth to tune
the hearts of man,
And dispel the darkened shadows with the
merry pipes of Pan.*

Those who were present at the concert of the Philharmonic Society held

in the Gymnasium on Friday, March 12, had the opportunity to enjoy a remarkable programme. The delightful variety and enjoyable rendering of all the items, induced that pleasant and happy atmosphere which should be a feature of all such performances.

A very appropriate opening number, the impressive anthem "O Canada," was given by the chorus and orchestra. We feel that this national song should be as essential to a programme as is the British National Anthem. After a slight uncertainty, evidently due to nervousness, the orchestra settled down to the "Golden Sceptre" Overture, under the direction of Mr. J. W. Chadwick. The audience was delighted later in the evening with Dvorak's dainty Humoresque and the orchestra's favorite "La Cinquantaine."

There was a noticeable improvement in the tone of the violins, since the athletic concert. It is a pity that there is no possibility of adding to the woodwind, so that the full harmonies might be more balanced. With the material at hand Mr. Chadwick certainly achieved an undoubted success.

The chorus showed decided evidence of careful and earnest training. The tone of the sopranos, deep, pure, full and mellow, gave a brilliant lead to all their numbers, but rather overpowered the three brave contraltos. This lack of balance was the only noticeable drawback to the full harmony and broad effects of the works rendered. The tenors and basses proved a sure and reliable foundation for the melodies of the higher parts. Mr. S. T. Olds must be congratulated upon the alert and breezy effects produced in "Anchored" (Watson) and the charming jollity in the old folk part song, "Come Sweet Morning."

A male sextet of the first year

(Messrs. Williamson, Evans, Crossgrove, Mills, Hellyer and Nicholson), sang the dreamy old negro song "Kentucky Babe" (Geibel) with such well balanced tone and delicate feeling that they were forced to encore with a humorous ditty "Fishing." Macdonald Hall met with success with a charming trio, Misses Ferguson, Staples and Luckham, whose rendering of Reichart's "In time or Roses," showed both delicate phrasing and dainty interpretation.

Variety both quaint and picturesque was established in a Russian Dance by Misses Thompson and Rebbeck, who most certainly caught the typical rhythm characteristic of the Slav; and a Dresden China Dance by Misses Stock and Skey. The stately delicacy of the dance took one's mind back to the minuet and other pretty parlour dances of our ancestors. Messrs Arnold and Hancock played selected melodies with marked passion and tone. The very pretty accompaniment to the dances was played by Mrs. Fuller, who also supported the orchestra in her usual masterly manner.

The climax of the evening was reached, however, when Miss Mabel Doherty, who is studying singing in Toronto, and whose brother is a graduate of this college, sang "Mammy" (Harriet Ware). "He left her" (Cultsam), "The Little Rock" (Carpenter), "Buttercup" Song (H. M. S Pinafore) (encore), "Blackbird Song" (Cyril Scott), "The Bird" (Dwite Ellis), "The Birthday" (Huntington Woodman). Miss Doherty possesses a charming rich mellow natural voice, which combined with unfailing technique and a very artistic temperament, enables her to impart her keen interpretations to her audience. Her numbers were carefully chosen to bring out clearly her rich soprano quality and flexible production; and the noticeable

absence of any undue vibrato, so often heard in young soloists, enabled her to phrase her melodies gently and with deep feeling. At a special request, Miss Doherty very kindly added to her programme, "Where my Caravan has rested" (Lohr) and "If Daddy hadn't married Mother" (Bishop) a charming youthful and girlish lyric. Her accompanist, Miss Jessie Hill, lent a gentle sympathetic background to her singing, and must be congratulated upon overcoming the difficulty of light so easily.

And last but by no means least, our Hon. President in his natural soft baritone voice sang "The Song of the Bow" in true yeoman style of old England; as an encore, "It's a good old world after all" (J. O'Hara). We have left Mr. Truman to the last because he ought to have been first. All congratulations are due to him for the arrangement and undoubted success of the whole evening. Upon his shoulders rested the responsibility, and no one else will deny that, if the excellent result cost an equal amount of energy and resource,—he must be a Trojan of Trojans.

H. C. F.

The Frolics of 1920

Mr. K. W. Forman's newest production "The Frolics of 1920," opened in the College Theatre on the night of March the fourth, and gave promise of a long and successful run.

It is not my intention to describe the performance in detail. That has already been done by a daily press reporter who in his write-up stated that the Revue opened at the Mac Hall. A judicious presentation of a complimentary ticket would have brought forth from my pen a more stirring advertisement, however. As might be judge from the title, there is a total absence of plot, and the show is an extravaganza of lively scenes built

around incidents of college life. With such a vivid and moving background it is not surprising that Mr. Forman was able to build up a really pretty and amusing Revue.

The introduction of near-vaudeville turns in the form of acrobatics and interpretive dancing is not a new thing with Mr. Forman. Many of the old patrons of the College Theatre, once known as the "Gym," will remember many instances of this in the past, but never were they more interesting than in the new Frolics.

Amongst so much brilliant work, it is difficult to mention any individual performance. Mr. Keefe was scintillating in his "Indian Club" solo, whilst of the ensembles, the "Pyramid" by the men of the company pleased me most. Stage manager Zeigler has stated that the difficulties overcome in producing the pretty Allegretto dance were many. A search was made over half the continent before the correct Rose light effect could be obtained for its staging. The orchestration and voices were first class. I would rather fancy that Messrs. Mutt and Jeff will feel the effects of their amusing acrobatics for some days to come.

Most of the audience seemed rather astonished that College men should be as fond of milk as was portrayed in the last of the large number of scenes. Here we had a view of a college room after a big dance with the tired youths draped over the room furniture relating the experiences of the evening. Mr. Peter Cairnie nearly killed me with suspense waiting for "the joke." It didn't come up to expectations. He told me a much better one after the performance.

In the intermission the English custom of serving tea between acts was introduced. Some members of the Agricultural College Staff were seen to make

immediate use of this pleasant innovation.

SPECTATOR.

Masonic Social Evening

One of the most enjoyable social evenings on record at the college was spent by the members of the Masonic Order in the faculty and student body, with their lady friends, at the annual banquet held Sat., Feb. 28th, at the Royal Cafe.

Shortly after six o'clock guests began to congregate, and after a short time spent in agreeable conversation, took their places at the table. The menu disposed of, the Toastmaster, Mr. A. H. Musgrave proposed the toast "The King" followed by the singing of the National Anthem. Mr. C. M. Howarth then gave a vocal solo "Apres le Guerre," which was vigorously encored. The next toast "The Craft" proposed by Mr. H. L. Fulmer was responded to by Mr. G. W. Baker. Mr. A. E. Williamson favored with a vocal solo, "Little Grey Home in the West," Miss M. E. Aiken, consenting to act as accompanist.

After the last toast "The Ladies" proposed by Mr. R. Atkin and responded to by Mr. J. Wadsworth, the party walked to the Arcadian Hall, where dancing and cards occupied the time till midnight.

The O. A. C. Horticultural Club held their last meeting for the season on the evening of March 10th. Owing to the approach of examinations the attendance was small but the evening was a profitable one for all present. The speaker was Mr. N. T. Sanderson of London, who addressed the club on the subject of "Greenhouse Tomatoes." Mr. Sanderson considers that the lack of a suitable variety is the greatest handicap in the business. The English varieties are too small while others are very sus-

ceptible to disease under greenhouse conditions. He is at present trying out some seed obtained from Mr. McLennan in the United States. At the close of the address a moving picture film was shown illustrating different phases of tomato growing under glass.

The Veterans' Banquet

On Saturday evening, March 13th, the members of the association collected at the Royal Canadian Cafe for their annual banquet. An excellent menu had been arranged and a splendid program followed; in fact so much to the liking of the "Vets" that the meeting did not break up until almost eleven o'clock. Prof. Blackwood, Mr. W. H. Wright, and Mr. Spencer represented the faculty and with Mr. W. D. Robertson, secretary of the city branch, materially assisted with the evening's amusements.

