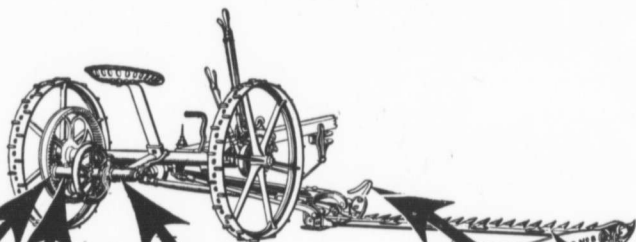


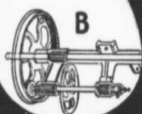


THE
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REVIEW

FEBRUARY
NUMBER - 1912



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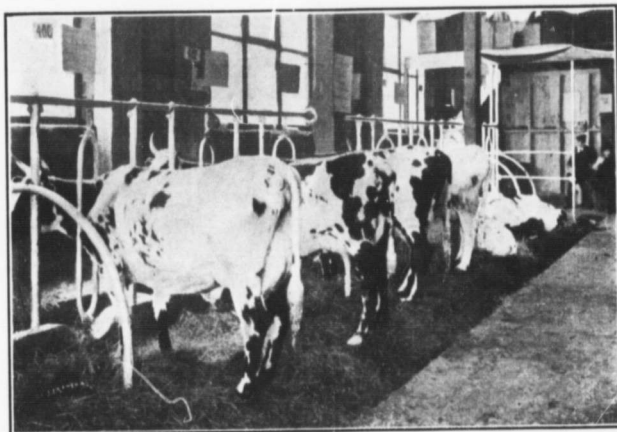
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THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XXIV.

FEBRUARY, 1912.

NO. 5

Romantic and Picturesque Spain

RAMINO DIAZ.

"The Niobe of Nations! there she stands,
Childless and crownless in her voiceless woes,
An empty urn within her wither'd hands,
Whose holy dust was scatter'd long ago."

General Remarks

HOW many legends and traditions, true and fabulous; how many songs and ballads of love and war and chivalry are associated with dear old Spain!

Spain is a romantic country. Its romanticism is derived from the brilliant regions of the East and from the high-minded school of Saracenic chivalry. It is a country apart; the habits, manners, and modes of thinking are very different from the rest of Europe.

Spain is poor, but her people are happy. Their temperament and the beautiful southern climate help them. They are clever, poetical, quick-witted, and proud-spirited. Their passion is story-telling, which generally deals with miraculous legends of Saints, perilous adventures of travellers, and daring exploits of robbers.

"The Patio."

The city is in darkness and we are wandering around the streets. The notes of a guitar and the click of castanets and the singing of typical Spanish songs attract our attention. We go into a patio or court-yard and there we see a scene of true Spanish festivity. Singers, players, dancers,

and belles with their beaux are gathered together. They are dancing the popular fandango. The songs are amorous ditties, moorish romances, and ballads. Let us leave them enjoying themselves and let me give you a description of the patio. It is surrounded by marble columns, paved with flag-stones. A fountain in the middle with flowers all around it make it gay. The walls are covered with a thick matting of vines. The ivy, passion flower, jasmine, honeysuckle, climbing-rose, and other creepers weave this mat with their interlaced leaves, and adorn it with their flowers. A considerable part of the patio is covered with a leafy arbor and in its centre rises a mass of



potted plants, grouped closely on wooden shelves. There are carnations, roses, sweet casil, southern wood, kneeholy, Hottentot cherry, laurel and quantities of sweet four-o'clocks. All around there are borders, fitted with flowers too, and as a background to the flowers there are hedges of reeds and canes. The bees and wasps buzz about and make the patio lively during the day, and the nightingale furnishes music through the long summer night. What a beautiful scene for a painter.

The Feudal Castle.

The morning is bright and balmy. The valley before us presents a beautiful view. On the opposite height ruined towers may be seen. They are the remains of a powerful Moorish castle. Many are the legends that make it so romantic. The legend attached to the castle in question was told to us by an old lady.

"It was in the 15th century when those ruined towers you see on yonder hill were inhabited by Count Rodrigo, a tyrant who made slaves of the peasantry. He had an only daughter, the Countess Olimpie, who fell in love with a poor but gallant troubadour. The father of Olimpie was not satisfied with his daughter's lover. He wanted her to marry Don Diego de Ximenez, a young cavalier who had distinguished himself on different battle-fields; and according to Spanish custom arranged for the marriage.

One stormy night, unseen in the darkness, this young troubadour made his way to the window of his lady love. Upon becoming aware of his presence she lowered a rope ladder and he entered her room. But her father had become suspicious of a secret attachment between the

lovers and had her closely watched. The troubadour was slain, and the Countess rather than become the wife of Don Diego died by her own hand. It is related that in sorrow and remorse the Count Rodrigo later committed suicide, and since that time the castle has been haunted.



When great storms rock the mountains the melodious voice of the troubadour may be heard. Clothed in a white gown the fair Olimpie is seen listening to the song, while below with naked swords the Count Rodrigo and Don Diego are watching. Around all, a fitful, ghastly, yellow light intermittently wavers and vanishes. And in all this district no peasant can be persuaded to approach the ancient stronghold after night-fall."

Rural Spain.

Spain as a whole has not the charms of voluptuous Italy. She is not a soft southern country as many writers picture her. In some aspects she is stern and melancholy, but in others possesses a charm and a beauty

peculiarly her own. Tuan Valera, a famous Spanish writer, thus describes the south of Spain: "Among the rock roses, the tamarinds, the lentils, and the laurestines, in the thickets of the craggy sierra, in the shade of high pines and close branching cork oaks live the valiant boars and the fleet-footed deer. In all the fertile plains abound rabbits, hares, partridges, moorhens, and every variety of dove, from the wild gray pigeon with white neck to the stock dove. The olive crop has no sooner begun to ripen than the thrushes flock over from Africa, filling the air with living clouds. Linnets, loriots, and yellow hammers make the spring merry with their songs. The Guadalquivir furnishes fat shad and enormous pike, while in all the small rivers and streams are found an abundance of eels. The flora of this country is favored by a kindly heaven in whose zenith, according to popular conviction is placed the throne of the Holy Trinity. It is enough to know that the thousand and one orchards of Cabra are an earthly paradise. There, if mythology were still in fashion, we might say Pomona had placed her throne, and continuing in the same vein we might add without the least hyperbole that Pales, the god of flocks and shepherds, reigns in the lonely regions of the desert, Aves in the fields that extend between Baena and Valenzuela, while Bacchus holds sway over the Moriles, whose wine excels that of Terez (Sherry) in every way."

The Spanish Girl.

Beauty and grace are common gifts among the Spanish girls. They walk and dance charmingly. Country dances, the waltz, and the polka are becoming general, but the fan-

dango still remains most popular. The girls are almost always engaged while young to some one chosen by their parents. The ensuing courtship would be considered very strange in this country. Punctually the maiden appears at her window every evening to talk to her lover, and in this manner the love-making is accomplished. These engagements often last for many years but when finally the Spanish girl does marry she occupies an enviable position, reigning a veritable queen in her own household.

The Spanish girl has a deeply sympathetic nature, and is free from



false sentimentalism. She is of a deeply religious nature and in the church finds a source of comfort in all her woes. She is healthy and vigorous, rising early and often taking a long walk

in the country or in the parks. Perhaps her most conspicuous virtue is her womanliness—for she is above all else a woman, capable above all things of making a happy home. One travelling through the country and observing her beauty and womanly charm in the rural districts must exclaim as did Washington Irving: "Give me the rude mountain scramble; the half wild yet frank and hospitable manners of her people, which impart such a charming atmosphere to romantic old Spain."

Pruning Young Apple Trees

F. L. REEVES

IT is not generally realized that when a tree is taken from the nursery row, a large part of the root system is left in the ground. The balance between the roots and the tops is thus destroyed, and obviously a part of the top should be removed. All bruised and torn roots should be carefully removed and cut back to healthy tissue, leaving smoothly-cut ends that will readily heal; if this is not done, decay is likely to set in, which may seriously injure the tree. Long, straggling roots may well be shortened, and any tangled mass of fine roots should be shortened and thinned.

Form of Tree.

In training trees, one of two ideals must be adopted, known as the pyramidal and vase forms. The former preserves the leader, which is made to form a central shaft to the tree. This style has the advantage of more bearing surface, as the leader grows and in time forms a "two-storied" tree. The objection to tall trees are apparent, and need not be discussed here. Some varieties, as the Gano, Ben Davis and Northern Spy are inclined to produce too many branches, and because of their position they make a weak growth and produce inferior fruit. Eventually the best fruit is produced at the top of the tree.

The leader is done away with in the vase form, and a few limbs, usually not more than five, are chosen to form the top. A more or less open-centered tree is thus formed, but by skillful pruning this space is occupied by branches of bearing

wood. Very tall trees are thus avoided.

Shaping the Newly-Planted Tree.

First there are two types of trees used for planting, the yearling tree and the trees two years or more from bud or root graft. The older trees either have their heads formed in the nursery or have the lower branches removed so that the scaffold branches must be selected from the remaining upper shoots. As these often form a poor framework strong yearling trees are always preferable. Should the older tree be supplied with suitable limbs at the point where the head is desired, from three to five preferably three, should be selected and these shortened to a sound bud within twelve or fourteen inches of the main stem.

Yearling trees which may be reasonably expected to send out branches all along the stem should be headed back to eighteen inches above the point where the lowest limb is wanted.

The term "low-headed" is a relative one, but a top may be considered low when the first branch is 30 inches from the ground. Should suitable branches fail to grow, one of the lower branches must be developed to form a new head.

The trees should be gone over several times during the first summer to remove surplus shoots, and especially those that push out below the point where the lowest branch is wanted. Occasionally some of the upper branches develop a vigorous growth at the expense of the others.

These should be headed back so as to give all a chance to develop, otherwise some of the important scaffold limbs may be very weak at the close of the season.

When a branch is headed back, great pains should be taken to make a slanting cut just above a sound bud. A sharp knife is better for this purpose than the pruning shears, for the reason that on small limbs a cleaner, sharper cut can be made. The cut should be started a little below the bud, and with one movement the blade is brought out just above the bud. This will leave only a small surface exposed. Where cuts are made too far above or too close to the last bud, dead stubs will later be found which are more or less objectionable. If made too close the bud may be so injured that a stub is formed that will die back at least to the next sound bud.

The position of the buds on the branches is of considerable importance in pruning. For example, one would not expect a bud situated on the lower side of a nearly horizontal limb to develop an upright growth comparable to one on the upper side. In general, then, one should cut off the branches just above a bud that points in the general direction it is hoped the branch will take. One cannot hope to overcome varietal tendencies entirely, but they may be modified. By cutting to outside buds, the upright growing kinds may be spread somewhat, and similarly, the spreading varieties may be contrasted by cutting to inside buds.

As soon as the trees are planted, the top should be cut back as described above. With yearling trees a profusion of branches will be pushed out. By the time these branches begin to grow, the roots are established,

and new ones formed, so that an adequate supply of food materials is provided. It will be remembered, however, that the plant cannot use these materials until they have been made over into food in the leaves. It is for this reason that a large leaf surface is necessary; and this surface is also desirable to afford shade protection from the sun.

The kind of top which the tree is to assume is developed with the first season's pruning, which should be begun in most sections not earlier than the first of March. If performed earlier, a long time must elapse before the wounds can heal, and necessarily the cut surfaces are exposed that much longer to the drying action of the sun, wind and frost. Then, too, there is always more or less danger from winterkilling after the time when early pruning is done, so that the trees would need to be gone over a second time.

If the lowest branch has been formed at twenty inches from the ground, the highest branch should be at least a foot above it; two feet would be better. A common mistake is to cut trees back too far, thus crowding the branches. This mistake often results in long willowy branches that droop with a load of fruit; and this is the main reason for condemning low-headed trees.

It is a common but mistaken notion that trunks gradually get longer as the trees continue to grow. In forming the head one should have in mind what the appearance of the limbs will be when they have attained a diameter of six or more inches.

Second year.—It may be regarded as a rule that when a limb is cut back, unless the cut is made just above a strong lateral, two or more branches will start near the cut end,

and some of the lower buds will also develop into shoots. The usual practice is to allow two of these to grow to form additional framework for the tree. The two chosen should be some distance apart, one at the end and one farther back, and so placed that the formation of notches will be impossible. The secondary branches are cut back from one-half to two-thirds of their growth, and the surplus laterals are shortened to one or two buds, so that they may later develop fruit spurs and also shade the branches with their clusters of leaves. If too many have formed, some of them should, of course, be removed.

Some growers object to heading-in trees at all, for the reason that all of the buds are likely to develop into branches and so the formation of fruit-spurs is retarded, and the surplus branches must be cut out. But it is highly desirable that all of the buds should develop, and then by heading them back to spurs, as just mentioned, the formation of fruit-spurs is largely under the control of the pruner.

Any tendency toward one-sidedness may be corrected to some extent, and open spaces filled in by choosing branches which grow in the general direction of the vacancy. Then, by cutting to a bud, that is on the side toward the opening, such faults may be gradually overcome.

Third Year.—The framework of the tree should now be well formed, so that it will require less attention from this time on. Surplus branches and those that rub or are inclined to form crotches should be removed. Very vigorous growths should also be headed-in.

Application to Pyramidal Trees—Thus far the discussion has been confined to the shaping of open or vase-formed trees. If a leader is desired, the treatment is practically the same, except that the upper shoot is allowed to grow with little heading-in. Branches are allowed to develop on the leader at proper intervals, using the same care as to location, pruning and development as in the former case.



I would be true, for there are those who trust me;
 I would be pure, for there are those who care;
 I would be strong, for there is much to suffer;
 I would be brave, for there is much to dare.
 I would be friend of all—the foe—the friendless;
 I would be giving and forget the gift;
 I would be humble, for I know my weakness;
 I would look up—and laugh—and love—and lift.

—Howard Arnold Walter.



"ORGANIZATION."



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Second Prize

JAMES LEVER

The Beggars Under the Bush

HENRY VAN DYKE.

AS I came round the bush I was aware of four beggars in the shade of it, counting their spoils.

They sat at their ease with food and a flagon of wine before them and silver cups, for all the world like gentlefolks on a picnic, only happier. But I knew them for beggars by the boldness of their asking eyes, and the crook in their fingers.

They looked at me curiously, as if to say, "What do you bring us?"

"Nothing, gentlemen," I answered, "I am only seeking information."

At this they moved uneasily and glanced at one another with a crafty fierceness. Their crooked fingers closed around the cups.

"Are you a collector of taxes?" cried the first beggar.

"Certainly not," I replied with heat, "but a payer of them."

"Come, come," said the beggar, with a wink at his comrades, no insult intended. Only a prudent habit of ours in these days of mixed society. But you are evidently poor and honest. Take a chair on the grass. Honesty we love, and to poverty we have no objection—in fact we admire it."

So I sat down in the shade of the bush and lit my pipe to listen. In a hot field below a man was ploughing in the heat of the sun. The reins hung about his neck like a halter, and he clung to the jerking handles of the plough while the furrows of red earth turned and fell behind him like welts on the flank of the hill.

"A hard life," said the second beggar, draining his cup, "but healthy.

And very useful. The world must have bread."

"Plenty of it," said the third beggar, "else what would become of that?"

He nodded down the valley, where tall spires pointed toward the blue and taller chimneys veiled it with black. The huddled city seemed to move and strain and quiver under the dusky curtain and the fumes of its toil hung over it like steam from a sweating horse.

"It is a sad sight," said the fourth beggar, waving his hand with the gesture of an orator. "Shakespeare was right when he said, 'God made the country and man made the town.' Admit for the present that cities are necessary evils. The time is coming when every man must have his country place. Meanwhile let us cultivate the rural virtues."

He smacked his lips and then lifted the flagon.

"Right," said the first beggar, "a toast, 'To the simple life.'"

So the four quaffed a cupful of wine—and I a puff of smoke—to the simple life.