"The King" proposed by the toastmaster was followed by "Our Sisters" proposed very ably by Mr. Spencer and responded to by the association. Mr. Wright proposed the toast to the O.A.C. G.W.V.A. which was responded to by Mr. H. C. Mason. Then followed a series of songs and stories. The "Mill Street Howlers," familiar to some, but unknown to many led off with a song which we are bound to believe is "Absolutely True." The Craig Street Trio favoured the boys with some of their well-known harmony. Mell Howarth was in usual good form, while "Rennie" Renwick certainly "tickled the ivory" to good purpose.

"Williamson and his Pets" were not behind the mark with their contributions. It would be useless to attempt to give any idea of the stories which then followed. Everyone seemed to have an endless fund of them at hand and each with its anecdote or its reminiscence. In fact, so numerous were

the, "That reminds me," or "Mr. Wright's story reminds me," that it was found impossible to break away. At last the toastmaster, Mr. "Mike" Fleming called for "God Save the King," followed immediately by Mr. "Luke" Pearsall, who had been instrumental during the evening in bringing the good stories to the fore and keeping the fun going, suggesting "Auld Lang Syne." So ended an evening replete with amusing stories and happy reminiscences and the comrades wended their way up the hill homewards.

G. W. V. A. Notes

A general meeting of the G.W.V.A. was held in Massey Hall in March. This being the second general meeting of the New Year, there was considerable to transact. However, the most important item was to receive the report of the Faculty deputation to Toronto, re the refund of tuition fees. It will be recalled that a deputation from the student body had already been sent up, but it was felt that further pressure could be obtained if a deputation from the faculty were sent. Accordingly, the matter was taken up, Prof. Blackwood and Mr. W. H. Wright being appointed. Mr. Wright reported that they had received a very favourable interview with Hon. Mr. Drury and Hon. Mr. Doherty, who stated that all returned students now at the college, who are bona fide residents of Ontario, would have their tuition fees for the past year refunded, if the Provincial Government could possibly arrange it. It could not however, be managed before the middle or end of April.

The Animal Husbandry Club

The Animal Husbandry Club one of the most recently organized clubs at this institution, has just completed a

very successful year. During the past five months a series of interesting and instructive meetings have been carried on, the main feature of each meeting being an address presented by some wide awake live-stock man of the Province of Ontario.

Judging competitions were carried on for four consecutive Saturday afternoons, in which the three Junior years took part. Keen competition was shown in each class by the contestants, because of the practical assistance they experienced as well as the liberal sum of prize money offered.

The stock composing the classes of Sheep, Swine and Dairy Cattle were the property of the College, while for the beef competition, the contestants were fortunate enough in having an opportunity of placing two classes of Aberdeen-Angus heifers owned by Mr. Jas. Bowman.

The final aggregate score of each year was as follows:—

Third Year—5880 points.

First Year—5215 points.

Second Year— 5189 points.

F. C. McLENNAN, Sec.

Union Literary Society

The final inter year debate of the Union Literary Society was held on Saturday evening, February fourteenth. The subject for discussion was "Resolved that a man's character is influenced more by heredity than environment." The affirmative was upheld by J. C. Purdy and R. J. Rogers of the Second Year while W. B. Kay and P. M. Dewan of the Third Year supported the negative. Many good points were brought forward on both sides and while most of the audience favored the efforts of the Sophomores, the Judges, R. R. Graham, H. L. Fulmer and Prof. Har-

court awarded the decision in favor of the Juniors.

A vocal solo by Miss McMannus, a piano selection by Miss Wanda Wilson and a violin solo by Hancock '22 balanced up the programme of a very interesting evening.

The Third Year debating team, Messrs, R. M. Lewis, F. W. Stock, W. B. Kay and P. M. Dewan win the Year '19 medals.

Nineteenth Annual Public Speaking Contest

Eleven entries for the contest were handed in this year and from these the committee, Dr. Stevenson, Prof. Blackwood and Mr. Nethercott, chose five. Second year men had two more chances, third year one more, but for the fourth year it must be now or never and that is the reason why preference in selection is given the fourth year men.

On the evening of Friday, March 19th, the old Gym was comfortably filled, the stage decorated and Dr. Stevenson ably occupying the chair when "Big Mack" set the ball rolling. His subject, "The U. F. O." was well chosen and well handled. He speaks easily and clearly and throughout his speech there were no weak places, no uncertain utterances. He held his audience well and the tang of a "blue nose dialect" gave a pleasing flavor to his speech.

C. J. Callister 3rd Year followed, presenting to his audience the subject of "Fertilizers" and Crop Production in an interesting and instructive manner.

Rural Sanitation by Mr. E. L. Eaton, 4th Year brought out some interesting facts. He accused us of paying more attention to proper ventilation of barns than of houses, of spending more money on healthy quarters for pigs than for people. Mr. Eaton spoke well, kept up interest and finished strong.

A. Archibald 2nd Year, got away to a good start on the subject of Agricultural Instruction. It is too big a subject for a fifteen minute talk and Archie said a lot and said it well. He made it of interest to us and attention did not flag. He was forceful and complete in his remarks,

Last but not least came Wig. When a man knows his subject, as he does, and knows how to talk, as he does, he can't help making a good speech. His handling of the subject was worth while copying. The audience had been sitting for a long time but Wig held their interest to the last by his earnest manner.

Judging from contests four and six years ago there was a definite improvement in this year's performance. Why not keep up this improvement in years to come? Just a word in your ear. Sons of Ontario. We need some of these big

dictionaries here in this Province—don't let them all go East.

The monotony of the five speeches was very pleasantly relieved by Prof. Blackwood, the sweet singer of the Heights, then by the Hawaiian trio and last by the presentation by Prof. Squirrell of class '19 medals for high man at Chicago and winners inter-year debating contest. The presentation of the Indoor meet ribbons by Miss L. Montgomery, came next and following that the Judge's decision.

The Judges, Rev. Little and Dr. Grenside of Guelph, and Prof. Sackville, awarded first prize to A. B. MacDonald, second to F. A. Wiggins and third to A. Archibald. Rev. Little in giving the decision spoke very truly when he said, "There was not a poor speech on the programme." The evening closed with the National Anthem and we went home feeling that it had been one of pleasure and profit.

R. G. S.



OPELL

O.A.C. vs. Meds

In the inter-faculty series Meds. played college second team here on March 15th. The final score was 35-31 for Meds.

The game started with college playing faster than Meds. but shooting with more speed than accuracy, so that Meds. got away to a lead of five points before the college had scored. Musgrave replaced Smith as left guard and Fred Odell replaced Pegg as right forward. Smallfield scored first for the college and for the remainder of the first period the teams scored almost alternately so that though the college team became more accurate in shooting the Meds. maintained a lead of five points making the score at half time 16-11 for the Meds.

Throughout the game the college worked in close to the basket for all their baskets and scored by team work entirely, whereas the Meds. very seldom worked the ball to the basket, taking rather long shots at which they showed an expertness which commanded our admiration, but which had the appearance of good fortune.

The second half was much faster than the first period had been. The Meds. started off strongly and increased their lead to eight points, after which our team proved less fagged than the Meds. and scored splendidly until by an accident Harry Smallfield was hit on the head by an opponent's knee and was insensible for fully a minute. Though he

recovered and scored two more baskets he was still shaking and really unfit to play. However, the college continued to gain with forwards Odell and Hadden shooting well and Smallfield as centre winning the hearty admiration of the crowd while the guards, Musgrave and Dixon played as well as any could have wished, and though the college was at one time even with the Meds. they lost in the last few minutes when the Meds. scored a basket and two fouls making the final score 35-31 for the Meds.

Line up.	Points.
Lt. Field—Pegg	2
Rt. Field—Hadden	4
Centre—Smallfield	14
Lt. Guard—Dixon	2
Rt. Guard—Thompson	0
Substitutes.	
Musgrave	0
Odell	9

This game was the semi-finals in the interfaculty series, O. A. C. having previously lost against the Meds. in Toronto are thus excluded from the finals.

The inter-year indoor-baseball championship was won by fourth year. There was great interest taken in all the games, and all the years had very good teams. However, the fourth year had an exceptionally good team and had no very serious difficulty in carrying away the championship.

Freshmen Indoor Meet

The freshmen indoor meet took place

on Saturday, March 13th, and in spite of the counter attraction of skating, was a complete success. One record was broken and one was equalled and the events throughout were each filled with a large number of entries.

From the start the inter-division spirit was strong, with each division having one outstanding athlete. While Art Williamson was winning the standing high jump, Doug. Adams, with his splendid physique and Romeo tights was demonstrating his muscular ability by chinning the bar seventeen times. Competition in this event was very keen, a tie for second place being settled by the toss of a coin. In the standing high jump, Presant was unfortunate in straining both his knee and elbow which put him out for the remainder of the meet. In quick succession the standing broad jump and running high jump were run off. Williamson winning both with Bunner 1-2 inch behind him in the former and Kirk a close second in the latter. At the same time the fence vault was being contested. This showed a very interesting contest between the little lithe Smith and the big muscular Kirk, both leading the list. Smith eventually won out. In the next event, Kirk in winning the shot-put nearly beheaded Fraser who had inadvertently wandered into the ring.

In the potato race Adams won his heat fairly easily; but in the second heat Hinchley won by a scanty inch, while in the final heat the excitement was exceptionally intense and when the smoke cleared away it was found that Adams had chipped half a second off the record. The pole vault followed and Scott beat Fraser by a couple of inches, Being only a half inch from the record. He decided to try again and succeeded in equalling the record which was made by R. F. Waugh last year. In the mean-

time, Kirk had again demonstrated his agility by winning the hitch and kick.

By this time the excitement was increased for the two divisions were literally neck and neck together. The next event, the rope vault, was long and keenly contested. Smith and Kirk were again against each other but Kirk's great weight was against him and the hard falls which he took soon forced him to retire. Smith made some very neat vaults but his nerve seemed to fail him and he too dropped out leaving the field to McCreary and Fraser. After a long contest the extra length of Fraser's arms and legs gave him the victory and put "A" division one point ahead.

In the 15 yd. dash few of the contestants seemed to realize the shortness of the run and as a result the finish found some just getting started. In the first heat Hinchley got away to a poor start, overcame that and was just nosed out by Williamson. In his eagerness he forgot to stop and hit the door of the gymnasium still going strong. However, he went back for the final heat and in a close finish beat Williamson with Arnold third.

The crowd then adjourned to the tank where Adams demonstrated some amphibian qualities by winning the 52 yd swim from Vignale. In the long plunge Adams won again, while second and third were very close, Van Haarlem beating Hutt by a scanty 1-2 inch.

EVANS

Indoor Meet

It was a pleasure to witness the indoor meet held on March 18th, in the college gymnasium. There seemed to be one outstanding man for each event which indicates that much time had previously been spent in practicing. There were a large number of entries and the champion of the day, E. C. Foreman,

Continued on page xii.

LOCALS

Lucky

"My husband and I never quarrel, except occasionally over food."

"You're lucky to have your family jars confined to the pantry."

Applied Hydraulics

Mixie—A friend of mine fell asleep in the bath tub with the water running.

Frixie—Did the tub overflow?

Mixie—Nope, luckily he sleeps with his mouth open.

Senior Normal, after rising early to attend to bread—"Now that I have my bread set I can afford to loaf a little."



During the flu epidemic the Junior Housekeepers were reduced to three in number, Faith, Hope and Charity, and the longest of these was Charity.

1st O.A.C. Youth—Are you going to the dance?

2nd O.A.C. Youth—Nope! A fellow daren't smile at those Mac Hall girls without an introduction and a lot of fussing.

Beware girls! Chesty D. says he knows enough about some of the Mac Hall girls to hang them.

Overheard Under the Night Light

Frank—"That four-legged, grey-furred visitor of ours called again to-night."

Lil. (Seriously)—"Why Frank, you know mice have only two legs."

N.B.—This is true.

"Louie" Heimpel, lecturing on gas engines—"Now, if this feed-valve becomes plugged it will of course check the flow of gasoline and possibly stop the engine. The sediment should be cleaned out with a match or pencil-point."

"Barney" Oldfield—"How about using a hairpin?"

Oh, Mis-ter Oldfield!

"C. A." Campbell (carolling gaily)—"There's a long, long trail awinding—etc."

"Nat." Anderson—"Who is she this time, Arleigh?"

Prof. Caesar—"Now this insect winters in the pupal stage."

"Charlie" Roger—"Huh! Those tiny little creatures havn't anything on me; I'm wintering in the pupil stage, too."

It is understood that the showing of the third year at the Acquatic Meet was due to the fact that they were reserving their energy for the promised dance on the floor afterwards.

Expressive Macdonald Hymns

6.45 a.m.—“Let us be up and Doing.”

10.30 p.m.—“Knocking at the Door.”

10.45 p.m.—“The Day Thou Gavest Lord is Ended.”

Meals—“How Firm a Foundation.”

D. A. I.—“Sewing in the Morning.”

Gym.—“Here we Suffer Grief and Pain.”

Desire to go Unchaperoned —
“Yield not to Temptation.”

Before Student Council—“Dare to be a Daniel.”

Getting Eats from Window —
“Throw Out the Life Line.”

Saturday Night—“Oh, Where is My Wondering Boy To-night.”

Sunday After Chapel—“Oh, for a Closer Walk With Thee.”

Skating—“Courage, Brother, Do Not Stumble.”

Tobogganing—“Unto the Hills Around.”

Night Off—Girls, “Hold Thou My Hand;” Boys, “Tell Mother I’ll Be There.”

Dancing—“Faint Not Nor Fear His Arms are Near.”

Last Week of Term—“Work, for the Night is Coming.”

During Exams.—“The Wise May Bring Their Learning.”

Before Results—“Will There Be any Stars in my Crown?”

After Results—“No. Not One.”

(So we would have them.)

At Year '22 Banquet, Twinn, replying to toast to the married men—“I can assure you, gentlemen, married life is a howling success.”

Extra

Strong

WE have one style of Man's Watch which is very stout and heavy without being at all clumsy.

The case is best gold-filled, with solid gold joints, thumb pieces and bow, while the movement is our “Cavendish”, with patent regulator Breguet hair-spring and compensating balance—an exceptionally fine watch for a man who is doing heavy work.

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in best gold-filled case
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In Solid 14 karat
Gold

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Limited

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TORONTO



ALUMNI.

Continued from page 425

of active service he was wounded and sent back to England. On his recovery he was made a Sergeant-Instructor at Bramshott, and was later on the staff of the Khaki University. After his return he was engaged in news service work, and he will be known to many from his "Après La Guerre" correspondence in the "Mercury." His death is sincerely regretted by a host of friends everywhere.

Dick P.—"What causes a pump to—sort of—back fire?"

R. R.—"What makes it kick? It's not getting enough water, not getting enough to drink. You'd kick, too, if you didn't get enough to drink."

Prof. Crow—The ordinary black raspberry is red when it's green, while the white black raspberry is yellow when it's green. When the red raspberry is green it's yellow, and the white red rasp. is yellow when it's green. A green blackberry is red, and—

Murray (sotto voce)—Say, Don, how does he get that way?

Crawford—"If any of you ever become sufficiently interested to raise insects, you can't help noticing these characteristics."

Lee—"Just at present I'm too busy raising a moustache to bother with insects."

Freshman, reading Arithmetic Concert Bulletin—Matwork, Pyramids, Aesthetic Dances, Third Year Stunt—Huh, that blamed Third Year is always pulling off stunts."

ATHLETICS—Continued

won with but 16 points, which fact testifies to the keen competition which was exhibited in all events.

The gymnasium was crowded with interested onlookers. Each year had a large number of supporters which did much to make the meet a success. Moreover, all the events were run off with speed and accuracy due to the splendid work of the judges, measurers, and to the Athletic executive. Thus we have no hesitation in stating that the meet was undoubtedly the most successful we have ever witnessed.

The results follow,—

Chinning Bar,—Anderson, 28; Ripley, 27; Leaver.

Standing high Jump,—Blaney, Waugh, Way.

Hitch and Kick,—Sheppard, Clemens, Smallfield.

Standing broad Jump,—Lindala, Williamson Foreman.

Fence Vault,—Blaney, Way, Waugh.

Running high Jump,—Clemens, McMillan, Taylor.

15 yd. Dash,—Kimball, Brennand, Howarth.

Rope Climb,—Ripley, Wilson, Ure.

High Dive,—Pegg, Musgrave, Smallfield.

60 yd. Potato Race,—Adams, Lindala, Brennand.