In the bush was a bird very busy catching flies. He perched on a branch, darted into the air, caught his fly, and fluttered to another branch. Between flies he chirped and fluttered cheerfully.

"Beautiful bird," said the first beggar, leaning back, "a model of cheerful industry. What do they call him?"

"A warbler," said I, "because he has so little voice."

"He might sing better," observed

the second beggar, "if he did not work so hard catching flies."

But the fourth beggar sighed and wiped the corner of his left eye, for he was a tender-hearted man on one side.

"I am thinking," said he, "of the poor flies."

"Bet you a hundred to ten he doesn't catch the next one," said the third beggar.

"Done," cried the others, but before the stakes were counted out the bird had flown.

"Tell me, sirs," I began, when they had stripped the gilded bands from their cigars and lighted them, "what is it that makes you all so innocently merry and contented in this troublous world?"

"It is a professional secret," said the first beggar. "If we tell it, you will give it away."

"Never," I answered. "I only want to put it into a poem."

The beggars looked at one another and laughed heartily. "That will do no harm," said they, "our secret will be safe there."

"Well, then," said the first beggar gravely, "it is religion. We approve the conduct of Providence. It must be all right. The Lord is on our side. It would be wicked to ask why. We practise the grace of resignation, and find peace."

"No," said the second beggar smiling, "religion is an old wives' tale. It is philosophy that makes us contented. Nothing could be unless it was, and nothing is different from what it has to be. Evolution goes on evolving all the time. So here we are, you see, in the best world possible at the present moment. Why not make the most of it? Pass me the flagon."

"Not at all," interrupted the fourth beggar loudly, "I will have none of

your selfish religion or your immoral philosophy. I am a Reformer. This is the worst world possible, and that is why I enjoy it. It gives me my chance to make orations about reform. Philanthropy is the secret of happiness."

"Piffle," said the third beggar, tossing a gold coin in the air. "You talk as if people heard you. The secret of happiness—religion, philosophy, philanthropy—poppycock. It is luck, sheer luck. Life is a game of chance. Heads I win, tails you lose. Will you match me, Master Poet?"

"You will have to excuse me," I said, "I have only a penny in my pocket. But I am still puzzled by your answers. You seem of many minds, but of one spirit. You are all equally contented. How is this?"

The eyes of the beggars turned to the piles of booty in front of them, and they all nodded their heads wisely as if to say, "you can see?"

A packet of papers lay before the first beggar and his look lingered on them with love.

"How came you by these?" I asked.

"An old gentleman gave them to me," he answered. "He said he was my grandfather. He was an unpleasant old fellow, but God rest his soul. These are all gilt-edged."

The second beggar was playing with a heap of jewels. He was a handsome fellow with fine hands.

"How did you get these pretty things?" said I.

"By consenting to be married," he replied. "It was easy enough. She squints, and her grammar is defective, but she is a good little thing."

The third beggar ran his fingers through the pile of gold before him, and took up a coin, now and then, to flip it in the air.

"How did you earn this?" I asked.

"Earn it?" said he scornfully, "do you take me for a laboring man? These fellows here lent me something, and I bet on how much corn that fellow down there with the plough would raise—and the rest—why, the rest was luck, sheer luck."

"And you?" I turned to the fourth beggar, who had a huge bag beside him, so full of silver that the dimes and quarters ran from the mouth of it.

"I," said he loftily, "am a Reformer. The people love me and give me whatever I want, because I tell them that these other beggars have no

right to their money. I am going to be President."

At this they all burst into shouts of laughter and rolled on the grass. Even the Reformer chuckled a little.

While they were laughing the ploughman came up with an axe and began to chop at the bush.

"What are you doing to our bush?" cried the beggars.

"Chopping it down," said the ploughman.

"But why?" cried they.

"I must plough this field," said he.

So the beggars grabbed their spoils and scuttled away to other countries, and I went on over the hill.



PUT ON THE BRAKES.

What's the use of all the hurry,
 All the skurry and the flurry?
 There's no use to try and get ahead too fast;
 Ease up sometimes on the hustle
 That is strainin' every muscle,
 Just rest up and watch the tide of life go past.
 'Course, you've got to keep a-goin'
 If you want to keep a-growin',
 But you do not have to hit the topmost speed.
 There's no use to strain your b'iler
 To become the fastest miler,
 For you're usin' up the strength you're goin' to need.

Feller needs a little leisure,
 And a frequent dash of pleasure,
 And he's got to sand the track and slack his pace,
 Or his engine will be breakin'
 And his nerves will all be shakin'
 And he won't be fit to finish in the race.
 'Course, you got to keep a-joggin'
 Or your wheels will all be cloggin',
 But you needn't be the swiftest in the game.
 Learn your speed and then go to it
 And you'll never have to rue it;
 Take your time and you will get there just the same.

—Brooklyn Eagle.

Stooling as a Factor in Oat Production

I. B. WHALE, B.S.A., ORANGEVILLE, ONT.

WHILE wheat continues to be the main crop grown on the fertile prairie, the oat, a member of the same botanical family, holds the first place on the Ontario farm. For many years it was grown principally as a food for horses, but, owing to its nutritive value, being rich in bone and muscle forming constituents, it is now used as a food for all classes of stock.

Many varieties of oats are being grown, early and late varieties; open and closed panicles; short, plump kernels, and long, slender kernels; some thin-hulled, others with a thick hull; some yellow, some white and some black in color.

It is a well known fact that all varieties of oats have the power of adapting themselves to their surroundings either by stooling or tillering, more stalks coming out from a single oat when not closely crowded by other plants. Strange though it may seem, there appears to be little definite information regarding the stooling of oats as a factor in determining the amount of seed which is required per acre in order to give the best results. While it is true that the stooling of the oat plant is influenced by the fertility of the soil, and the conditions of the weather, it is also true that it is influenced by the variety of grain and by the thickness of sowing. The fertility of the soil, the thickness of the sowing, and the varieties used are largely under the control of the farmer. Therefore the

stooling of the oat-crop should be closely studied by the farmer.

What work has been done shows that two bushels and one-half per acre gave better results than sowing thinner or thicker.

In the spring of 1910 the writer determined to find out for his own satisfaction—as far as one year's results could be relied upon—which rate of sowing would give the best all-round results.

Three varieties of oats were chosen for the experiment, Tartar King, Yellow Russian and Joannette. These were planted on good clay loam soil, in plots containing one-thousandth part of an acre. The oats were sown in rows eight inches apart, and from 1.98 inches to .495 inches apart in the row, according to the rate of sowing which was one, two, three and four bushels per acre respectively.

By hand-picking the seed, a uniform sample of medium sized kernels was got of each variety and the plots were sown on April 22nd and 23rd.

Cool, wet weather followed and germination was slow. The Joannette were first and the Tartar King last to germinate. At first, growth was most rapid where the oats were sown the thickest and germination was somewhat better.

The stooling was closely watched and noted. The Joannette stooled best, having from three to seven stalks to a plant. The Yellow Russian from three to five while the Tartar King had but one to three.

On the one and two bushel plots of each variety the straw was taller, stiffer and darker colored than those sown more thickly. The heads of the grain were also longer and larger. With the thicker sowing the straw was spindly and the heads small.

The following table gives the results of the experiments. It shows the percent. of rust, which was a comparison between the varieties; also the average height, the time it took to mature, weight per measured bushel, yield of straw and grain per plot; also the yield figured out per acre:

Variety	Bus. per acre	Days to mature	Average height, inches	per cent. of rust	Weight per measured bus.	Weight of straw per plot, lbs.	Weight of grain per plot, oz.	Weight of straw per acre, ton	Weight of grain per acre, bushel.
Joanette	1	108	42.	6	34.5	4.5	38	2.25	69.85
"	2	108	41.5	6	34.	5.	37	2.5	68.
"	3	106	40.	5	35.	4.	36	2.	66.37
"	4	106	38.	4	35.5	3.8	36	1.9	66.37
Yellow Russian.	1	113	45.	9	33.	4.5	33	2.25	60.6
" "	2	113	45.	9	33.	4.8	32.5	2.4	59.7
" "	3	111	43.	8	34	5	34	2.5	62.5
" "	4	111	42.	7	33.5	5	33	2.5	60.6
Tartar King . . .	1	116	50.	12	32.	3.5	30.	1.75	55.14
" " . . .	2	116	48.	12	32.5	4.	30.5	2.	56.06
" " . . .	3	113	47.	10	33.5	5.	33.	2.5	60.6
" " . . .	4	113	45.	8	34.	4.5	32.5	2.25	59.7

In looking over the table of results obtained from the experiment it will be seen that the days of maturity differed both in variety and rate of sowing. The weather being exceedingly warm one or two days made a big difference in the ripening, and the oats were all cut as near the same stage of maturity as possible.

With each variety, the rust affected

the thin sowing to a greater extent than the thicker sowing. The weight per measured bushel also varied somewhat, but the thick sowing tested the highest in each case.

In weight of straw we again have varied results with the exception of the Joanette. Sowing three bushels per acre gave the heaviest weight of straw.

After watching the growth of the plants from the time the seed germinated until the crop was ripe, and then considering the results obtained in yield of grain and weight of straw, it was plainly seen that stooling was

an influential factor in crop production. However, in most cases the thicker sowing gave the largest yield of grain, although the increase in yield over the thinner sowing was not always in proportion to the amount of seed sown. In some instances the thin sowing yielded best. With the Yellow Russian one bushel gave the same yield as where four bushels

were sown, showing that one kernel in the first case, produced as much as four kernels where four bushels were sown.

Throughout the experiment the Yellow Russian variety impressed the writer most favorably. It was a medium stooler, gave a good quality of straw of fair length, and kernels of grain were bright and plump, averaging 28.7 per cent. of hull.

The Joannette variety showed the greatest stooling propensity and gave the heaviest yield of grain, averaging 24.1 per cent. of hull. But the straw was very fine and spindly, not having the quality of the Yellow Russian.

The Tartar King, while a good oat in many respects, did not prove to have the power of adapting itself to its surroundings by tillering as did the other two varieties. While the kernel was large, it was thick in the hull, averaging 36.8 per cent. The straw was stiff and coarse, being the opposite of the Joannette variety. The experiment shows that coarse straw and thick hulls go together and are accompanied by poor stooling properties.

Since the experiment shows one variety of oat to have greater stooling propensities than the other, the farmer must use his own judgment as to the thickness of sowing, taking into consideration the fertility of the soil. All varieties stool better on rich soil than on soil lacking in fertility.

From the figures shown, it is plainly seen that a heavier yield of grain is obtained from less seed sown of the Joannette variety than of the Tar-

tar King grown under similar conditions. The experiment shows two bushels per acre of Joannette, or three bushels of either of the other two varieties to be liberal seeding, but no hard and fast rule can be laid down. As soil and weather conditions differ with different localities, the farmer should determine the proper amount of seed to sow on his particular farm.

It is impossible for the individual farmer to carry on the experiments necessary to determine the exact amount to sow of all the different varieties, but our experiment stations are endeavoring to ascertain the stooling properties of the most promising varieties of oats, so as to calculate the proper quantity of seed to sow per acre. The farmer can take one variety of oats, and sow several plots at different rates per acre. From these he can judge which is the best thickness to sow the seed on his land. By comparing his results with those obtained at the experimental station, a ratio can be struck that will hold good with other varieties of oats he might wish to sow.

Instead of the usual haphazard way of sowing a certain amount of seed, because that particular amount is customary, the farmer should study the conditions on his own farm. If one sows too much grain per acre the straw is spindly and the heads small; if too little is sown the crop has a greater tendency to rust, to be immature in the straw, and to break with a storm. But these difficulties can be overcome by a knowledge of the different varieties and their effect on crop production.

Care of Gasoline Engine on the Farm

THE popularity of the gasoline engine as a source of cheap power has been the cause of their installation on many farms in Ontario. How long this popularity will last will depend largely on the man who operates the engine. Where engines are now installed, everything is in first-class working order and the engine does everything claimed for it. A new engine will run for a time under gross neglect, but if the neglect continues, it will become a source of trouble. A new engine taken care of will run satisfactorily during the lifetime of the operator.

Know your engine; acquaint yourself with every working part and understand the function of each. Study each part from battery to balance wheel before attempting to operate.

Proper lubrication is of the utmost importance, so do not use oils of uncertain composition in engine cylinder. Use the highest grade cylinder oil and see that the oil feed or lubricator is doing its part. Keep the oil and cup grease supplies clean and absolutely free from dust and grit. The engine's power may be reduced one half by neglect in not keeping cylinder properly oiled or by using a low grade oil and allowing cylinder to carbonize.

On those farms where the engine is used every day, the cylinder should be flushed out each week with high grade kerosene. A pint of coal oil poured into the cylinder at close of day's work and thoroughly splashed

over the surface (that has been exposed to the exploding gasoline vapor) by cranking the engine with exhaust valve and compression vents open, will loosen up any sort of foreign substance that may have accumulated and put it in such a condition that it will be blown out through relief valve on starting the engine.

By using only high grade gasoline little trouble will be experienced with accumulations of soot or grease on points of spark plug. By keeping all electrical connections tight, bright and clean, stops may be avoided. By purchasing batteries that give a high efficiency test, 25 ohms or better, and using enough to give a good strong spark, ignition troubles will be avoided. One "dead" battery may spoil a system. Batteries "die" quickly sometimes, so when your engine stops look to the sparking device first.

Engines of the thermo syphon cooling type should have cylinder jackets and connections drained when freezing weather occurs.

Keep the engine clean. Keep valves tight. See that no leaks occur through loose packing, loose cylinder rings, loose valves, etc. Loose bolts, overheated cylinders and mufflers are a source of danger. Go over your engine before starting every time and see that everything is as it should be. This precaution may prevent a wreck. In a word take as good care of your engine as you do of your favorite horse and it will be a source of as much pleasure and profit.

Agricultural Journalism

CHARLES C. NIXON.

"Journalism offers a living. Its reward is not riches. But a great and mighty work awaits anyone who in this day can step out and lead the cause of agriculture. It is the grandest of all professions. 'Its scope is as wide as the world.'"

A Profession Offering a Sphere Worth While.

Napoleon said: "Get your principles right and the rest is but a matter of detail." Had he known aught of journalism he might have said: "Let a man lay his foundation soundly, give him the opportunity, and he'll come through to be a successful journalist all right." Journalistic work, like other difficult work, is easy when you know how. It is simply a matter of juggling twenty-six little black marks and six punctuation signs, and lo! the work is done. But before one can "juggle" the little black marks and the punctuation signs acceptably there must precede some course of training.

The journalist must have a well stored mind. He must have the faculty of accurate observation. Then he must have the natural ability, or must develop it, to express himself on paper, and to do it quickly. The agricultural journalist must have and develop these qualifications, and he must also be equipped with a working knowledge of all things pertaining to the farm. Indeed if he would keep properly in touch with his readers he must be, or have been, a practical and successful farmer, capable of doing all kinds of farm work, and must know from first-hand experience just what should be "next"—when and how to do it. Then, granted that he has the journalistic sense—the newspaper "nose"—and has such a liking for his

work that his very heart and soul enter therein, that man cannot fail of being a successful agricultural journalist, and his work have a far-reaching influence for uplift and good.

The Rock on Which to Build.

Education provides the tools with which the journalist works. Yet education, as ordinarily thought of, will not make a journalist. It is, however, the rock base on which to build.

Journalism must be learned in the editorial room. It cannot be learned in college. An attempt to teach one shoemaking as a fine art from a series of addresses would bring well-nigh as satisfactory results. The substructure, not the superstructure, is the grounding for a career in journalism. The former you may get in college; the latter must come from the newspaper shop.

In Canada there is not an unlimited field calling for an unlimited number of agricultural journalists. The field is fairly extensive, however. It is growing, and like other professions, there is room at the top. There is a great and growing need for more and better agricultural writers—writers on farm topics who know whereof they write, and who have an estimable standing in their home communities.

During the past three years scarcely one acceptable article have we received from contributors other than on solicitation. Articles there come

a-plenty. But they lack in the essential features of the practical and the condensation demanded by the leading farm papers and magazines. Men without a message seek to fill our columns at so much "per." Little, if any, of this gets past the knowing editor of the progressive, practical farm paper.