Putting Shot,—Foreman, Purdy, McIntyre.

Pole Vault,—McMillan, Waugh, Scott.

440 yd. Potato Race,—Carson, Adams, Ziegler.

Rope Vault,—Fraser, Way, McMillan.

3 Standing Jumps,—Foreman, Waugh, Ripley.

Standing H. S. and Jump,—Foreman, McMillan, Waugh.

Inter-year Relay, won by fourth year,—Kimball, Hamilton, Jackson, Musgrave.

E. C. Foreman, '21, Grand Champion with 16 points.

Year standing,—

Second Year	58
Third Year	45
First Year	30
Fourth Year	26

Anderson and Ripley broke the record for chinning the bar.

Aquatic Meet

52 yd. Novice,—Brennand, Vignale, Murray—39 secs.

52 yd. Back Swim,—Sheppard, Adams, Cudmore—45 1-5 secs.

208 yd. Swim,—Cudmore, Odell, Sheppard—3. 13-1-5 secs.

35 yd. Beginners,—Ross, Ripley, Oldfield—31 3-5 secs.

Long Plunge,—Mason, Sheppard, Adams—47 ft 1 in.

Underwater Swim,—Davis, Hutt, Sheppard—172ft 1in.

52 yd. Swim,—Cudmore, Adams, Odell—32 1 5.

104 yd. Swim,—Cudmore, Odell, Sheppard—1. 20 secs.

Fancy Diving,—Adams Davis, Odell.

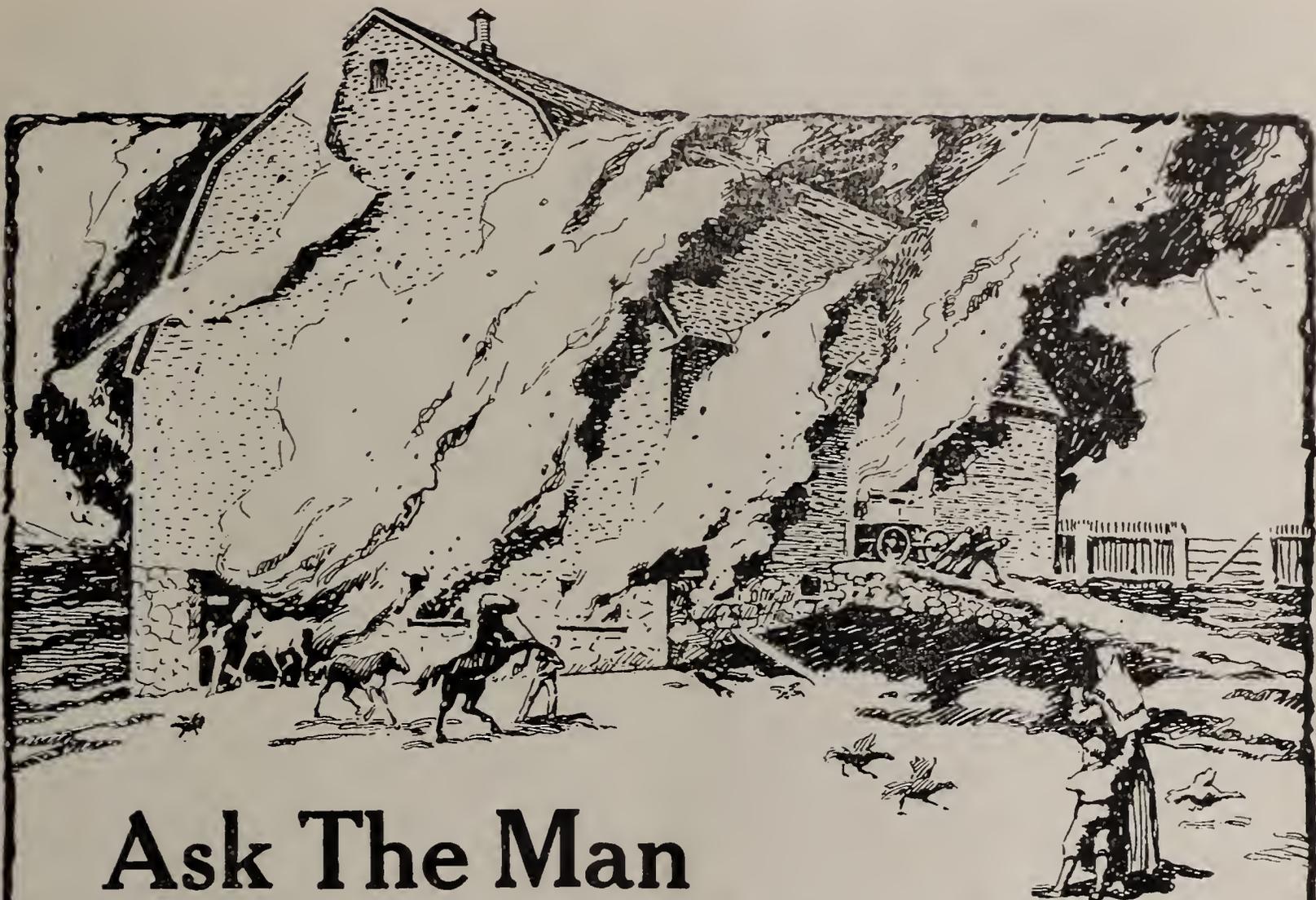
Inter-year relay (novices) won by first year.

Cudmore Grand Champion with 15 points.

H. R. Davis broke the record for the underwater swim in which Hutt also broke the previous record.

Year standing,—

Fourth	35 points.
First	28 points.
Second	28 points.
Third	9 points.



Ask The Man That's Been Through It!

—he'll tell you that a barn burnt out is a full year's "Knock-out" — insurance or no insurance.

Insure by all means, but for real protection against loss look to Fire Prevention rather than Fire Insurance. Commence your prevention where most fires start,—the roof—where sparks fall and lightning strikes. The proper prevention here,—the easy, safe and certain prevention,—is to put on a roof of

Metal Shingles

Metal Shingles, properly grounded, are proven protection against

lightning, and they *simply cannot burn*, so sparks cannot harm them.

And they are more than spark-proof and lightning-proof—they are rain-proof, snow-proof, wind-proof and practically time-proof. Metal Shingle roofs laid upwards of 35 years ago are still sound, and have many years of service still ahead of them.

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USE **METAL SHINGLES**
for **SAFETY** and **PERMANENCE**

Essay on Freshman

For the epithets and other expressive words and phrases used in the following appreciation, the author wishes to thank the man who wrote that book on Antonyms, Synonyms, etc.

The term "fresh" applies to that which has the characteristics of newness or youth; that which is unworn, unspoiled, or unfaded. The poets used to sing about the unspoiled children of Nature, and it looks as if an extra large batch of them had strayed in here last September.

The Freshmen are like a new baking just out of the oven, with the crust still on them, requiring to be smoothed and mellowed by the gentle persuasions of their seniors. These juvenile acquaintances still retain little childish ways which are a source of amusement and annoyance to their more sophisticated Elders. They are recent productions from Nature's storehouse and must be categorized and indexed before they can become of any use to the human race. Just now, if the mark for uselessness were one hundred, they would score one hundred and one over for lack of neatness. They are new human organisms, on probation before being admitted to our august student body. Even considered as freshmen they are a novel type, exhibiting many distinct characteristics such as the "Gimme" habit, and the "Howsat" question.

The English class had been nunting in the notes for five minutes to find something about Maenad who was supposed to be one of the Furies when some materialistic pervert yelled out:

"Aw, forget it; it won't buy the

baby a new pair of shoes if we do find it."

There was a near stampede at the O.A.C. recently, when it was rumored that some of the latest Paris fashions had appeared at the Mac. Hall.

"The human anatomy is a wonderful bit of mechanism," observed the Sage.

"Yes," agreed the Fool, "Pat a man on the back and you'll make his head swell."

College M. O.—"You're all better now. That was a quick cure. Did you follow my directions?"

Student—"Yes. It said on the label, keep the bottle tightly corked."

Just before Christmas a visitor was being shown around the premises by a Freshie. After awhile they came to the bathroom. What's this?" inquired the man.

"Why-ah," said the Freshie, "looks like a storeroom or something."