A man in need has been defined as one not having something that someone else wants. The agricultural press knows what it wants. It is looking for men to supply the need. At present the supply comes mainly from men untrained in the art of writing, but having a message, gained from experience, which in blood-sweat they tear from their very souls. This matter is difficult to get, but once gotten it is worth the effort and it counts when put in type and circulated. Men who are able, and will seek to better supply this want will never be required to live in need. Too many will seek for the product they will offer.

A Call for Writers.

And so it is a better class of writers—agricultural writers—that is wanted. Young men at college and ex-students who have been at college—to these in the days to come the farm press must look and pay for help.

Then there is a yet more urgent call for farm trained men to write. Great economic questions have arisen in this young country. These questions are such that our farmers alone must be the prime movers in working out their solution. Happy will be that man (or men) who in these days of his youth fits himself to take his place in Canadian rural citizenship, not only in his own community, but throughout the land, by virtue of his

pen brought to bear upon these economic questions voicing his thought on paper, speaking to and leading on the great voiceless multitudes—the farmers and working people who little know how to and scarce can protect their own.

To write an article is really—like making a speech—a very simple matter. First it requires that one have something to say, then say it. Most people look upon a task of writing for the press as something quite apart from them. The task grows bigger and bigger as they think of it, whereas it is only a matter of putting down one thing after another in logical order, observing those rules and artifices of English composition known to any student who has passed the fourth grade of our public schools.

It is quite wrong to think of an article on a practical farm subject as something vast,—something beyond one's ability to put down on paper. Granted, of course, one must know his subject. He can discuss it intelligently. Then why can he not write it?

The best way to begin an article is to plunge right into it. Let the "atmosphere" take care of itself. No one cares to read the introduction. This is a busy world. Time is too valuable for one to wade through unnecessary frills and furlowes. The secret is then to wade right in. Say what you have to say. Then quit—not a hard thing, to be sure.

Not a day passes but evidence in abundance is forthcoming, all going to demonstrate that plenty of talent is scattered about out of which good writers can be made. The best articles for the farm press most frequently come from men wholly inex-

perienced in writing. These need but a little training. They need a little more courage. They need to know that the other fellow is not so sharp or clever after all; and behold! there would be writers "to burn."

Journalism As a Profession.

But what of the professional! What does professional journalism offer as a sphere worth while? How does it compare with other branches of professional work?

It offers a living. Its reward is not riches. It does offer a sphere worth while. Journalism is the grandest of all the professions. Frank Munsey, probably the greatest journalist of the day says: "Its scope is as wide as the world." The lawyer has comparatively few clients. The doctor's patients will not number many more. The clergyman's voice reaches a thousand ears, while the writer talks to hundreds of thousands—often to millions. Formerly the orator swayed the people, but this is the day of the writer. Through the medium of the press he wields an influence so vast that he has become an unequalled power for good or evil.

"If you fix upon journalism for your life work, you will enter upon a career that has no limitation. There is, moreover, no calling, I believe, so fascinating. The youngster who for the first time sees something in the paper that he has fashioned from his own vocabulary is on the highest peak of earthly happiness. This

sense of pleasure never quite leaves one, no matter how much he writes, or how old he grows. A man may weary of law and medicine and business and idleness and amusement, but he will never cease to get pleasure out of writing, if he puts his heart into it."

Opportunity for Leaders.

A great and mighty work awaits anyone who in this day can step out and lead the cause of agriculture; lead it in the practical things of every-day farm work, lead it on the great economic questions of the day.

The call for the right men is urgent. For years all have given attention to the production of wealth. Little thought has been bestowed upon its distribution. Something is wrong. Wrong with farming, as it is known today. One prominent man prescribes one remedy, the next advances some other; another has still a third, and so on ad infinitum. Like a lot of doctors in consultation round about the sick bed of the farmer, each has his favorite prescription.

For the man who can dig down, ascertain the real facts, then sound the battle cry—he can do it effectively only through the press—history will speak well of him.

And so it behooves every young man of today not to be unmindful of his proficiency with the pen. In it he has a privilege and a duty. College men from Guelph, at least, will ever stand ready to exercise it. So may it be.



Cleaner Milk

AT this season of the year when profitable dairy cows and cows of other kinds are closely housed, and all milking is done within the shelter of a stable, the bacterial content of the milk runs very high. This is due to accumulating bacteria-bearing dust and fith that finds its way unnoticed into the milk pail. People who buy milk produced in the ordinary way, from stables where no attention is paid to cleanliness, get more than milk. They get a mixture of bacteria and milk—largely bacteria.

Recent experiments were conducted in certain stables to determine the number of bacteria and the importance of precautionary measures to avoid contamination. Air, ceiling, fixtures and windows were kept in a clean fresh condition at all times, but the bacterial content still ran high. In further attempts to lower the bacterial content, sprinkling the bedding was tried. This prevented the rise of dust particles and resulted in a lowering of bacterial content by over fifty per cent. The closed pail was used in contrast to the old style milk pail, resulting in a reduction of over twenty-five per cent. of bacteria. The wiping of the cow's udder and flanks with a cloth or sponge wrung out in a disinfecting solution, resulted in a reduction of twenty per cent. of the bacteria. Discarding the small amount contained in each teat also proved effective in reducing the number of bacteria.

Experimental tests conducted by using straw as bedding for one half of a stable and sawdust as bedding for the remainder, gave this result: more than twice as many bacteria in milk from cows bedded with straw.

Milk drawn from the udder of a healthy cow through a sterilized tube into a sterilized vessel, without coming in contact with the air, will be milk, and nothing but milk; it will keep indefinitely if properly sealed. The lactic acid bacteria are the ones that cause milk to sour under normal conditions. The greater the number of lactic acid bacteria that fall into the milk while milking is going on the quicker the milk will sour. It is impossible to secure germ-free milk even under good stable conditions, but much can be done to reduce the bacterial content by using the covered milk pail, by discarding the first four squirts, by moistening the bedding, and by wiping the udder and flanks of the cow.

Profit in Cows.

The superior dairy cow is the one that can profitably use a large amount of feed above that required for maintenance. The unprofitable cow is the one that cannot use a large amount above her maintenance ration and make a profit.

During the year 1910 thirteen O. A. C. dairy cows that were milked for more than 300 days (of the said year) gave profits varying from \$16.04 to \$74.82. The milk yields varied from 4,761 lbs. up to 17,173 lbs. The butter fat varied from 3.1 per cent. to 5.2 per cent. The butter yield varied from 291.94 lbs. up to 687.43 lbs. Total revenues per cow for butter fat varied from \$62.56 to \$147.31; fat valued at 25c per lb. The good old cow Boutsje yielded the profit of \$74.82. It will be of interest to Holstein men and ex-students to know that a young son of this great cow is now growing up in the herd

and may figure in pedigrees of college bred stock in future years.

Beginning With Pure Bred Live Stock

The great improvers of breeds began with a few choice animals and bred up to a large herd, using more or less inbreeding and were always ready to select and use the results of ripened experience.

The young breeder hoping to produce a first class herd of animals, of any of the four classes of live stock, must get in mind the desirable type, and then breed strictly to the ideal of that type. Three or four animals, all of good strong breeding and of uniform type, afford a good start. Do not hesitate to pay good prices for foundation stock.

The application of the principles that have produced animals of outstanding excellence in the past will produce them in the future. There is no reason why high class pure breeds should not be raised on the average farm. No pretentious barns are needed, nor any of the equipment of the so-called "stock farm." Patience, perseverance and an everlasting ability to stick it out through disappointments are needed more than anything else.

Now that we have reached the season of pure bred stock sales, an opportunity is again offered to young men to study breeds, stockmen, sale ring conditions, etc. Take advantage of this if you can.

The Value of Advanced Registry.

To the average mind the words advanced registry seem to be a more or less mystical insignia attached to the name of a dairy animal.

The Holstein breeders call it the advanced registry official. The Gurn-

sey breeders use the name advanced register. The Jersey breeders call it the register of merit. All have one aim in determining a cow's producing capacity, or the ability of a bull to reproduce in his female offspring the milk and butter fat producing traits of his female ancestors.

The man who buys an animal with advanced registry backing is practically safe, while one who buys without such backing is taking big chances.

Evidence of value in advanced registry records is shown in the following definite illustrations. The calf borne by the Holstein-Friesian cow that made the world's record for production in a year, was sold at a very low price before the record was made. As soon as this cow's owner realized what she was doing he bought the calf back and sold her when the record was complete for \$8,000. Was this official record of any value to the seller? The Jersey cow that holds the world's record for three consecutive periods of lactation was bought for less than \$200 before it was known what she could do. Today she is valued above \$10,000. Has her record been of any value? Ten thousand dollars would not buy the Gurnsey cow that holds the advanced registry record for the Gurnsey breed.

All can not hope to produce \$10,000 cows, but the milk scale and Babcock test as used in advanced registry testing will help the breeder and herdsman with advanced registry ideals to approach the \$10,000 price. If your cows freshen in February or March, Mr. Ex-Student, see what you can do at home in your own stable, now that you have time before the spring work starts.

Artificial Incubation

THE incubator is deserving of a place in the poultry industry.

Its use becomes almost a necessity on our large poultry farms. Although as yet it has not attained the same degree of success as the natural system in the percentage and the quality of the birds hatched, yet it is a machine that can be relied upon, that can be put into operation at any season of the year. In the natural system we are dependent upon a fickle hen, when she balks we are the losers.

The incubator would not be a profitable investment for the man who only raises a few birds to renew his small flock; but where a hundred and fifty or more are intended to be reared, and early hatches are desired, the question of purchasing an artificial machine is worthy of consideration.

The principles involved in the artificial system are the same as in the natural system. The conditions existing in the incubator have been modeled after those present under the hen.

In the natural, or hen hatching system we find the following conditions:

1. Heat for the eggs is obtained from the contact with the hen's body.
2. The eggs are ventilated by the air passing through the feathers of the hen.
3. The eggs are turned frequently by the hen's feet. This is for the purpose of keeping the yolk from sticking to the shell, and to allow the uniform development of the young chick.
4. The moisture required by the eggs to prevent too great a drying out, is obtained from the damp earth in the nest. Also from the hen's feet

which often become moist when she is off feeding.

5. The eggs are cooled and aired as often as the hen leaves the nest to feed and exercise.

In the incubator these conditions have been artificially supplied, although not yet entirely to such a degree that equal success is always obtained.

The heating is usually performed by a lamp, which is situated on the exterior of the machine, the fumes of the lamp escaping, and only the heated air around the jacket of the heater passing into the incubator. Gas, electricity and coal are also successfully used for heating these machines.

Ventilation is obtained through openings in the incubator, either up or down draft being obtained.

The eggs are turned twice each day by hand.

Moisture is obtained by the evaporation of water from a tray of moist sand, or water placed in the bottom of the machine.

Cooling of the eggs takes place when they are being turned or in warm weather they may be left exposed to the air of the room for a few minutes.

There are many makes of incubators on the market, all of which are being operated with more or less success. The diffusion type is recommended by some, the radiant by others. Both are good. It is important, however, in purchasing to obtain a double cased machine with convenient access to the lamp and other parts.

Too often it is the case that the machine purchased by the amateur is operated in a poorly ventilated

place. But experience teaches him that the room or cellar in which it is to be operated should be well ventilated, and of a fairly even temperature. If the cellar is used, it should be free from the odor of decaying vegetables, or other objectionable matter.

Recent scientific investigations indicate that disease organisms found in dirty incubators are the cause of serious diseases in young chickens, hence the disinfection of the machine is the first consideration.

A ten per cent. solution of zenoleum or other similar preparation sprayed thoroughly on the interior of the machine, gives satisfactory results. The machine may then be leveled up and the lamp lighted and regulated for a couple of days, bringing the air in the machine to a constant temperature of about 103 degrees Fahr.

The eggs selected may now be placed in the machine, and the temperature properly regulated, which in case the contact thermometer is used, should be 103 degrees. For the egg thermometer it should be 100½, and for the hanging thermometer 105 degrees Fahr.

It is unnecessary to turn the eggs for the first three days, but from this

time until the eighteenth day they should be turned morning and evening. On the ninth day the eggs should be tested and those appearing quite clear, or those showing blood rings should be removed.

The lamp should be nearly filled with good coal oil every day, and the burner thoroughly cleaned. This operation is best done in the morning, so that after lighting the lamp the machine may be watched to see that it is going all right. All handling of eggs should be done before the lamp or oil can is touched with the hands, for the least oil on an egg is fatal to the embryo within.

The moisture tray is removed from the bottom of the machine on the eighteenth day, and a burlap bottom substituted for the chickens to rest upon when they drop from the egg tray as hatching proceeds.

At hatching time close attention is necessary, making sure the desired temperature is constant. In the normal hatch little assistance to the chicks is required; in fact the less the egg chamber is tampered with the better. The chicks may be left without harm in the chick tray for a day or so before removing them to the brooder.

A. T.

Money in Poultry, Bees and Apples

J. FAY

"It is possible to make \$20,000 on twenty-five acres with poultry, bees and apples," declares Mr. John Clark, of Cainsville, Ont., to the poultry students at Guelph. "Last year I sold \$2,180 worth of fruit and poultry off of five acres. Of this amount \$1,400 was received for apples, which I packed, and \$70 for culls and windfalls, which I sold to the

evaporator. My gross receipts for this year have amounted to \$4,879, and additional sales in orders now on hand will bring the total over \$5,000."

In telling of his experiences Mr. Clark said that he first became interested in the poultry business while he was working a large farm, but that the other farm work prevented his

caring for the poultry as he would have liked.

"I saw that the possibilities in poultry raising were unlimited," he said, "and that there was a great opportunity to develop the white fleshed breeds for filling the demands of the English markets. So I started with Buff Orpingtons, importing at that time six birds, at a cost of \$125. Since then I have imported more of them at various times, but have usually been "stung" in the transaction. While the Buff Orpingtons have made money for me, I think other breeds are just as profitable."

"I started by making a specialty of selling stock for breeding purposes. The first year I kept four or five different varieties, but found that would not do, so I discarded all but the Buff Orpingtons, and have stuck to them ever since. I think the most money is to be made in specializing in one variety of high class stock."

"I kept the large farm seven years, but made up my mind that I wanted a small farm where I could combine fruit with my poultry and bees." That is how I came to buy my present place of twenty-five acres."

"My eggs are not all in one basket. If anything should happen to the poultry, I can fall back on the other two, bees, and apples, to tide over a bad season. It is a combination that works well together. Beekeeping requires close attention only when the honey flow is on. More skill is required than hard work, but one

should not go heavily into beekeeping without experience."

"I use the old hen in the old fashioned way for hatching, for I find they hatch better and more vigorous chicks than I can get with incubators. Perhaps I haven't the right kind of incubators, yet mine are fitted with gas for fuel, and operate with very little trouble. For exhibition stock, hens hatch the best. What they hatch I can raise. When eggs are worth ten dollars per setting, they are too high to risk in incubators. Sometimes I operate both hens and incubators at the same time, finishing off the hatches in the machine from the fifteenth day."

"I have had some trouble to supply the necessary green food to the chickens during the summer. The orchards were cultivated in the most thorough manner up to June first, then sowed to rape, buckwheat, and oats. When it was up a few inches the chickens cleaned it off entirely, and I resowed it several times. Next year I propose to fence off part of the orchard to give the cover crop a good start before I let the poultry onto it; and then sow another strip in rotation. This year I hauled a lot of green food to the birds, such as cabbage."

In answer to a question Mr. Clark said that he spends less than \$200 each year in advertising. His catalogue costs about \$60. He thinks the best advertising a man can get, is to win at a big show, and supplement it with the use of an attractive catalogue filled with facts.

Eggs for Hatching

E. F. NEFF

In discussing this subject we must necessarily go back to the stock from which the eggs are to be produced, and the feeding and housing of this

stock. The birds in the breeding pen should be selected carefully, and should be the best that you have, or can afford to buy. They must be mature, well developed and healthy. In order to obtain stock to measure up to this standard, we must start immediately after the chicks are hatched and give them the best of attention right through the summer. The young growing birds need plenty of fresh water, shade, feed and free range in order to develop properly.