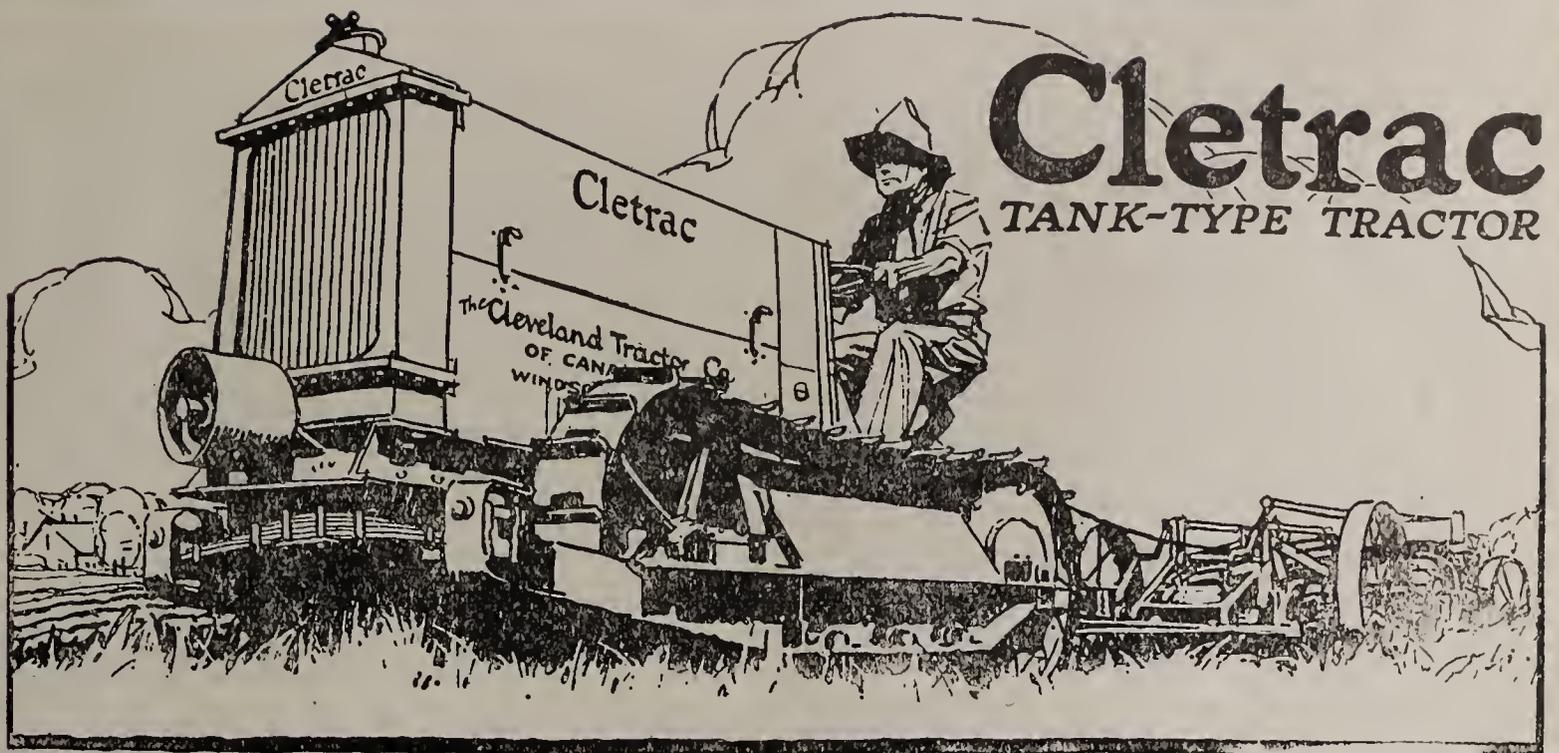
A medical paper advances the theory that "man is slightly taller in the morning than he is in the evening." We have never tested this but we have certainly noticed a tendency to become short towards the end of the month.

Prof. Crow, "Name some of our common bulbs."

Specs, "Electric light bulbs."

Notice for use on the Campus.

It is forbidden to tie horses to the trees as they bark and thereby destroy the trees.



Added Power — No Increase in Weight
Wider Tracks — Lighter Tread — Stronger Ground Grip.

*More kinds
of Work
More days in
the year*

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Our longest season is all too short. The days saved by the Cletrac this Spring can be counted in better grain, and extra bushels next threshing time.

The Cletrac not only plows—it will disc, harrow seed—help do everything connected with planting and many other things around the farm.

One man or a boy can operate the Cletrac easily. It burns coal-oil (kerosene), perfectly.

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Bruce's Mammoth White Carrot. Half Long Variety, heavy cropper, splendid quality, easily harvested, grand keeper. $\frac{1}{4}$ lb. 35c, $\frac{1}{2}$ lb. 60c, 1 lb. \$1.00, postpaid.

Bruce's Giant Yellow Mangel. An intermediate variety, heavy cropper, good keeper, of splendid feeding quality and easily harvested. $\frac{1}{4}$ lb. 25c, $\frac{1}{2}$ lb. 40c, 1 lb. 75c, 5 lbs. \$3.50 postpaid. Also Yellow Leviathan, Giant Yellow Globe, Golden Tankard and Mammoth Long Red Mangels at same price.

Bruce's New Century Swede Turnip. A grand purple top variety, splendid for the table and also for feeding cattle, a grand keeper and shipper. $\frac{1}{4}$ lb. 35c, $\frac{1}{2}$ lb. 60c, 1 lb. \$1.10, 5 lbs. \$5.25, postpaid.

Also Bruce's Selected, Bruce's Giant King, Hall's Westbury, Elephant, Magnum Bonum, Kangaroo and Hartley's Swedes at $\frac{1}{4}$ lb. 35c, $\frac{1}{2}$ lb. 60c, 1 lb. \$1.10, 5 lbs. \$5.25, postpaid.

Also Aberdeen's, White Globe and Greystone Turnip, at $\frac{1}{4}$ lb. 30c, $\frac{1}{2}$ lb. 55c, 1 lb. \$1.00, and 5 lbs. \$4.75, postpaid.

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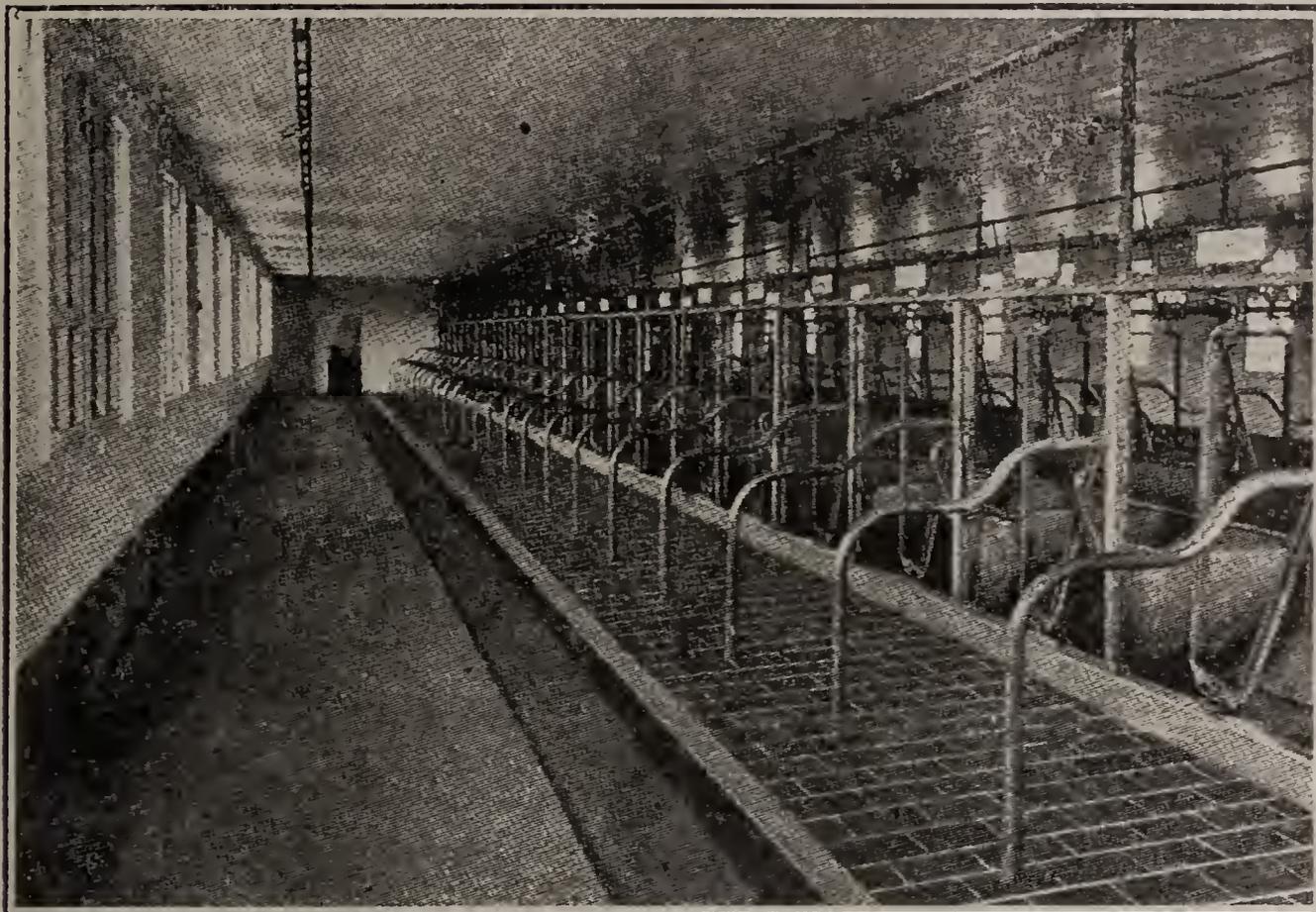
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Eddy & Eckersley, Comedians—All branches of the funny art.

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Shields & Brown, Porters—Night calls a specialty.

Wyatt, My Valet—Pants pressed while you wait.

Reilly, in Farm Management—"Take these figures in Accounting: Wire Fencing, \$27.00; Postage, \$1.50; Telephone Calls, \$6.00."

Tom Shields—"Does that 'Postage' represent the cost of the posts for the wire fencing?"

AUTOSTROP RAZOR



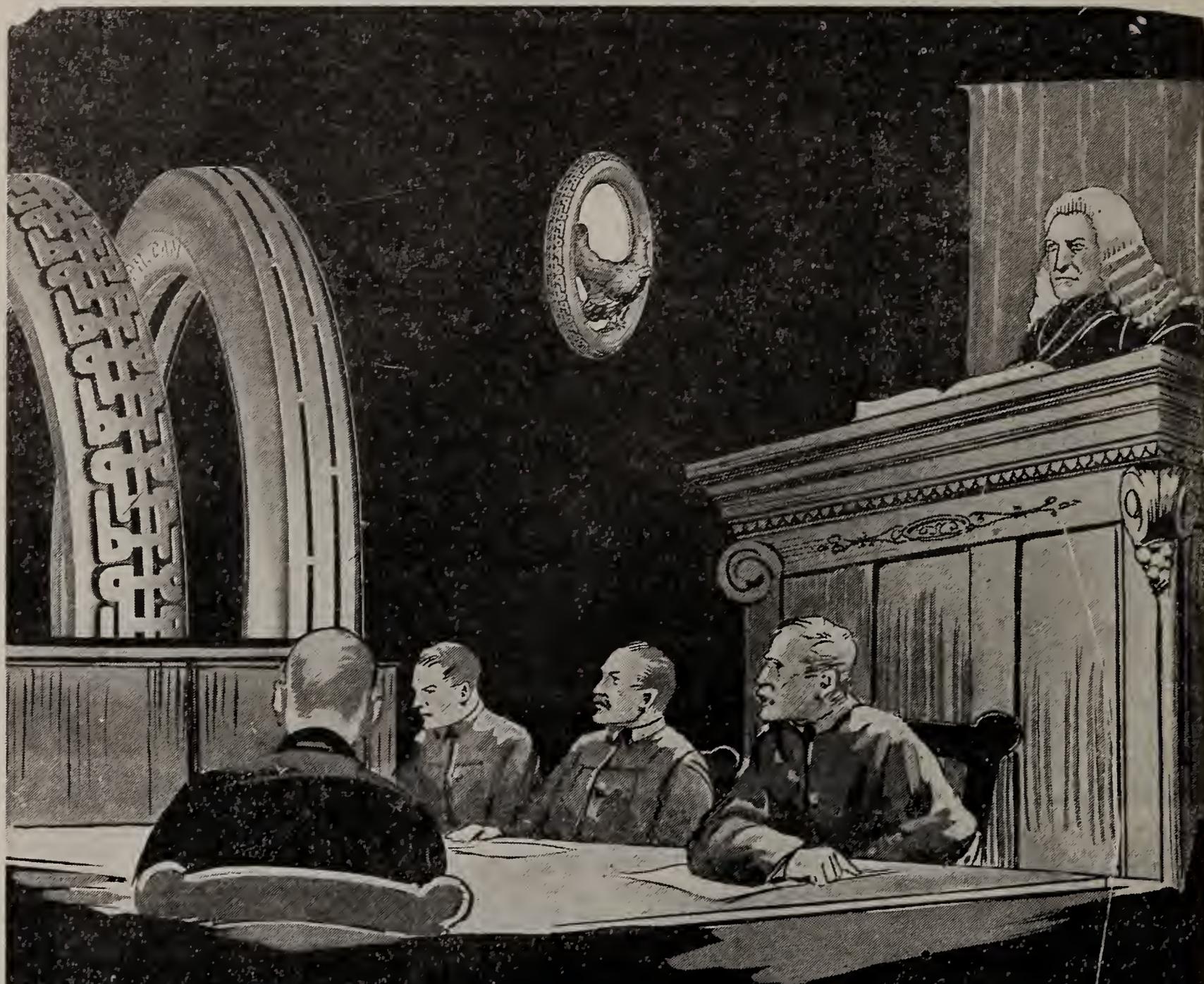
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We believe in it—so will you.

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Sentenced to do 10,000 miles
They will long outlive their term

Made by The F. E. Partridge Rubber Company, Limited, Guelph, Ont.

T. J., in Hort.—“Apples were grown in Europe more than 1,000 years ago.”

Fresh Freshie—“Weren't they grown before that in the Garden of Eden?”

Tom—“Don't know. I wasn't there.”

Dinty Moore, several times a week, every week—“Well, guess I'll go down and do some studying to-night.”

So we asked the lady “how about it?”

Norma—“Why, Mac never does any work at our house.”

“Oh! Dinty!”

What are those Wild Women doing with Teddy Wildman?

The President of the Lit. announces the Public Speaking Contest, and—the “Last Opportunity”—as the term is nearing it's close, and the girls will be going.

A voice full of gratitude—“Thanks Bob.”

Prof.—“A fool can ask more questions than a wise man can answer.”

Student—“No wonder so many of us get plucked in our examinations.”

Dobbin—“I hear that your daughter has married a struggling young man.”

Jobbin—“Well, yes he did struggle, but 'twas no use; he couldn't get away.”

When a woman says, “Oh, well, it's no use talking,” she's just beginning to get warmed up to the subject of conversation.

Facetious Freshman, to man at gate—“I suppose your sign, ‘Beware of the Dog,’ was put there so that he who runs may read?”

Farmer—“No, but so that he who reads may run.”

“Hello, gentlemen,” said a freshie to some third year men coming down the stairs.

“That's us,” replied one of the Juniors.

“Some of 'em may be, but in my opinion, some of 'em hisn't,” rejoined an onlooker.

Athletic Notice

“The college team will appear in their new shirts at the next game; the pants have not yet arrived.”

Doc. Reid, (after a final volley of crystallized H. O.) Now, boys, I must say I do not like this habit of throwing snow around the room.

Hawkins aloud, (wiping a large slushy one off his neck) Neither do I.

A COMEDY UNDIVINE

Paradise

The shaded room,
An open fire,
A cozy nook,
And your heart's desire.