Taking for granted that the pullets are as mentioned, they should be mated with a rook of tested prepotency and virility. If you are going to mate yearling hens, then it is best to choose a good healthy cockerel to head the pen as this method of mating produces best results.

Another essential is, that the stock must be in suitable houses. The house does not need to be kept warm as it was once believed to be a necessity, but it must be draught proof, that is tight on the sides, with a good floor and roof, and yet having plenty of fresh air and light.

The feeding of the birds in the breeding pen has a great deal of significance also. Experiments conducted at the Poultry Department of the Ontario Agricultural College show that eggs from birds fed on sloppy or soft food and food with a high percentage of animal matter, such as beef scrap and green bone, etc., did

not have as high a percentage of fertility as eggs from stock that had been fed on dry food, that is food that had not been previously moistened, and a less amount of animal matter. The egg production, however, was not quite so large with the dry feed, but the fertility of the eggs was greater and the vitality of the chicks from these eggs considerably increased.

With birds of the heavier breeds it is necessary to confine the number of females to 7 or 8 to one male in a pen but with the lighter birds the number can be increased according to the activity of the male.

Care must be taken to prevent contamination of the eggs after being laid, and therefore the eggs should be gathered as soon after being laid as possible, or at least every time the feeding is done. They should then be put in a cool place, or room with an average amount of humidity, and under no consideration should they be put where it is very warm or dry, as this is apt to start the growth of the germ.

In selecting eggs for hatching it is best to choose those of uniform size and shape. In fact it is best to candle them, selecting out those that have a porous or thin shell, and keep for hatching only those that seem to be of the best quality.

In conclusion I need only to say that we must not forget to pay attention to little details if we expect to get best results.

Agricultural Notes

The art or science of milking can only be attained by those who are willing to make a study of each individual cow. To get the best results the milker must know the cow's dis-

position, temperament and physical condition, and further the milker must be of such disposition as to be in sympathy with the cow.

Remember that sunlight is the

great foe of bacteria. Take a look at the stable windows you might as well not have any if they are not serving the purpose for which they were put in.

Over-feeding horses with hay or other coarse fodder reduces the working efficiency. Fifteen pounds of hay per day will keep a horse in better health and working form, than twenty pounds, the horse to weight 1,000 pounds. Twenty pounds per day is sufficient for a horse weighing 1,800 pounds.

Fresh air and sunshine is the treatment most recommended for human

tuberculosis. Its success warrants the statement that it would be equally effective in preventing bovine tuberculosis.

The ventilation problem, is to move 3,500 cubic feet of fresh air per cow per hour through the stable without drafts and with as little loss of heat as possible. If you are planning a new stable for next season don't neglect to make ample provision for fresh air and sunlight. The stable, if well lighted and ventilated will be a pleasant place for both the human attendants and the animals. The success of the man is dependant largely upon the sanitation and comfort of his stock stables.

Notes From the Poultry Department

As this goes to press the Poultry Short Course of 1912 is drawing to a close. "The Boss" says it has been as successful in point of attendance, and in work accomplished, as is possible with the present equipment and staff. If casual observation counts for anything, the session this winter has been marked by an unusual amount of interest on the part of the students in the course presented by the Professor and his assistants. The course gets better every year we think.

Have you made any preparation for your eggs for hatching? If not it is still not too late to send in your order to some reputable breeder. Neither is it too late to mate up your breeding pen, if you do it immediately. Remember, it pays to breed from the best. "Like produces like," is an old axiom, but it is as true as ever.

"How early should we hatch the chicks for most profitable egg production?"—L. M. K., Brant Co.

Answer—Experience here at the College has shown that for this climate it is best not to have too many chicks arrive before the twentieth of April. Even if laying commences early in the following autumn, the pullets are almost sure to moult, and as a result, egg production is not resumed for months. We would say, plan your hatches to come off between April twentieth and May twentieth.

Indications are that eggs will be higher than ever next fall and winter. Now is the time to prepare for the harvest. When Canada imports eggs from other countries it is time for Canadian farmers to get busy with the hen.

Railroad Specials

W. L. SMITH.

ON February 26th a Farmers' Institute demonstration and lecture train will commence a tour of some of the principal C. P. R. lines in Ontario.

The route to be covered extends from Windsor to Montreal and up the Goderich and Owen Sound lines. The train will consist of nine cars and will contain a mass of material to be used for purposes of demonstration and of illustrating the lectures to be given by experts.

Particular attention will be given to dairying. Included in the material to be carried in this department will be samples of cheese and butter; specimens of milk, showing the effect of various forms of contamination; demonstrations showing the increased yields of cheese obtained from milk which is rich in fat and in proper condition, with the poorer results obtained where the opposite condition prevails. Illustrations will be given too in methods of cooling milk and cream, and in the making of home dairy butter for the best local markets.

In the fruit department will be samples of apples, with demonstrations in box and barrel packing and equipment necessary therefor; spraying outfits with arrangements for demonstrating the usefulness of these; object lessons on insect pests and fungus diseases; samples of nursery stock, showing best methods of pruning and grafting with the outfit requisite therefor.

As a complement to the demonstration in orchard work there will be a bee department, showing all the

equipment necessary for amateur bee-keeping.

In the poultry department will be shown model poultry houses, incubators, cases for shipping eggs and the best methods of packing dressed poultry for market.

The department of field husbandry will be particularly illuminating. There will be given in this connection germination tests showing the value of good seed as compared with poor, and the proper quantity of seed to be used for the growing of different crops.

In close connection with this will be a drainage department with samples of tile and photographs showing the results obtained in crop production from an efficient system of drainage.

Samples of fertilizers will be shown for the purpose of illustrating lectures on the best method of applying these.

Concrete work will also have attention and there will be illustrations of the many uses to which cement can be applied on the farm.

Live animals cannot, of course, be carried on the train, but there will be, in addition to the feeding end of it, valuable lessons given in animal husbandry. For the purpose of illustrating these, bones of horses will be shown in order to illustrate desirable conformation, as well as the effect of various diseases such as spavin, foot troubles, etc. In connection with animal husbandry samples of millfeed and alfalfa meal will be shown with the analysis attached.

The train will be under the general

direction of Supt. Putnam of the Farmers' Institutes, and assisting him will be the two Days, one of whom will give lectures on animal husbandry, feeding, etc., and the other on drainage. Professor Harcourt will deal with fertilizers, feeds, etc. Chief Instructor Hens of the Western Ontario dairy division and Chief Instructor Publow of the Eastern division will be prepared to deal with dairy matters; J. W. Clark, of Onondaga, will talk on poultry; Morley Pettit on bees, and W. R. Reek will assist on drainage.

The idea of using a railway train for the purpose of carrying the work of agricultural education direct to farmers' doors originated in the United States several years ago, but it was not until four or five years since that much progress was made along this line. Once the work began to be taken up in earnest it spread with marvellous rapidity, and in several states including California, Georgia, New York, Pennsylvania, Michigan and Minnesota, Institute train services have been made use of. The first start in this direction in Ontario was made last year when the Michigan Central ran a special train under the direction of Supt. Putnam through the southwestern part of Ontario. It is probable that other lines will follow the example set, and

that the Farmers' Institute train will become a regular feature in future agricultural educational work in the Province.

The idea is a capital one. The plan of using a railway train for this purpose naturally catches the imagination and rivets attention as it could not be riveted by a less spectacular method. It also makes it possible to cover a wide area in a very short time. It has the further advantages of enabling those engaged in educational work to travel about in comfort while the cars themselves provide better auditoriums for lecture purposes than can be obtained in many of the localities the train will visit. Finally, there is the inestimable benefit of being able to present before those who hear, the additional lesson conveyed through the eye. The spoken word may be forgotten but the thing we can actually see is likely to be impressed upon our memory.

The new departure shows in the most striking way the fact that railway corporations have come to realize the importance to them of the spread of agricultural information. These corporations see that increased production from the soil means not only increased traffic for them, but greater prosperity for all interests on which they depend for their earnings.



TRUE GREATNESS.

"Give fools their gold, give knaves their power,
Let fortune's bubble rise and fall;
Who sows a field or trains a flower
Or plants a tree, is more than all."—Whittier.

THE O. A. C. REVIEW

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Editorial

"The Dominion is in the making. With our preponderance of undeveloped land comes the acute demand for labor and capital, and the swelling of the rural agricultural ranks by the enlistment of foreign laborers, necessitates an increase in the numbers of all auxiliary occupations." So writes the editor of an exchange. Labor is far too scarce on the farms of Ontario, to be sure, but dare we look to Middle or Southern Europe for assistance? Is it so desirable after all, that we have a "swelling of the rural agricultural ranks by the enlistment of foreign laborers?"

The rural population of Ontario is declining. In the last 20 years 68,000 persons have been lost to Ontario agriculture, whereas the population of the towns and cities has increased by over 300,000 in the last 10 years. Were the country districts overcrowded this could not be deplored, but in view of the present scarcity of labor the situation is becoming alarm-

ing. We say scarcity of labor, but is it not scarcity of money that is really responsible? Because of the present high rate of wages the ordinary farmer is forced to conduct his farm operations with the least possible outside assistance. He therefore hires his laborers for the summer months only, and they are compelled to seek employment in the city during the winter. Is it any wonder that they soon tire of this condition of affairs and prefer to make a home in one place all the time?

Of course, this is only one contributing factor to the depopulation of the country. The West is calling our boys, and the exodus to the Republic to the south has not ceased. The great fortunes accumulated, the higher wages, the different social conditions, and the attractive glitter of the city, generally, exert powerful influences. Then too, in the natural order of things the city must grow at the expense of the country—and in the end for the benefit of the country. There was a time in pioneer

days when the farm was practically self-sufficing. Food and clothing were manufactured directly by the farmer upon his own farm—but those days have passed. Now the farmer is but one link in a great economic chain. He usually produces a special line of raw material while the numerous processes of manufacture are carried on in the city requiring great numbers of laborers. It is but a principle of the division of labor, which is for the best, and while the farmer, we believe, is the strongest link of this chain the fact is none-the-less true that those in the towns engaged in these manufacturing operations are accomplishing farm work, in the sense that they are doing what was done upon the farm 100 years ago.

So for different reasons, from many districts of Ontario, the brightest and the best have gone—and now we hear the cry for foreign labor. On the face of it, the proposal sounds feasible; but were it put in operation we fear grave troubles would result. Such a condition of affairs has been reached already in certain sections of the United States. We quote the following from an article by W. L. Smith in the December issue of the *Farmers' Magazine*: "The New England States were at one time occupied by what was, in many respects, the best population the world has ever seen—the descendants of the Puritans. After the Civil war, owing to the same causes which we see at work here, that population began to pour into great centres. To-day the land is being occupied by Poles, Italians and a polyglot population from continental Europe. The strangers * * * are wholly unfitted, at present, at least, for the duties of citizenship in a self-governing country. Meantime what of the Puritans? These

have gone to swell the cities where their ideals of citizenship and home life will be forgotten in the mad race for wealth on the part of the few and the struggle for a bare existence on the part of the many."

So it seems foreign labor will complicate rather than solve the problem. Since it is natural in a manufacturing country for a comparatively small rural population to support a dense city population, let the foreigners who are coming to this country seek employment in the factories. But for the future power and happiness of Canada and of Canadian people let us retain the old British stock upon the soil.

But how may this be accomplished is the great question facing us to-day. Only, we argue, by making farming profitable and pleasant enough so young men will more desire it than any other occupation as a life work. After all, when stripped entirely of sentiment, the question is largely one of money. Make the cash returns large enough and the rest—improvement of home surroundings, social development, refinement, etc., will follow, naturally. And to make farming more profitable we must look for assistance from no class by our own. As farmers, we must work out our own salvation by improved agricultural methods, by an understanding of the principles underlying farm operations, by co-operation in handling and selling farm products, in buying manufactured articles, and by influencing legislation in our behalf. Fortunately such forces are at work already. Education is being given by the Institute workers, by the District Representatives and by the O. A. College; more advanced methods of agriculture are being adopted each year; and co-operative societies are flour-

ishing. Annually hundreds of men and girls return from this institution to the old homestead to take a new hold, with an enlightened view. There's a bright time ahead, we believe—or we wouldn't be here—so put your shoulders to the wheel, boys, whether you attend college or not, for your future rests all with yourself. Remember if you go to the city you probably won't be one of the successful few. The chances are that you'll be the average failure, whose children have to support his old age. When you finish your college course this spring, or consider leaving the farm this fall just think it all over carefully. There are certainly some disagreeable features of farm life, but you just ask ten old men living in the city which life is to be preferred from all view-points, and if you take the counsel of age there will be little danger of the refuse of Europe taking from us our Ontario farm homes.

"Oh, I am so sick of the big things—

The big with a big, big B—

The important things
that are strictly
such;

**Have we
Time?**

The great big things
that matter so
much,

They never can leave you free."

The writer of these lines, I presume, had in mind much bigger things than the social functions of a small college in a small city in Ontario. But for us, our little social affairs assume great proportions, and to many this verse sums up the situation quite as well as ever it could for the biggest of the big things.

Truly, man is a social being. As Blackmore says, it is surely not right that we each live in our little den and block its mouth from our fellows

as do the savage beasts. Congenial society has a part in our lives and the social element of our education must not be neglected. But in holding such large and formal functions as the *Conversazione* and the dances that are given from time to time, are we not tending to promote artificiality rather than congeniality of society? Are we not, indeed, wandering farther and farther away from the true purpose of society, which to the student, we take it, should mean recreation. Social functions of this nature take a great deal of work and worry in the preparation and when finally they are held, how many of the college boys, do you think, actually enjoy themselves amid the dress suits, the formality, and the crushed feet? Are we not, as a student body, building an elaborate system of social organizations that detract our attention from study, that sap our energy, and that have a tendency to cultivate a love for the shallow and the false in society?

Of course tastes differ and there are some who will declare our ideas to be uncultured. They will say we savor of the farm—and so we do and don't mind it a bit. Yet we believe that most of the boy students—and the girl students too—would much more enjoy a simple skating-party or a snow-shoe tramp, that, while affording healthy exercise and excellent recreation, would take no time from lectures before the event nor produce a feeling of lassitude afterward.

Moreover, the majority of our fellows are not accustomed to formal society and in consequence what a remarkable number of ludicrous things may be observed! A blue shirt may be properly worn with a dress suit, perhaps—in some lands;

and when a dress collar and tie are worn, cuffs aren't required, maybe—by a Zulu. A slippery path of ice cream down a young man's vest may be pleasant for the eye to dwell upon and a bath of punch may be quite wholesome, if rather uncomfortable. Feet may have been made to be danced upon and lace manufactured to be torn. These oddities are not so objectionable when unnoticed by outsiders. But the representatives from other colleges are keenly aware of them all, and, we fear, can hardly fail to be impressed unfavorably.

No! Too many of us are out of our element. Those dressed in clothing to which they are unaccustomed look miserable, and those in their ordinary costumes, in these circumstances, feel very much so. As farmers, we are not by education nor inclination suited to these things—and let us be thankful for it. The farmer, in some districts, requires development of his social being, but high (?) society should not be aimed at. The card-table and the ballroom with their narrowing influences, "fast" atmosphere, unkind gossip, and the general starched discomfort of it all should not be sought for. Better, a thousand times, the homely, friendly atmosphere of the country with its informal gatherings, where friends meet naturally and on common ground. Education, refinement, and a regard for the feelings of others should indeed be encouraged—and for these The Review shall always make a stand—but never the glaring artificiality that seems so large a part of modern society. The congenial association of friends, and cultured and elevating society of every kind, truly should be welcomed by us; but have we time either at college or in our homes for

"The Great Big Things That Matter
So Much
They never can leave you free!"

One feature of the extension of the scope of our work will appear in the March issue. It has been decided to henceforth conduct a Query Department. We are in a position at this college to do this as no other paper probably can, being so closely in touch with the best scientific and practical agricultural authorities in Canada. The only obstacle in our way in successfully instituting this department is that we publish a monthly magazine. But this difficulty will be overcome by sending answers by mail in case of urgent necessity when stamped, addressed envelopes are enclosed with the questions.

We hope to make this department one of the strongest features of the magazine, and everyone who would like to ask any questions relating to agriculture of a practical, scientific or economic nature are invited to do so at any time. The answers will all be given free, the only requirement being that the enquirer be a subscriber of the Review. Have all queries addressed to the Query Editor, O. A. C. Review, O. A. C. College, Guelph.

It will be to the interest of every O. A. C. student to consider the generous offer of the manufacturers' Association, as announced upon the official bulletin board, this association is offering three cash prizes of \$50, \$30, and \$20, for the three best essays submitted to President Creelman by July 1st, upon any one of the three subjects there stated.

ALUMNI

"Improve the home surroundings, brighten the social side of life, and you have solved the problem of keeping the boy on the farm," such is the philosophy of E. G. McCallum, a cut of whose newly finished residence appears in this issue.

Mr. McCallum is an associate man of class '87, and after completing his two-year course returned to the farm

ed man, who goes back to the old homestead to tickle a living out of mother earth, is often laughed at, and his up-to-date methods scorned by the average farmer. If he is a success nothing is said about it. It is taken as a matter of course that he would have made good without his college training, but if he is a failure, he is pointed at with derision and



RESIDENCE OF E. G. McCALLUM, '87, NEAR GRIMSBY, ONT.

in Glengarry County, where he became engaged in dairying and sheep raising. Five years ago he purchased a small fruit farm near Grimsby, and has never regretted the action, believing that fruit growing has dairying beaten a dozen different ways.

'Tis sad, but 'tis true, that the scientific farmer and the college train-

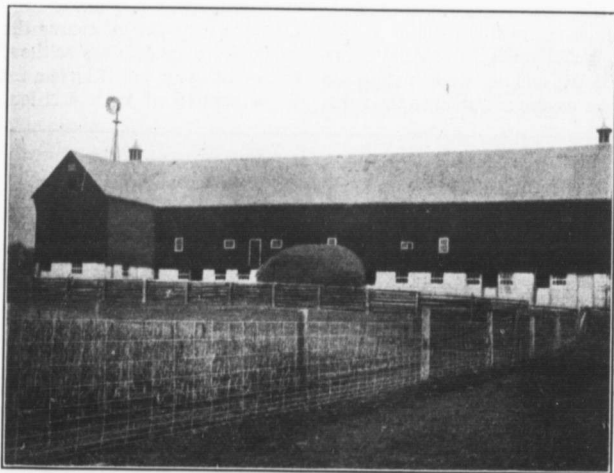
held up as a glaring example of the harm a college education will do a farmer. But let us remember that there are both good and bad scientific farmers, that the good are in the majority and that the latter by their improved methods of cultivation, by their newer ideas of barn construction and home improvement are certainly bringing about a general up-

lift in both the social and agricultural circles of the district in which they live.

In this issue we are printing a cut of one of the large barns of Wm. D. Dyer, of Columbus, Ont., which we are sure must be a credit to his community. Mr. Dyer is really and truly an "Old Boy," having taken his course in company with Professors Harcourt, G. E. Day and Graham, of this College. He returned to the old homestead after being graduated in

he is well satisfied. He says that there is nothing in the world to compare with a peaceful conscience, a healthful body and the old farm.

N. N. Grimmer, an Associate of the class '12 now owns a farm on Pender Island, B. C., where he is making a specialty of Jersey cattle Berkshire swine and Hampshire sheep. His training at the O. A. C. has stood him in good stead, and his specimens of the above breeds are



BARN OF W. D. DYER, '93, COLUMBUS, ONT.

'93, and after a period of seven years, was left with the full charge of the farm on one hand and a life partner on the other. He immediately set to work to improve the out-buildings, and now has excellent accommodation for thirty-five head of Shorthorn cattle, fifty-five Shropshires and four pure-bred Clydedales.

Mr. Dyer believes in co-operation, and is an active member of The Oshawa Fruit Growers, Ltd., with which

second to none in the country. He exhibited the championship Jersey cow at Vancouver Fair last year, and won many other prizes, his winnings adding up to one-third of the total prize list. He is also doing things in the judging line, as he carried off first place in the judging competition, held in connection with the fair.

T. Marsh, of '83, originally came from Thornbury, Ont. He is now

in the Kitsun Kalum Valley, B. C., ninety miles east of Prince Rupert on the line of the G. T. P., working as an English Church missionary amongst the lumbermen and miners of that district. For fourteen years he was on the Leard River, a very dangerous stream situated on the 60th parallel of latitude, as a missionary amongst the Indians. He admits that he received his first ideas of Christianity at the Ontario Agricultural College.

F. C. Nunnick first saw the light of day at Scotland, in Brant County, and there took a course of several years in the training school of practical experience on his father's farm. Then he jumped on the train for Guelph to learn the right way to farm at the O. A. C. As editor of *The Review* in '09 he strongly advocated the inauguration of a fund for the purpose of procuring a press, to be owned and operated by *The Review*. After graduating in 1910 he took charge of an office at Alexandria, Glengarry County, as Representative there, but in November of the same year was chosen as assistant to C. C. James, Deputy Minister of Agriculture of Ontario. Just as he was preparing to go to Toronto, he received and accepted the offer of a position as Agriculturist to the Committee of Conservation, with headquarters at Ottawa. He now has splendid opportunities for studying agriculture in all of Canada and has already made two tours through every Province of the Dominion.

Ties that Bind.

A happy little romance which began in the wood-carving room in the '04 term ended a few weeks ago in

the marriage of Helen, daughter of Rev. E. M. and Mrs. Taylor, of Westmount, to Mr. J. Edward Runions, of Runions Broker's Ltd., Calgary, Alta. Mr. Runions is an old Stormont boy and is well known in Cornwall. He was principal of the public school at Wales for a time and then left for the West to take charge of the Manual Training Department of the Provincial Normal School at Calgary. Shortly afterwards, he went into the real estate business and is now the head of one of the largest firms in that line in the commercial metropolis of Alberta.

PRESIDENT A. M. SOULE

"A credit to his College and his native land."

The subject of this sketch was born near Hamilton, and was brought up on a stock and fruit farm in the Niagara Peninsula. He was prepared for the University in what is now known as the Stanford High School, located at Niagara Falls South, and in 1890 entered the Ontario Agricultural College, at Guelph, receiving an associate's diploma in 1892. He was graduated from the University of Toronto in 1893, after which he returned to his father's farm at Niagara Falls. Early in 1894 he was called to the Missouri Experiment Station as assistant to the Director, and placed in charge of the live stock and dairy interests of that station. During his connection with this station he published a treatise on Dairy Management, the results of experiments made there, and which resulted in his being appointed to the editorial staff of *Hoard's Dairyman*.

In the fall of 1894 he was chosen assistant professor of agriculture and assistant agriculturist, in the

Texas College of Agriculture and Experiment Station. During his association with the work of the station he published an important pamphlet on "The Effect of Food on Economic Dairy Production." In 1896 owing to the increase in the number of agricultural students and his success as a teacher, President Soule was requested by the Board to devote his whole time to instruction. This was a period of rapid development in the college work, and especi-



PRESIDENT A. M. SOULE, '92

ally of those features relating to animal husbandry and dairying.

In 1899 President Soule was called to the University of Tennessee as professor of agriculture and director of the Experiment Station. During his tenure of office the work of the station was reorganized, and brought so effectively in touch with the people of the state as to attract national attention. As a result of this he was offered positions of trust in the ser-

vice of the states of North Carolina, Georgia, Missouri and Texas. The work done by President Soule on the improvement of winter wheat and in determining the efficiency of silage in the nutrition of beef and dairy cattle is recognized as "standard" throughout the country, the work done since in these departments bearing testimony to both the excellence and comprehensive nature of the original investigations inaugurated under his direction. The excellence of the work done at the University of Tennessee resulted in President Soule being appointed a collaborator of the U. S. Department of Agriculture, and organizing some of the first co-operative work which the Bureau of Plant Industry undertook with the state stations. This work has now grown to immense proportions. The East Tennessee Farmers' Convention was revived while he was secretary and made one of the most influential organizations in the country. It soon achieved a national reputation, and was attended by as many as 3,000 farmers at one time. The first dairy school in the south and among the first short courses in agriculture were organized in connection with the University of Tennessee, while the University farm was brought under a systematic method of crop production. President Soule was one of the jurors on the International Jury of Awards at the Louisiana Purchase Exposition and was appointed a member of the Tennessee State Commission by Governor Frazier, and it was largely through his efforts that a fine agricultural display and the large number of awards thereon were secured by the State of Tennessee.

(Continued in next issue.)

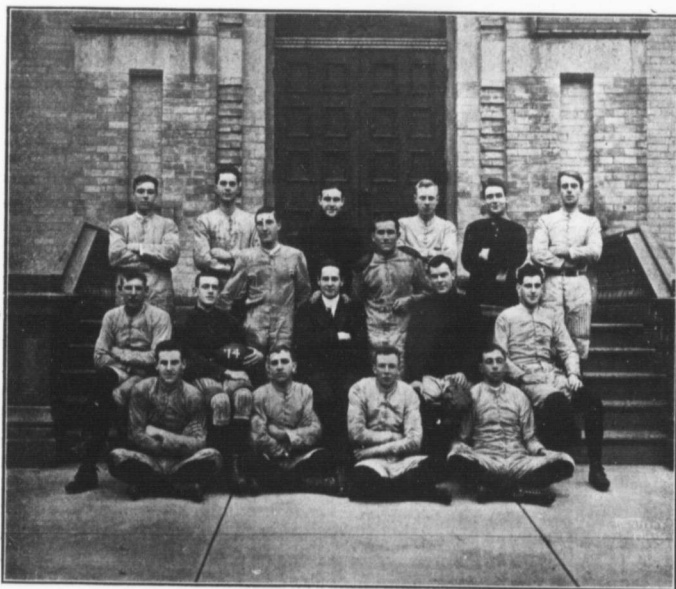
Athletics

Hockey

O. A. C. vs. Preston.

The College Intermediates journeyed to Preston for their first intermediate O. H. A. game, and came

The first half was very fast and exciting; every time the Preston bunch slammed one to the nets the college followed with one to even up.



'14 FOOTBALL TEAM—O. A. C. INTER-YEAR RUGBY CHAMPIONS, 1911.

home trimmed to the tune of 14-4. But considering that the college had had but one practice, and were up against the champions of 1911, we think that they made a very creditable showing.

Half time was called with the score 4-3 in Preston's favor.

The second half started off with a rush, but it wasn't long before the college aggregation found that they couldn't stand the pace, and for about

ten minutes they quit, and in that ten minutes the Preston bunch found the nets for 6 tallies. The full time score was Preston 14; O. A. C. 4.

The college lined up as follows: Goal, Hoffman; point, Kedey; cover point, Kilgour; rover, MacDonald (captain); centre, Clark; left wing, Herd; right wing, McElroy.

Galt vs. O. A. C.

The College Intermediates diminished the enthusiasm of the Galt hockeyists, and their supporters by trimming them on the Royal City Rink by the score of 8-3.

The O. A. C. were a much faster bunch, and skated all over the visitors, but too much individual work and lack of combination prevented them from running up a higher score. MacDonald and Kedey played a star game for the college, while Palmer was the pick of the Galt aggregation. Allan Kinder, of Preston, refereed, and caught everything. The college lined up the same as in the game with Preston.

O. A. C. vs. Waterloo.

The O. A. C. team went to Waterloo for their third game in the series and due to Hoffman getting hurt early in the first half, and bad refereeing, they came home defeated 13-8.

We don't like to get sore, but we consider that "we got it handed to us" in this game. It was arranged that either Kinder, of Preston, or Fraser, of Galt, was to referee. But when we arrived there neither Kinder or Fraser were on the job, but they had a Dutch referee from Berlin. At least they said he was from Berlin. Perhaps he was from Waterloo. In any case he was a Dutchman, with a Dutch name, and before the game was over we learned to our sorrow

that the "Dutch will favor the Dutch." We did the best we could, but with Hoffman out of the game it was an easy matter for them to win.

O. A. C. vs. Berlin.

The O. A. C. team met defeat at the hands of the Dutchmen of Berlin by the score of 4-1. The game was fast and clean throughout. The college skated around and all over Berlin, but too much individual work and lack of combination lost them the game.

The Berlin bunch, although not so fast, played a good clean, consistent game and deserved their victory. Uffelman was in the lime light for Berlin, while MacDonald, Hoffman and Kedey played a star game for the college. Fraser, of Galt, handled the game in first class style.

Berlin vs. O. A. C.

The game at the Royal City Rink between O. A. C. and Berlin Intermediates was the most exciting game seen here this season.

Berlin started off with a rush and scored two goals before college woke up, then the college scored one and Berlin notched another, leaving the half time score 3-1 in favor of the visitors.

After half time the real game began. In the first minute of play Berlin scored another goal, making the score 4-1. Then college found their stride and brought the crowd to their feet by scoring three goals and tying the game in exactly a minute and a half.

Once the score was tied it was seen that the college had Berlin's goat, and shortly after they slammed in two more, Berlin netting one, leaving the score 6-5 in favor of the college, and thus it remained until full time.

Berlin showed more team work

than the college, but were not so fast on their skates. The Uffelman brothers starred for Berlin, while Hoffman, Herder and Clark excelled for the college. Waghorne, of Toronto, refereed a good game. Kilgour and Kedey exchanged places for this game, Kedey playing cover and Kilgour point.

O. A. C. vs. Galt.

The O.A.C. Intermediates defeated Galt Intermediates on the latter's ice after a hard fought battle by the score of 5-3. The game was fast and characterized by individual rushes and lack of team play.

The Galt boys had a lead of one goal at one stage of the game, and looked like winners. But just then some ex-students of Macdonald Hall, who were on the grandstand, gave the Macdonald yell. This proved such a stimulus to Clark, Kilgour and MacDonald, that after that, there was nothing to it. The college simply walked away with the game. For Galt, Palmer was the outstanding man, while for the College, Kedey played his star game of the season, scoring three goals on rushes. He started up the rink so fast on one occasion that he missed the goal entirely turned around, skated back in front and scored before Galt boys could get up the ice. Kinder, of Preston, refereed, and gave satisfaction to both teams.

Waterloo vs. O. A. C.

When Waterloo came to Guelph the College team demonstrated before a rink full of supporters, that the Waterloo team were out of their class,

and sent them home beaten by a score of 9-1.

From a college view-point this was one of the most successful games of the season, because the O. A. C. did get in some combination that was very pleasing to look at. How it happened we do not know, but we do know that when it did happen a score was the result.

Hoffman blocked everything that got past Kilgour and Kedey, while the forward line made some nice combination rushes that made the Waterloo defence look like juveniles. Kinder of Preston, referred and caught everything. No change in College line-up.

Preston vs. O. A. C.

The Preston champs defeated the O. A. C. on the Royal City rink by the one-sided score of 15-1. The game was the fastest seen here this season, and the Preston seven put up a brand of hockey that was hard to beat.

For the first fifteen minutes of play the game was evenly contested, neither side scoring. But when Preston got started they rained them in on Hoffman from all angles. Hoff managed to stop most of them, but fifteen went in. MacDonald got the only goal for O.A.C. after a pretty rush.

We were beaten, and beaten badly, but we don't mind so much, seeing that they trimmed some Senior O. H. A. teams almost as badly. Preston has a good team, and are in a class by themselves. Wally Hern, of Stratford, handled the bell, and he knew when to ring it.

Basketball

O. B. A. Series—St. James vs. O. A. C.

The first game in the Intermediate

Basketball series was played in the college gym between St. James, of

Toronto, and O. A. C. The game was fast throughout, O. A. C. leading at half time by a score of 17 to 14. But St. James came back strong in the second half, took the lead and kept it till the whistle blew for full time, the score being 32 to 24 in favor of St. James.