Purgatory

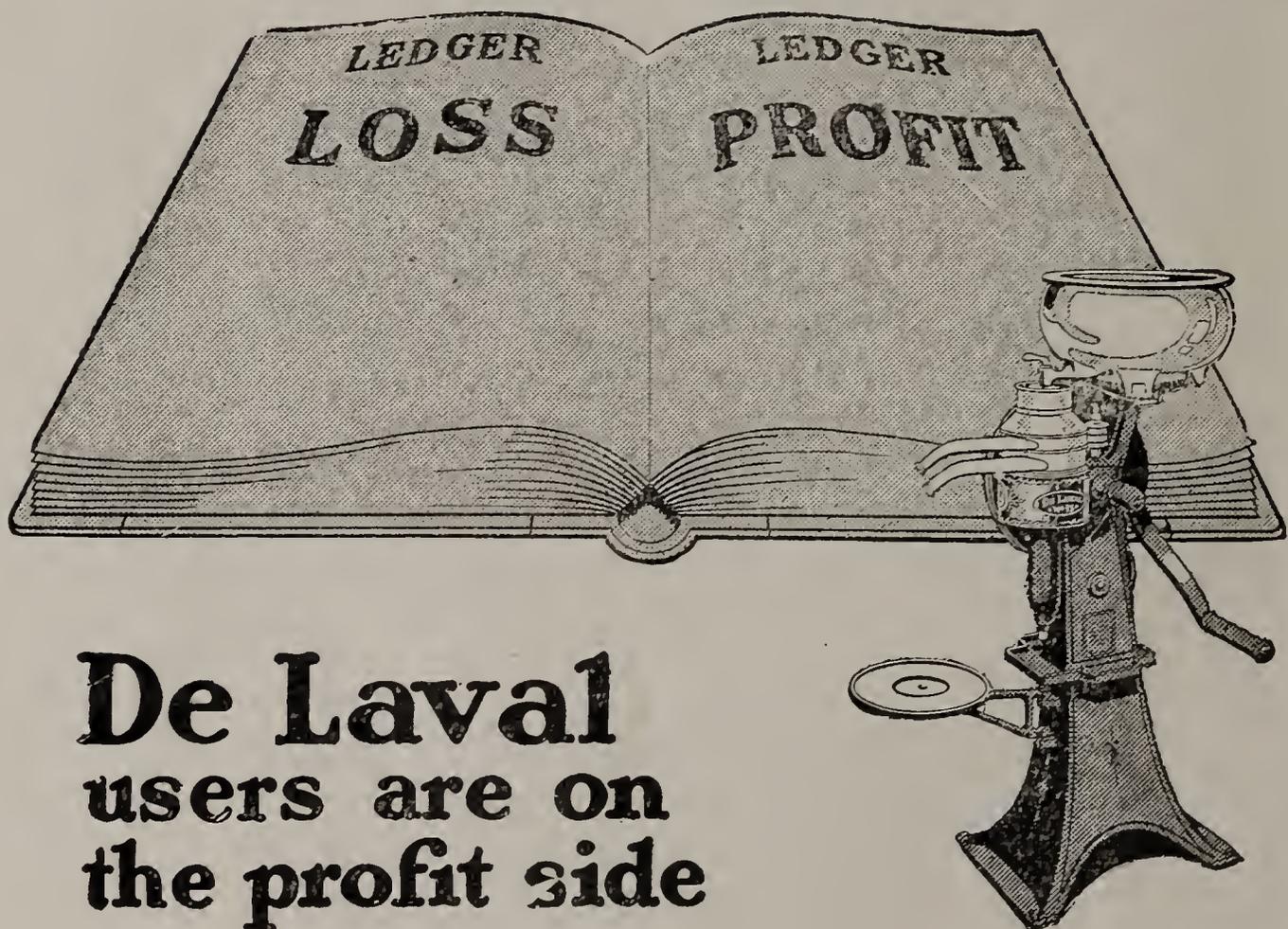
The selfsame room,
With lights just few,
The same little nook,
With Ma there too.

Inferno

The room, the nook,
The shade, the fire,
The greatest chance—
And enter, sire!—Orange Peel.

DE LAVAL

Separator Savings



**De Laval
users are on
the profit side**

No machine used on the farm returns a larger profit on the investment than a De Laval Cream Separator.

It saves from 25% to 50% of cream twice a day every day in the year over crocks and pans; and from 10% to 25% of cream over an inferior or half-worn-out separator.

With butter-fat at the present high prices these savings mount rapidly. Many thousands of users have found that their De Laval paid for themselves in a few months. De Laval users are always on the profit side of the ledger at the end of the year.

More De Laval separators are used than all other makes combined.

Your local De Laval agent will be glad to demonstrate what an Improved De Laval will save you. If you don't know the nearest agent, please simply write the nearest office below.

THE DE LAVAL COMPANY, Ltd.

MONTREAL

PETERBORO

WINNIPEG

VANCOUVER

50,000 Branches and Local Agencies the World Over.

Guelph Business Directory

The attention of the O.A.C. and Macdonald Students is drawn to the following directory of Guelph business and professional men. Their advertisements help to make your magazine a success. They carry the best goods and give the best service you can obtain. It is only fair that you patronize them.

Banks—

The Dominion Bank
Guelph & Ontario Trust Co.
The Merchants' Bank
Royal Bank
Union Bank

Barbers—

Stock Donaldson
Molloy & Finlay

Boots and Shoes—

J. D. McArthur
W. J. Thurston

Cafes—

Dominion Cafe
Central Cafe
Presto Lunch

Candy and Ice Cream—

The Kandy Kitchen
Royal Candy Works, Wyndham St.
Candyland

Dentists—

Dr. M. J. Rudell
Dr. G. P. Britton

Druggists—

J. D. McKee
Alex. Stewart

Dry Goods and Ladies' Wear—

Moore and Armstrang
D. E. Macdonald & Bros.

Electrical Appliances, Plumbing and Heating—

The Grinyer Co.

Florists—

James Gilchrist
E. S. Marriott

Grocers—

Hood & Benallick

Railways—

G. R. Railway Time Table

Shoe Shine—

Candyland Shoe Shine

Gents' Furnishings & Tailors—

R. S. Cull & Co.
D. E. Macdonald & Bros.
R. E. Nelson
Geo. Wallace

Hardware—

The Bond Hardware Co.
Cronk & Buchanan

Jewellers—

Savage & Co.
J. J. McTague
W. G. Singer

Magazines and Newspapers—

Geo. M. Henry
Malone's News Stand

Musical Instruments—

C. W. Kelly & Son

Opticians—

A. D. Savage
H. E. Davison

Photographers—

The Kennedy Studio
The O'Keefe Studio

Printing—

The Guelph Herald
Kelso Printing Co.
Wallace Printing Co.

Pressing—

C. F. Griffenham
C. Millar Wallace

Shoe Repairing—

Goodyear Shoe Repair Co.
J. D. McArthur

Taxicabs—

C. L. Kearns
F. Keil

Typewriters—

A. E. McLean

Picture Framing—

W. C. Bard

Tea Rooms—

Miss M. Richardson

Milliners—

Miss Stockford

You will be doing the Review a service if you tell these people you have read their advertisement.



It made a Success out of a Failure

Three years of crop failure—droughts which caused the loss of hundreds of trees—rains that rotted the roots of the young trees—and then Charles Sheppard discovered the advantages of planting with stumping powder. Today his 30-acre apple orchard is a money-maker.

C.X.L. Stumping Powder

will make your orchard a profit producer, if you do as Mr. Sheppard did—blow out the dead trees with C.X.L. and dig your holes for new trees by the same means. In the first five years their growth is nearly double those of spade-planted trees.

Canadian Explosives Limited

Head Office, Montreal

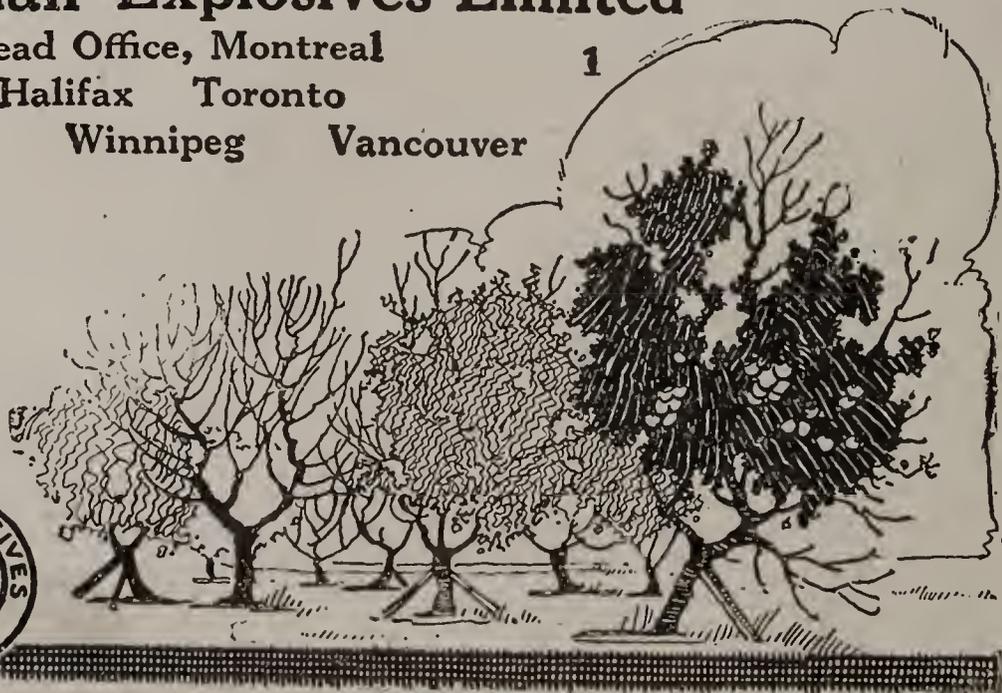
Halifax Toronto

Sudbury

Winnipeg

Vancouver

"Explosives for the Farm" tells what C. X. L. Stumping will do in your orchard. Write Dept. W for free copy today.



The man who neglects to apply the necessary fertilizer is taking even greater chances than the man who doesn't take out fire insurance.

Get Your "SHUR-GAIN" Early



Making two blades grow where only one grew before."

1920 Supplies are Uncertain

Our raw materials have come forward most irregularly, due to strikes in the mines some months ago, and the present railway car shortage and soft coal cut-off. Our advice is—go to your dealer and order a full supply of GUNNS "SHUR-GAIN," and arrange to take delivery without delay. Avoid the last-minute scramble to get your fertilizer. Users of Gunns "SHUR-GAIN" have told us that they have received \$3 or \$4 cash returns for every dollar spent on it.

Gunns "SHUR-GAIN" gives your soil the complete blend of nitrates, phosphoric acid and potash you need for bumper crops.

SEE YOUR DEALER TO-DAY:



Gunns Limited

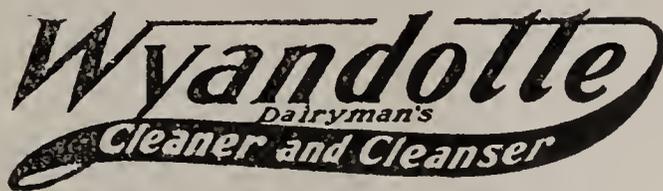
West Toronto

Representatives wanted in unallotted territories

PRACTICAL KNOWLEDGE

To know how to accomplish the desired results in the application of dairy husbandry is as valuable as to know what the desired results are.

Because thousands of users know the superiority of



and profit by this knowledge they are able to prevent the regrettable losses of milk quality that are certain to occur unless the milk containers, machinery and utensils are kept sanitary, wholesome and clean.

So valuable is the use of this cleaner and so little its cost that no one engaged in dairying or any of its branches can well afford to be without the assistance it brings.

Order from your supply house or write us.

It cleans clean.

Indian in Circle



On Every Package

The J. B. Ford Co., Sole Manufacturers. Wyandotte, Mich.,

PRINTING

WHAT YOU WANT

WHEN YOU WANT IT

Our Job Printing Plant is equipped and manned for just the purpose expressed in the headline.

WE PRINT

Programmes, Window Cards, Letter Heads, Envelopes, Cards, Invitations, Menus, and in fact printing of every description.

Give us a trial and you will experience the highest degree of satisfaction with our service.

The Guelph Herald, Limited

"Printers and Designers of Good Printing"

Herald Building,

Douglas Street,

Guelph, Ontario

CATALOGUES BOOKLETS
FOLDERS CIRCULARS
COMMERCIAL & SOCIETY
STATIONERY

Anything in printing from
the best that is made
to the cheapest
that is
good

The Advertiser Job Printing Co.,
LIMITED
London, Ontario

CORNER YORK AND WELLINGTON STREETS

PHONE 247 - 248

Two Macites at the "Regent"

First Dizzie—"Clara, tell that man to take his arm from around your waist."

Clara—"Tell him yourself; he's a perfect stranger to me."

A man ran an auto into a garage for repairs. The mechanic looked it over silently, then tried the horn which gave a healthy toot.

"You've got a good horn there. Suppose you jack it up, and put a new car under it."

"Father, can I go to the circus to-night?" asked the farmers son.

Father, "No. Taint more'n a month since yer went to the top of the hill to see the eclipse of the moon. Pears to me yew're gettin reckless and dissipated."



The crystal in a good
dairy salt must be pure
and dissolve readily.
These qualities are always
assured in

**Windsor
Dairy
Salt**
Made in
Canada

THE CANADIAN SALT CO., LIMITED

266

YOUNG MAN!
A
TWO-YEAR COURSE
AT THE
ONTARIO AGRICULTURAL COLLEGE,
GUELPH, ONTARIO
IS EASILY WITHIN YOUR REACH
WHY?

Because—

Ordinary public school education is sufficient for admission to the Course.

The College Year begins September 17th and ends April 15th, so that students from the farm may return to their homes to assist in the spring and summer work.

Five months during the spring and summer gives many students opportunity to earn sufficient money to defray College expenses for the following year.

The tuition fee for Ontario Students for two years is only \$20.00 per year, while board and room in residence is obtained at \$5.00 per week.

A portion of the cost during the first year is defrayed by work on the farm and the various departments.

Students wishing to take the full Four Years' Course for the degree of B.S.A. conferred by the University of Toronto, do not require matriculation standing. Students are accepted for this Course if their standing on second year examinations warrants it.

College Opens September 17th, 1920.

Write for a College Calendar.

SMOKE

FOREST AND STREAM



TOBACCO

Up-to-date Farms Produce Butter at Lowest Cost

THEY do so because the owners of them weed out the poor milkers, they house their cows in comfortable quarters, they use modern methods and modern equipment, including the Renfrew Cream Separator.

The Renfrew is chosen by dairymen who have figured costs down to the fine point. They have proven to their entire satisfaction that the Renfrew gets one pound more of butter-fat out of every thousand pounds of milk skimmed. Government Dairy School tests have also demonstrated that the Renfrew gets 99.99 per cent. of butter-fat.

As the average milking cow will give, at least, 6,000 lbs. of milk each year, the Renfrew will get 6 lbs. more butter-fat from each cow in your herd every year. With butter-fat at 60 cents a pound, that means \$3.60 more profit from each cow, or a saving of \$72 on twenty cows.

The Renfrew makes money and saves money in other ways.

It requires little attention—and time is money.

The Renfrew needs oiling but once in three months.

There are no oil cups or places where the oil can leak out on to the machine or on to the floor, taking time to clean up.

The wide open bowl and smoothly polished steel discs are easily and rapidly scalded and rinsed.

The anti-splash milk-can prevents milk splashing out on the floor, and is at a convenient, low height for pouring milk.

There is nothing cheap about the

Renfrew

Cream Separator

Every part is made of high-grade material, accurately manufactured and carefully fitted. The Renfrew is built to last and give extra years of service. It should last one-third longer than an ordinary separator, which means that it is a 33 1-3 per cent. better investment from the standpoint of durability and cost per year of service.

Wouldn't it be good business for you to replace your old separator with a Renfrew and cut down your cost of producing butter-fat?

Write for our Catalogue and Dairy School Tests of the Renfrew.

The Renfrew Machinery Company, Limited

Head Office and Works: Renfrew,
Ontario.

Branches: Montreal, P. Q.; Sussex,
N. B.; Milwaukee, U. S. A.

Other Lines: Renfrew Handy Two-
Wheel Truck Scale; Happy Farmer
Tractor; Renfrew Oil Engine.