The College and St. James played a different kind of game, the College working in under the basket before shooting, while St. James shot from mid-floor and at all angles. Culham was the only college man who played up to his usual form.

College line-up—Guards, White, Neff; centre, Culham (captain); forwards, Wilson, Baker.

West End B.'s vs. O. A. C.

In the second game of the Ontario championship series on the west end floor Toronto, the O. A. C. suffered defeat at the hands of the west end B.'s by the score of 51 to 16. The game was fast from the first sound of the whistle to the finish of the game. The college team were greatly handicapped playing on a floor half the size of their own. The teams:

O. A. C.	Points	W. E. B.	Points
Culham	.....10	Ham	.....19
Baker	..... 4	Munro	.....18
Horobin	.... 2	Bickle	.....12
White	.... 0	Vogan	..... 0
Neff	..... 0	Cook	..... 2
	—		—
Total	....16	Total	....51

"Inter-Year Basketball."

Freshmen 51, Sophomores 7.

The first game of the Inter-Year Basketball Series was played between the first and second years, and resulted in an easy win for the Freshmen by a score of 51 to 7. The Freshmen outplayed their opponents in every department of the game, being particularly strong in passing and shooting. Horobin and Wilson were the pick of the Freshmen, while S. Crawford starred for the Sophomores. The teams:

Freshmen—Guards, Laird, W. Horobin; centre, Bertram; forwards, Horobin, Wilson. Sophomores — Guards, J. Crawford, Angle; centre, Gardiner; forwards, S. Crawford, Culverhouse.

Baseball

Inter-Year Baseball.

Sophomores 17, Freshmen 16.

The Sophomores won the first Inter-Year Baseball game from the Freshmen by the score of 17 to 16. The game was evenly contested throughout and the Sophomores were lucky to win, as the Freshmen were right after their scalps and were playing good ball.

Juniors 35, Dairy 3.

The Juniors easily defeated the Dairy in the second inter-year fixture by the one-sided score of 35 to 3.

The Dairy were fairly good in the field, but were very weak at the bat, and the Juniors hit their pitcher all over the floor.

Juniors 21, Seniors 11.

The Juniors won the third inter-year baseball game from the Seniors after an exciting contest, by the score of 21 to 11.

The Seniors took the lead in the first three innings and then the Juniors took a brace and started to bat, with the result that they came out with the big end of the score.

College Life

The Conversazione

MACDONALD Hall was a blaze of glory on Friday evening, January 26th, on the occasion of the annual conversazione. The ladies' residence was one great rendezvous to which nearly one thousand guests repaired at the invitation of the students of the O. A. College, and Macdonald Institute. These were indeed entertaining hosts and hostesses, and everyone agreed that this, the greatest social function at the College was an unparalleled success.

The guests, after entering the hall by the north entrance, were escorted to the dressing rooms, after which President Dr. G. C. Creelman and Mrs. Creelman, assisted by Mrs. Fuller and Miss Watson, received in the drawing room, and welcomed each guest to the ladies' bower. From this time till 9 o'clock was spent in securing partners for the promenades, of which there were sixteen.

In the center of the main hall, directly underneath the well, was the orchestra platform, hidden behind potted plants, lillies and luxuriant foliage until it resembled a roofless summer garden. From this position Tony Cortese's London Harpers discoursed the sweetest of music during the evening. The situation of the harpers proved ideal, the strains of music ascending through the rotundas to the second and third floors,

thus serving to break the throngs which usually gather around the orchestra.

The five rendezvous were very artistically arranged. In the dining room were "Varsity" and "McGill", decorated with blue and white and red and white respectively. Above each nook these names were spelled in electric lights, while a profusion of cushions made each rendezvous a place of comfort. Similarly Queens in the Drawing Room, McMaster at the well on the second floor, and Trinity at the north end, were all appropriately adorned with colors and pennants.

The gymnasium, in which the programme, other than the orchestra selections, was given, was beautiful to behold. It was decorated in quaint Japanese style. From the centre of the ceiling a huge umbrella hung reversed, while near each corner of the room was one of smaller dimensions, similarly reversed. From each beam hung strings of golden yellow chrysanthemums, while around the walls were hundreds more, thus virtually transforming the "gym" into a mythical fairyland. Scores of Japanese lanterns provided the lighting for the occasion.

The concert numbers in the gymnasium, given by Miss Mabel Beddoe, mezzo-contralto, and Mr. George Dixon, tenor, delighted the throngs

that wended their way there for each number. Miss Beddoe has a sweet voice and excellent enunciation, and to hear her is a rare treat. A duet by her and Mr. Dixon, entitled "Home to Our Mountains," from Verdi's, "Il Trovatore," proved to be one of the most appreciated numbers of the evening.

On the third floor a delightful luncheon was served, and this proved to be enjoyed to the fullest extent possible. The dainties provided the climax for the evening's entertainment, and were heartily partaken of during the promenades by the happy couples.

Great praise is due the Junior year as a whole, for the success of the "Conversat," but special praise must be given the committee in charge, consisting of W. H. J. Tisdale, Miss E. Hamilton, Mrs. Oliver, H. M. King, L. B. Henry, G. L. Woltz, G. J. Jenkins, G. G. Bramhill, C. A. Tregillus and P. S. D. Harding.

The Dairy Short Course.

Most of our short course friends have departed, but we have still those who are attending the Dairy School. There are 36 of them. One of the first things they did, after getting acquainted, was to organize a Literary Society. Meetings are held Saturday afternoons, and the attendance is much better than that at many of the meetings of our societies. Lively debates, discussions, speeches, both impromptu and prepared, and songs are given, while a ventriloquist of no mean ability entertains them in an unusual, but highly interesting manner. A noteworthy feature is that all the students are willing to do their share in helping along the work of the society. Already great improvement can be noticed in the literary work, and this coupled with such

studies as Bacteriology and Chemistry, will greatly broaden the scope of their usefulness.

The Dairy School, as we all know, have entered a team in the inter-year baseball series, but they are at a great disadvantage, and do well, considering the chance they have.

The Public Speaking Contest.

Once more our college gymnasium has re-echoed the voices of those competing in the Public Speaking Contest, the one on the evening of



R. H. CLEMENS, '12,
Winner of Public Speaking Contest.

January 19th being the eleventh annual contest, conducted under the auspices of the Union Literary Society.

This meeting was largely attended, and was one of the best ever held, both from the viewpoint of the excellence of the speeches delivered, and the general arrangement of the programme. The appreciation of the audience was evinced by the splendid attention given each speaker, as well as the hearty applause following

every number. The speeches, comprising a range of agricultural subjects were both interesting and instructive.

The first place was won by Mr. R. H. Clemens, of class '12, who held his audience with a discussion of "Co-operation in Solving the Farm Drainage Problem. With a thorough knowledge of his subject, together with a free and ready delivery, Ralph made a speech, spiced with occasional humor, that would be hard to beat, and was in popular terms, an easy winner.

Mr. G. L. Woltz, '13, gave a splendid address on "Soil Depletion," and was awarded second place. George is developing rapidly as a public speaker, and will be heard from again.

Mr. J. E. Rettie, '12, in gaining third place, ably discussed the vexed Weed Problem, dealing particularly with the Perennial Sow Thistle, under the clever disguise of "The Yellow Peril."

"Underdrainage as an Investment," by Mr. J. Miller, was awarded fourth place. Justus made a good speech, but the mathematical calculations made it rather difficult to follow.

The other contestants, in order of standing were Mr. J. F. Anderson, '14, who spoke on "Sugar Beet Growing and What It Meant to the Farmer", and Mr. C. H. Currey, '15, his subject being "The Great Opportunities that Canada Offers to the Agriculturalist, the Artisan and the Business Man."

The evening's programme was varied by the addition of selections, given alternately by the college orchestra, and the artist, Jack Howard, all of which were greatly appreciated.

The judges for the speeches were,

Mr. W. L. Smith, Professor H. H. Dean and F. C. Hart, B. S. A.

Union Literary.

Those who attended the union meeting of the Literary Society in Massey Hall on Friday evening, February 2nd, were certainly amply repaid for the time they spent there. The programme from the first to last number was excellent. Miss Lane gave a very interesting reading in very pleasing style, while the Misses Barnard and Moyer favored the audience with one of their entertaining piano duets. The young ladies were heartily applauded, but no amount of coaxing could persuade them to give an encore.

The debate, which was of the highest order, was considered to be one of the best ever given in Massey Hall. The subject was, "Resolved, that the decrease in rural population is both desirable and inevitable." The affirmative was upheld by Messrs. G. G. Bramhill and L. B. Henry, while Messrs. J. H. Winslow and H. M. King defended the negative. All the debaters were in fine form, and the contest was keen and close. Every speech showed painstaking preparation and careful arrangement; Professor W. R. Graham, on behalf of the other judges, Professors H. L. Hutt and E. J. Zavitz, gave their decision in favor of the affirmative, although he said, the verdict was not unanimous.

Professor G. E. Day presented the Barton-Hamer Medal for the highest man from the O. A. C. at the judging competitions at the Chicago International last December, to Mr. E. A. Weir who stood fourth in a class of fifty.

Solos were very acceptably given

by Messrs. W. A. S. Porter, and C. F. Mackenzie; and Mr. R. H. Ferguson favored the audience with a monologue entitled, "Not Understood."

Mr. L. Caesar, B. A., acted as critic and made an efficient one, indeed. He confined his remarks chiefly to the debaters, and made a few suggestions regarding possible improvements. He had nothing but praise, not only for the four debaters, but for the meeting in general.

Freshmen Skating Party.

Although it was impossible to secure a rink for a skating party in the evening, the energetic "Year Fifteen" held a very successful and enjoyable party at the Royal City Rink on Thursday afternoon, January 18th, from 4:30 to 7 o'clock. The weather during the day had been unfavorable, rain had fallen, and the thermometer registered considerably above the point where water remains solid. In the afternoon, as the appointed time for journeying to the rink approached, the rain ceased, and the temperature fell so that no one was inconvenienced in getting to the

rink, and when the hosts and guests arrived they found the ice in fair condition for the steel runners.

The interior of the rink was tastefully decorated with flags and bunting, the young ladies from Macdonald Hall were present in large numbers, and these two features combined to make the scene one of beauty and jollity.

The executives of the other years, and that of the O. A. C. Review, were present as guests of Year '15, so that there was no deficiency of either sex. Everyone skated during every band, and needless to say everyone enjoyed their partners, and the splendid music provided by the band.

Another pleasant feature was the dainty refreshments served. These came at an hour when they were appreciated most highly, and served to round out the afternoon's enjoyment. The members of Year '15, and particularly the executive, are to be congratulated on the success of the afternoon's outing. It is expected that the Sophomores will hold a somewhat similar function in the near future.



Because of your strong faith I kept the track
 Whose sharp set stones my strength had well night spent.
 I could not meet your eyes if I turned back
 So on I went.
 And though I struggled towards it through hard years
 Or flinch, or falter blindly, yet within
 "You can!" unwaveringly my spirit hears,
 And I shall win.

—Aldis Dunbar, St. Andrew's Cross.

MACDONALD

Macdonald as Seen by Short Course Students

E. M. and A. D.

FIRST impressions are seldom lasting, and are not always correct, but they have the virtue of newness and interest, and very often, in part, become permanent. The term for Short Course students is so short that they have not the opportunity afforded other students of an intimate acquaintance with the ways of Macdonald. In a few weeks, however, we have already partly realized our anticipations and have learned something of the value of the course of training and the residence life. Each takes an important part in the disciplining of the minds of the students and in the broadening of their outlook on life.

Macdonald Institute is so well known throughout the Province that praise is needless. We wish, however, to point out its usefulness from the standpoint of a Short Course student. This course is designed to assist girls to become more efficient housekeepers and to give them an inspiration in their work. It is often taken by those who are already experienced housekeepers, but who wish to learn the best methods and gain new ideas. In a term of three months only a small part of the field of Domestic Science can be covered, but even in

that time the lessons of greatest importance in ordinary housekeeping may be learned. In arranging the time-tables the greatest care is taken and each student has the privilege of taking up the branches of study she desires without being kept back by other students whose work is inferior. The highest praise that can be given to the work of the Institute is to say that it is, above all things, practical, because here the girls have the actual experience as well as the theory and for perhaps the first time we know the reason for what we do. Our mothers know how, but few of them can tell why, while now we are learning the simple explanations of important facts which had hitherto no meaning for us. Before coming we were often told that the knowledge obtained here could not be carried out in the ordinary home, but we are finding out that Macdonald methods of housekeeping are not extravagant, nor do they require unobtainable appliances, also, they are reasonable, careful and sanitary, and that economy is considered as it is in many homes.

Important as is the work of the Institute, not less important nor interesting is the residence life in Mac-

donald Hall. To most of us community life is new, and the strangeness of the experience makes it attractive. We are already beginning to regret that we cannot get really well acquainted with all of the many charming girls in so short a time, even though we make friendships rapidly. We have learned, however, that the effect of meeting so many varied and interesting characters from many parts of the world, is educative as well as delightful. We are sure the social life of the Hall will provide a useful training. The students benefit by the opportunities they have of meeting socially—opportunities which they might not have obtained otherwise.

Nothing that is conducive to the health and happiness of young people is neglected here. Games and healthful recreations, such as skating, snowshoeing and hockey are carried on with spirit and the teachers are unsparing in their efforts to aid, not only in studies, but in recreations and social affairs.

As is necessary in so large a residence the girls in Macdonald Hall live under some restrictions. We can see not only the necessity for this, but the benefit to be derived from it. Obeying rules develops self-control, and no discipline could be more valuable. The regularity and system practised here will make an impression which should lead to methodical living.

In a few weeks we shall have returned to our homes and another Short Course class will have taken our places. We hope that our first view of Macdonald will be not more favorable than our final one, and we know that the weeks will glide by swiftly and pleasantly for all of us.

The "Lit."

On Tuesday evening, Jan. 16th, the gymnasium of Macdonald Hall presented a very pleasing spectacle. Around the blazing grate fire sat some of the girls, while the others, outwardly enjoying the stately chairs, longed to approach.

These attentive listeners had gathered to drink in the programme of the Literary Society of Macdonald Hall. The business of the society disposed of, Miss Helen Ross executed a piano solo with great skill, but the event of the evening was the debate between the Junior Housekeepers and the Junior Normals—"Resolved, that Professional Life Makes a Woman Unwomanly,"—the Normals maintaining the negative. Even though they lost the debate the negative side still hold that theirs was the better part, and that next year, after Prof. Reynold's instruction in public speaking, their delivery will be such as to allow no shade of doubt to be cast upon their superiority. While waiting for the judges' decision the company was entertained by solos from Miss Greta Crowe and Miss Hilda Hills.

The Executive of the society is very desirous that the semi-monthly "Lits." already planned for may prove even more interesting and beneficial to its members. Unfortunately the majority of girls do not begin to realize the benefit they may derive through this society by making even the smallest effort to take part in its affairs musical, dramatic or literary. This may be due to shyness and diffidence, but is not this line of Tennyson's a very worthy motto for our society:

"To strive, to seek, to find and not to yield."
H. T. J.

Y. W. C. A. Work.

The Y. W. of Macdonald Hall was organized six or seven years ago, when the hall was first built. Since that time hundreds of girls have been members. The membership of our association is constantly changing; in fact it changes every term, as the Short Course girls leave and new girls fill their places. Thus, every term we have practically a new membership. While this gives wider scope for our work, it checks organized effort along any definite line, a thing which would be possible if our membership were more constant. Also the shortness of the course and the fact that the Juniors have little responsibility, gives but slight opportunity for the training of our members for the carrying on of the association work.

To offset these defects we send every year two or more members to the Y. W. C. A. College Conference at

Elgin House, Muskoka, that they may be inspired and that they may gain practical ideas as to how they may carry on the work in a college. This year, as the conference is held during our school year, our difficulty is further increased.

As to our work, it consists mostly of association meetings held in the gym. Sunday evenings, with Bible classes replacing them during one term. Our Sunday Association meetings are taken by the girls as well as outsiders, and our Bible classes are taught entirely by the girls.

As we are situated, we can do little definite work, but aim mostly at the training of girls for leadership in Christian work.

As to our plans—well, our responsibility ends at the close of March, and the next Executive will begin to formulate their plans for next year's campaign and we wish them well.

A. M. D.

**DIFFERENT**

I saw a little newsboy, poorly clad,
 Selling with other boys upon the street,
 And calling "Paper" in a voice so sweet
 I knew he gentle birth and culture had.
 But presently I heard the little lad
 Mocked by his comrades, who tried to repeat
 His tone, and he made no attempt to meet
 Their taunts, but suffered on, alone and sad.

Ah, little boy, I thought, indeed you erred
 To have a voice so different from the rest;
 Perhaps one day you may pronounce that word
 Exactly like the others; it is best,
 Unless you dare unto yourself be true,
 To acquiesce and do as others do.

—Hilda Ridley, in the Canadian Magazine.

Schools' and Teachers' Department

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

The January number of the Review outlined a new policy with especial reference to material bearing upon the home life of the farm. In this connection it is proposed to give articles on the various useful handicrafts, such as may be carried on in the home. These will be given in the form of lessons, describing each process in detail so that even the young boys and girls may follow them. The chief aim of this department will be to be helpful, and readers must feel free to write for information or to suggest further ways in which they can be helped.

This month the work will be confined to an introductory exercise in the course on woodwork. The necessity of the boys on the farm knowing how to use and care for tools must be seen by everyone living in a rural community. The day when there was a carpenter in every little hamlet has gone by, and more and more as time goes on, the farmer is thrown upon his own resources. Next month this course will be continued by taking up the construction of a simple object. A few tools at a time will be introduced, and it is hoped that those interested will take this month's lesson, follow it through in detail, practise the exercise until it can be performed easily and rapidly and be ready for the next lesson.

Introductory Lesson.

Material—Pieces of Pine or Basswood, 1 in. x 2 in. x 17 in.

Tools—Jack Plane, Back Saw, Try Square, Marking Gauge, Rule, 1-in. Chisel, Knife, Bench Hook.

For a description of the Plane the reader is referred to O. A. C. Bulletin No. 124 (3rd ed.), page 94. This may be obtained, free of charge, by writing to the College. The article is by Prof. Evans, and is very thorough. Read it carefully; take the plane apart and examine the adjustments, then set the plane iron so that it is just showing in the centre and not at the edges.

First Operation—Squaring a Face and Edge. Select the best broad surface on your piece of wood and place it uppermost on the bench with one end against the square peg—bench stop—at the left hand end of the bench. Hold the plane with right hand on the handle forefinger pointing forward and resting against the plane irons, left hand grasping the knob. Take a shaving from the part of wood nearest you, making the plane travel the full length of the stick, repeat a little farther over each time until you have cut over the whole surface. Three shavings will probably be sufficient on a piece of this size.

If you find the surface is left rough, turn the stick so as to plane "with the grain," and this time you will probably have a perfect surface.

This shows you that it is often well to find out which way the grain slopes before starting to plane. In some cases it may be necessary to plane in both directions to produce the smooth surface.

We now test this surface which we call the "Face-side." The first test is by the eye, to see if it is straight lengthwise, then holding it at both ends tilt it slowly until the surface is in a straight line with the eye, and if the front and back edges appear to coincide the piece is said to be "out of wind," but if the two edges do not coincide and one of the back corners appears to be sticking up above the other, the piece is said to be "in wind," and the high corner must be planed off. We now test it with the try-square and a straight edge.

First let us examine the try-square. It is made of two parts. The thin part we call the "blade" and the heavy part the "stock." The angle made by the two must be exactly 90 degrees. The inner edge of the stock is called the "face." To test the "face side" of our piece with the try-square, we hold the try-square by the stock with the outer edge of the blade resting across the face-side. If the blade touches all the way across the stick at all points the face is next tested lengthwise, but if a high ridge is present we plane it off by moving the centre of the plane so that it cuts on the centre of the ridge. Having obtained a surface which is straight across we next test it lengthwise with a straight edge. In all probability this test will show the ends of the face to be low. This was caused by allowing the heel of the plane to drop on the start of the stroke and the toe of the plane to drop on the finish. To remedy it we take a short stroke on the centre of the piece then a longer one and so on until we have the face straight. Remember then to always press on the knob of the plane in starting a shaving and gradually transfer the pressure to the handle on finishing.

Now repeat all three tests—lengthwise, crosswise and for wind, and do not be satisfied with your work unless all is correct. We next select the best adjoining edge and make a mark on the face side running towards the selected edge. This mark is called the face mark, and should always be put on the work so that you can tell which is your foundation side.

The selected face-edge is now planed up and tested as before except that it must also be square with the face-side. To test this we place the face of the stock against the face side of the wood with the blade across but not touching the face-edge. Then lower the tool until the blade just touches the wood and you can easily see if the corner is square. When the face-edge is true we make a mark on it also. This mark is generally a continuation of the face mark, but made differently in order that you may know which is the face-side.

Second Operation—Planing to Width and Thickness—To plane to the correct width we must have a line to work to. This line must be exactly parallel with the face-edge. The tool used in marking the line is called a marking gauge.

The marking gauge consists of a stock with a beam sliding through the centre. The beam may be fastened at any point by means of a thumb screw. The mark is made by a piece of steel wire, called the spur, placed at one end of the beam.

The piece is to be made $1\frac{1}{2}$ inches wide so the gauge is set to this distance. In order to do it accurately we use a rule and make the distance from the stock to the spur a slight bit over $1\frac{1}{2}$ inches. We are now ready to mark the line. The beginner is strongly advised to practice the use of the tool on wastepieces. The main points to remember are: First, do not grasp the tool too tightly; second, see that the stock is in full contact with the face edge; third, have the spur top slanting in the direction that it is

moving. If these directions are followed the spur will make a fine even mark, without catching and jumping, as it otherwise would.

If the mark is not plain enough go over it again, making it deeper.

The next step is to plane off the waste material to the centre of the mark and test it. Then set the gauge to a little over $\frac{3}{4}$ -in. gauge, plane to thickness and test.

The above operations are what we call "squaring up to size," and are fundamental operations.

Third Operation—Squaring An End—This means to make one end smooth and true with the face side and face edge. First we must "square a line" around the piece about $\frac{1}{8}$ -in. from one end. In doing this we use a try-square and the point of a knife. Place the piece on the bench, face side up, face-edge towards you and mark a point $\frac{1}{8}$ -in. from right hand end. Next place the try-square with flat side of blade resting on the face side, stock pointing to left, face of stock in contact with face-edge of wood. Move stock until outer edge of blade is on the point marked and then cut a line across the work with point of knife.

Roll work away from you and reverse try-square so that blade points towards you and face of stock is against face side of work. Place point of knife in end of cut made on face-side and cut a line across the face-edge. Roll work again, placing face of stock against face-edge of work and mark as before, then mark a line on the remaining side, this time reversing try-square so that blade is against face side. If this has been done carefully and "face of stock kept against one or other of the marked sides," the line will be continuous.

This is another fundamental operation, and must be carefully done.

To finish squaring the end we need a back saw and a chisel. The back saw is very thin in the blade and is used for fine work. The piece of metal bent over the top edge gives it necessary stiffness. The work is placed on the bench hook and held firmly with the left hand. The saw is held with the thumb and forefinger extending forward along the side of the handle. In starting to cut we hold the saw handle up and saw on the far corner first. A backward pull on the saw, with little or no pressure, is generally sufficient to start the "kerf" or cut. Then as the sawing proceeds, the handle is gradually lowered until the saw is in a horizontal position. In order to prevent the saw from jumping around on the start it is held firmly against the forefinger of the left hand. This keeps it from going beyond the mark and spoiling the work. As we saw down into the piece we watch the line on the vertical faces to see that all is going as it should. During this part of the sawing the forefinger may be removed.

The next step is to smooth the sawn surface with the inch chisel. To do this the piece is placed face side down on the broad part of the bench hook. The chisel is held vertically with the hand grasping it just below and partly on the handle, hand, wrist and arm at right angles to chisel's length. The cutting is done by keeping the flat side of the chisel next to the surface being cut, forcing the chisel downwards and forwards at the same time. This makes a "shearing cut" and leaves a smooth glossy surface.

Go over the surface carefully, testing to see that it is square with the face-side and face-edge.

The next and last step is to mark the length $16\frac{1}{4}$ -in., square a knife line around the work, cut off the waste and smooth the end as before. We now have a piece ready for use in the making of next month's model.

Do not be satisfied with something "nearly right," but do your very best.

LOCALS

Doc. Reed (in Soph. lecture)—“Accommodation above is not quite as good as it is below.”

That's one cheering thought for the majority of the Sophomores.

Chirpy Weld (in Botany Lab.)—“The shape is more or less diagonal.”

What kind of stove did the prehistoric man use?

Probably a Mountain Range.

Prof. Jarvis (in Biology lecture)—“Is not man the most disturbing factor in the universe?”

Cleverly—“No, Woman.”

Peren—“Do you know why Mac girls are always at home in the Sahara?”

Goodman—“I don't know. Because it's so dry?”

Peren—“No. Because of the oases (O. A. C.'s) there.”



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They used to have a farming rule
Of forty acres and a mule.

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"Young" Prixy — "The Senior
Normals have two nights out.

G. C. Duff (with emphasis)—
"There's more than the Senior
Normals have two nights out."

Lecturer in Field Husbandry—"To
what stock is oats fed."

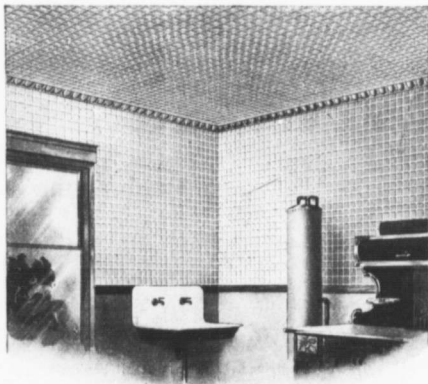
Kirkley—"Horses and Scotchmen."

"Why are so many of the Mac. girls
limping to-day?" said Stanley, the
day after the Junior Hop.

"All the reason in the world," re-
plied Tisdale. "Bramhill was at the
dance last night."

At the New Year prom. at
the Hall K—l, having missed his
partner for a prom., noticed a
young lady nearby who had ap-

parently been visited by the same
calamity. Wishing to be agreeable
he introduced himself and suggested
that they coalesce for that prom. She
excused herself, on the ground that
"she had this one with her brother
Bob. A few proms. afterward, K.
again unfortunately failed to find the
fair co-ed with whom he had signed
up. As the aforementioned young
lady, by some strange coincidence,
was also in waiting, he again sug-
gested they unite their forces, but
the faithful girl declined, giving the
same reason as before. At the tenth
prom. K., waiting at the same rendez-
vous, noticed that she was still there.
R—e, looking for a partner, also ob-
served her, and asked K., if he knew
her, as he would like to get the prom.
"Nothing doing there," said K—l.
"She's waiting for her brother Bob."



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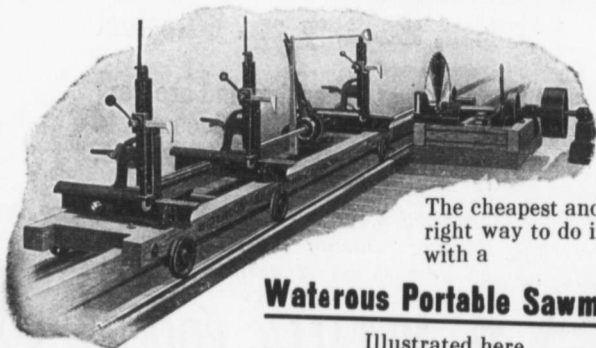
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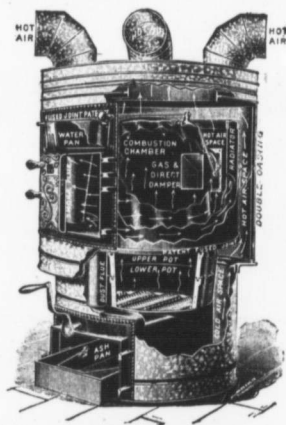
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Another victim.

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Remember that last year's home run
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All Floors.

Daily Delivery
to College.

O. A. C. Students' OVERCOATS

Quarter Less Regular
Price

There are still many months of winter ahead for the Overcoat to come into service. Here is an opportunity of procuring a high-class tailored coat from a choice range of patterns at a special discount of 25 per cent.

Any Overcoat in Stock $\frac{1}{4}$ less
the regular price.

G. B. RYAN & CO.

ONTARIO VETERINARY COLLEGE

Affiliated with the University of Toronto, and under the control of the Department of Agriculture of Ontario.



Infirmary for Sick Animals at the
College.



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

N. B.—Calendar on application.

"Squab" Murray, surveying Lower Hunt—"This place was never as clean as this when I was here."

Whaley—"What large ears Donald has."

Donald (recovering from frost-bites)—"Yes, all I need is your brains to make a perfect donkey."

Irvine (to Jowsey, who is returning from theatre)—"How was the show to-night, Jowsey?"

Jowsey—"It was so rotten that even the Hydro lights went out at the end of the second act."

Rexall
TRADE MARK

Shaving Lotion

25c and 50c,

Delightful to use. Allays all irritation caused by shaving. Also, a full line of needs for gentlemen who shave Razors, Strops, Brushes, Mugs, Soap, etc.
QUALITY IS ECONOMY.

John D. McKee, Phm.B.

The Rexall Store

18 WYNDHAM ST., - GUELPH.
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BUY YOUR

Shaving Outfit

HERE !!

- Gillette Safety Razor, each - \$5.00
- Auto Strap Safety Razor, each \$5.00
- Fountain Safety Razor, each - \$5.00
- Ever Ready Safety Razor, each - \$1.00
- King Cutter Razor, each - \$1.50
- Razor Strops
- Shaving Soap
- Pocket Cutlery.

Guelph Hardware Co.

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R. E. NELSON

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For your up-to-date Hats and Furnishings.

I make a specialty of men ordered clothing, and guarantee perfect satisfaction to all.

Prices Reasonable

All my goods marked in plain figures, and only one price.

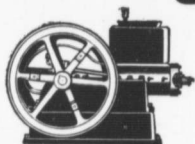
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Men's Furnisher, Hatter and Merchant Tailor.

A Feeling of Security

Of absolute Reliability and Power is
Enjoyed by Every Owner of a

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"GOES LIKE SIXTY."

A mechanical masterpiece of the highest type, with our improved simple methods of cooling, governing and sparking. Positively guaranteed, biggest value. All sizes. Save money. Ask for catalogue and prices.

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610 York St., Guelph, Canada.

A HIGH GRADE
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Of CATALOGS, BOOKS and
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Society and College
Work a Specialty.

R. G. McLEAN

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**The Royal City
SHOE STORE**

Opposite Winter Fair Building,
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Dealer in

**HIGH GRADE BOOTS, SHOES,
RUBBERS, Etc.**

Our display of Footwear is now at its best. Shoe Goodness at moderate prices, and Shoe Elegance and Luxury are both in evidence.

The High Knob Toe, Short Vamp, High Heels and Arches, the New Tips and Perforations, and other New Features are here for the College Students. This is the store for the young people.

See our Window Display.

W. J. HENRY,
Manager.

J. E. SCHMIDT,
Proprietor.

OURS IS A
Sanitary Laundry

Disease germs find no resting place here.

Cleanliness in every detail is a rule rigidly enforced.

Every precaution is taken to insure our patrons the very best service in our power.

Our drivers are at the O. A. C. Monday, Wednesday and Friday mornings.

**Guelph
Steam Laundry**

Phone 95. G. P. McARTHUR, Mgr.

Windmills!



Towers girded
every five feet
apart and double
braced.

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

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Catalogues.

Goold, Shapely & Muir Co.
Limited
BRANTFORD, CANADA.

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53 WYNDHAM ST.,

Opposite where the Street Cars cross.

The Place to Buy
TEXT BOOKS, BLANK BOOKS,
STATIONERY, PENS, INKS,
PENCILS, Etc., Etc.

See our Special O. A. C. and Mac-
donald Hall Note Paper and Envelopes

C. Anderson & Co.

Phone 256.

Is There Something Here You Would Like?

Roqueford or Cream
Cheese,
Olives, Biscuits, Bovril,
Oysters, Fruit, Cocoa.

Quality the Best
Everything to Eat

Benson Bros.
GROCERIES



UNDERWOOD

The Underwood is used more ex-
tensively in Canada than all other
makes of typewriters combined.

550 Underwoods are sold every
day. The Underwood is the "aristo-
crat" of the typewriter world.

United Typewriter Co. Ltd.

EVERYWHERE IN CANADA.

Head Office, Toronto.

Prof. G. E. Day—"In stock-raising, as in other lines of effort, honesty is the best policy. I recently noticed in the paper that a man was arrested at the Toronto Stock Yards the other day for giving his cattle all the water they could drink before he sold them. He was charged with selling watered stock!"

A Latin Romance.

Boybuss kissibus,
Sweetum girbrum,
Girilibus likibus,
Wantum sumorum,
Pater puellibus,
Enter parlorum,
Kickum pueribus,
Exibus dorum,
Nightabus darkabus,
Homus limporum,
Climbibus fencibus,
Breechibus torum.

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WORK For YOU**



You get all the power you need without cost when you have a

**CANADIAN
AIRMOTOR**

The more you know about windmills the better you realize the superiority of the Canadian Airmotor. Our FREE book tells WHY it is better than ANY other. Write for a copy to-day.

**ONTARIO WIND ENGINE &
PUMP CO., Ltd.**

Winnipeg, TORONTO, Calgary

**SWEATER COATS and
SWEATERS**

In all Styles and Colors

**JERSEY HOSE AND ATHLETIC
SUITS**

Made in Club Colors to order, with special club insignia.

Designs submitted.

Get our Catalogue and Prices.

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PHONE MAIN 4440.

**Huyler's
Chocolates ::**

Known the World Over

Sole Agents in Guelph

Alex Stewart

CHEMIST

NEXT TO POSTOFFICE

This Book READ in January,
Means PROFITS in September



Vanco Spray Chemicals and Fertilizers

VANCO LEAD ARSENATE

will destroy all leaf-eating insects—never burns—sticks longer. The largest order ever placed for Spray Chemicals by any Canadian Fruit-Growing Co., was for "Vanco" Lead Arsenate.

VANCO LIME SULPHUR SOLUTION

is strong, uniform, clear, efficient—the strongest perfect solution that can be made. Government Bulletin proves this. Specific Gravity on every barrel, to protect you.

FERTILIZERS

Muriate of Potash—Sulphate of Potash—Acid Phosphate—Nitrate of Soda. We are the only house in Canada selling only straight chemical fertilizers—analysis guaranteed.

BUY WHERE YOU CAN BUY EVERYTHING AND SAVE FREIGHT.

Send for the "Vanco" Book Now—study it at your leisure, and spray for future profits.

CHEMICAL LABORATORIES, Limited

Van Horne Street, TORONTO

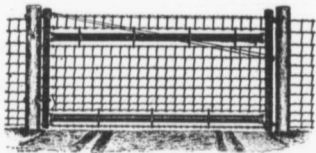
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Who Left The Gate Open?

The hired man, stranger, your own boy, your wife, or perhaps yourself.

WHY?

Because it was so hard to open and shut. Use the CLAY GATE and a small boy can handle it with ease.



Write for particulars of our Sixty-Day Free Trial Offer to

CANADIAN GATE COMPANY, Ltd.
GUELPH, - - ONT.

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HAVE YOU TRIED

Schumacher Feed

Probably not. If not, however, you are among the very few who have as yet to give this remarkable feed a trial. Once tried always used is the manner our customers look towards this feed. It is composed of the best feeding parts of

Corn, Oats and Barley

perfectly blended with cotton-seed meal, white middlings and feed flour. Results are quite easily obtained by giving this feed a thorough test and we know you will be satisfied. Every sack is sold under a Government Analysis guarantee which is tagged right on the sack. If your dealer has not any of this feed in stock kindly drop us a line.

The Quaker Oats Company
PETERBOROUGH □ ONTARIO

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Letters are frequently lost or mislaid. The proper way to remit money is by

DOMINION EXPRESS

MONEY ORDERS
AND FOREIGN
DRAFTS

They are issued in the currency of the country on which drawn, and are payable in all parts of the world. If lost or delayed in the mails, a prompt refund is arranged or new order issued without further charge. Travellers' Cheques, issued in denominations of \$10, \$20, \$50, \$100 and \$200, the handiest way of carrying funds. Foreign Money Bought and Sold. Money transferred to all parts of the world by Telegraph and Cable.

AGENCIES THROUGHOUT CANADA.

Dominion Express Company.

General Offices: Toronto, Ontario.

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Economy
Convenience
Safety



Farmers' Service Department

It will be of great interest to all of the students of the O. A. C. all the graduates and builders and farmers in general that we have established what we call our Framers' Service Department. Our object is to help the farmers and builders erect better buildings at a lower cost. We want to help every farmer who intends building this year with his plans, suggesting the materials, layout and construction, etc.

We are now preparing a set of ten barn plans which we will have ready in a short time, and these will be sent free to all those intending to build this year. In this book of plans we will have information invaluable to the farmer and builder.

We shall be very glad to co-operate with anyone who writes to us for information mentioning that this notice was seen in the O. A. C.

The Metal Shingle & Siding Co., Limited

Preston, Ontario.

Montreal, Quebec.

There's a pair of

SHOES

here that will please you. We are quite positive that we can please you, because our stock is so large and assortments so varied that there is scarcely a style or a leather not here represented

**For Ladies and
Gents**

W. C. GOETZ

132 Wyndham St., Phone 612

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Manufactured under a Special
Formula Exclusively for

THE BUNTIN, REID Co.

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SIGNIFICANT ADVANCES

A few striking comparisons made by Mr. E. P. Clement, K.C., President of the

Mutual Life of Canada

in his address to Policyholders at the 42nd Annual Meeting of the Company on Thursday last:

	1886	1911	Increased
Income	\$ 272,000.00	\$2,450,000.00	Nearly 10-fold
Interest	43,000.00	875,000.00	Over 20-fold
Assets	905,000.00	18,131,000.00	Over 20-fold
Insurance in Force	9,774,000.00	71,000,000.00	Over 7-fold
Surplus	61,500.00	3,312,000.00	Over 50-fold

HEAD OFFICE: - - - - - WATERLOO, ONT.

George Chapman, District Manager.

Office, 8 Douglas Street, - - - - - Guelph, Ont.



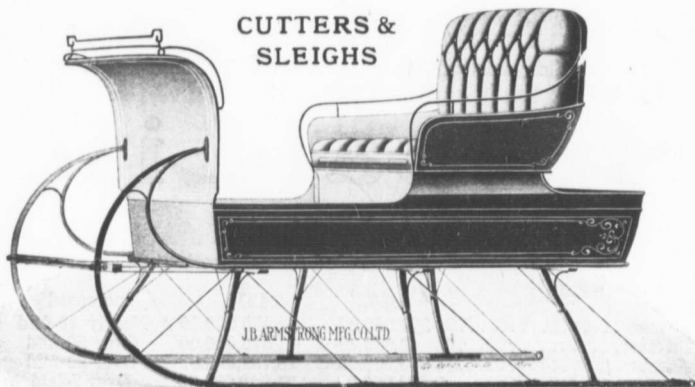
Students will make no mistake if they make the Golden Fleece headquarters for Men's Furnishing. Fine tailoring our specialty. The very newest things in Golf and Hockey Coats. Best qualities of underwear, including Dr. Diemel, Dr. Jager, Stanfield's, Woolsley's and other makes. A beautiful line ready to wear Ulsters, real waterproof coats. All are invited to look through at

KELEHER & HENDLEY

Macdonald Hall ladies will find our furs stock up to the minute; also Golf Coats.

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

CUTTERS &
SLEIGHS



A variety of styles in panneling and decoration. Catalogue and prices on application.

THE J. B. ARMSTRONG MFG. CO., LTD.
GUELPH, - - - - - ONTARIO.

Kandy Kitchen and Quality

Stand for one and the same
thing--The Purest and Best in

Chocolates, Bon-Bons, Etc.

WHILE WAITING FOR A CAR DROP IN AND ENJOY A

Hot Chocolate or Soda

YOU WILL COME AGAIN.

The Kandy Kitchen

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The Farmer's Advocate

and HOME MAGAZINE

(Founded 1866)

Is the Oldest and Best Agricultural Journal in the Dominion.

Published weekly. Subscription price, \$1.50 per annum in advance.

Read the following testimonial:

"My father commenced to take The Farmer's Advocate forty-six years ago—that would be with the first volume. We have taken it continuously since, and have nearly all the numbers on file. We consider it the foremost Agricultural Journal of Canada.

(Sgd.) D. W. KETCHESON."

Hastings Co., Ont.

Write for free sample copy.

THE WILLIAM WELD CO., Limited,

LONDON,

ONTARIO.

Special Styles for Young Men

In "20th Century Brand" Clothes

Young men, by their critical and exacting tastes in dress are doing a good deal to maintain high standards of style in clothes.

The models designed by "20th Century" tailors especially for young men—college men, young business men—are produced to meet the demands of such wearers; not freakish or extreme, but made for the youthful, athletic figure.

You may rest assured that every garment purchased from us is faultlessly bench-tailored by experts, and that it will keep its shape until worn out. These qualities have made our Men's Clothing Department successful.

SPECIAL ORDER CLOTHES

If we cannot fit and satisfy you with a 20th Century Brand suit or overcoat from stock we can show you 400 samples of new and handsome tweeds, serges, worsteds, overcoatings, etc., and have your garments made specially for you from careful measurements. Fit guaranteed.

Everything for Men.

Men's Outfitters.

D. E. MACDONALD & BROS.
Guelph's Big Store.

NIAGARA

LIME-SULPHUR ARSENATE OF LEAD SPRAY PUMPS—HAND AND POWER

NIAGARA stands for the highest in quality, whether in spraying material or equipment. The results obtained from spraying in Ontario during the past four years have been with Niagara. This is the one tried and proved spray. It has always given results. All others are experiments. Can you afford to take the risk? In spray pumps, we have a most complete line. From the barrel pump for the small orchard to the largest 3-cylinder power pump. They have many exclusive features. We would like to demonstrate them to you. Our new catalogue No. 27, will be mailed on request. You should also have our book on "Sprays and How to Use Them." Let us quote you on: Lime-Sulphur, Arsenate of Lead, Raw Sulphur, Gasoline engines, Hand and Power pumps, Trucks, Hydrometers, High Pressure Hose, Spray Rods, Nozzles, and Accessories.

Remember Wherever Fruit Excels Niagara Spray is Used

NIAGARA BRAND SPRAY CO., Limited

BURLINGTON, ONTARIO

OUR OTHER FACTORIES:

Hood River Spray Mfg. Co., Hood River, Ore.	Niagara Spray Co., of N. S., Kentville, N. S.	Oregon Spray Co., Portland, Ore.
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LOOK • LOOK

Suits Pressed - - 50c
Suits Cleaned and Pressed 75c
Pants Pressed - - 15c
Velvet Collars - 75c to \$1.25
Dry Cleaning - - \$1.25

Work done by practical tailors.

CHAS. A. KUTT, - 49 Quebec St.

WANTED—Thoroughly competent man to take charge of farm, 30 acres, near Toronto. Must be good Gardener and understand fruit growing. Comfortable house for man and wife, and all conveniences on farm. Gentleman and family make home there, summer only. To right man salary and interest in returns. Apply by letter only. H. C. Stevenson, 103 Bay St., Toronto.

"Eclipsed by None."

Walker's Electric Boiler Compound

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

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

The Electric Boiler Compound Co., Limited
Guelph, - - - Ontario

The New
Tobacco
Store.

**O. A. C.
Students**

Lion Block
Wyndham
Street.

While waiting for your car at the King Edward corner, step across to Barber's Cigar Store and see the comprehensive collection of Pipes, Pouches, Cigar Cases, also the leading Brands of Tobaccos and Cigarettes—You won't Regret It.

HERB. BARBER

Neilson's
Chocolates. **Q. SON**

Post
Cards.

**a \$3,000
Stock Book
Free**

Contains 183 Large Engravings.

This book cost us over \$3,000 to produce. The cover is a beautiful live stock picture, lithographed in colors. The book contains 169 pages, size 6½x9½, gives history, description and illustration of the various breeds of horses, cattle, sheep, hogs and poultry. Many stockmen say they would not take five dollars for their copy if they could not get another. The finely illustrated veterinary department will save you hundreds of dollars, as it treats of all the ordinary diseases to which stock are subject and tells you how to cure them.

MAILED FREE. POSTAGE PREPAID.

Write for it at once and answer the following questions:

- 1st—Name the paper you saw this offer in.
2nd—How many head of stock do you own?

ADDRESS AT ONCE

International Stock Food Co.

TORONTO, CANADA,

Sole Manufacturers of

INTERNATIONAL STOCK FOOD

THREE FEEDS FOR 1 CENT

INTERNATIONAL STOCK FOOD, 3 FEEDS FOR ONE CENT, is a purely vegetable MEDICINAL preparation composed of roots, herbs, seeds, barks, etc. It is equally good and very profitable to use with horses, colts, cattle, cows, calves, hogs, pigs, sheep or lambs, because it purifies the blood, tones up and permanently strengthens the entire system, keeps them healthy and generally aids digestion and assimilation, so that each animal obtains more nutrition from the grain eaten. In this way it will save you grain and **MAKE YOU LARGE CASH PROFITS**. You don't spend money when you feed **International Stock Food**. You save money because the **GRAIN SAVED** will pay much more than the cost of the **International Stock Food**. Refuse all substitutes and get paying results by using only the genuine **International Stock Food**.

THREE FEEDS FOR 1 CENT

Dan Patch Mailed Free

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

International Stock Food Co.

TORONTO, CANADA.

College Days

Will be made happy if you own a Camera. Remember the folks at home will enjoy the pictures you take, as well as you will in after years, when you will never tire of using them to recall the friends and scenes of your O. A. C. days.

Remember that our stock of Cameras and Supplies is the largest in Western Ontario, also that the Photographic Department of this store is second to none in Developing, Printing, Mounting and Enlarging Work. Get your Drugs, Stationery and Toilet Articles at

Petrie's Drug Store

All Metal "STELLA" Table Lamp



Handsome enough for the Parlor
 Cheap enough for the Kitchen
 Safely and easily carried

SOLD AT
 A POPULAR PRICE
 At All Dealers

Ontario Lantern & Lamp Co., Ltd.
 HAMILTON, ONT.

Official Calendar of the Department of Education for the Year 1912

MARCH:

1. School Boards in unorganized Townships to appoint Assessors. (Not later than 1st March).
 Financial Statements of Teachers' Association to Department, due (On or before 1st March).
 Separate School supporters to notify Municipal Clerks. (On or before 1st March).
21. Normal School Final Examination for Grade A students begins.
29. Night Schools close (Session 1911-1912). (Close 31st March).
15. Reports on Night Schools due (Session 1911-1912). (Not later than the 15th April).
15. High Schools, third term, and Public and Separate Schools open after Easter Holidays. (Second Monday after Easter Sunday).
16. Normal Schools open after Easter Holidays.
19. Notice by candidate for Junior High School Entrance and Junior Public School Graduation Diploma Examinations, to Inspectors, due (Before 20th April).

APRIL:

1. Returns by Clerks of counties, cities, etc., of population, to Department, due (On or before 1st April).
3. Normal Schools close before Easter Holidays.
4. High Schools, second term, and Public and Separate Schools close. (Thursday before Easter Sunday).
5. Good Friday.
8. Easter Monday.
9. Annual Meeting of the Ontario Educational Association at Toronto. (During Easter Vacation).
24. Inspectors' report number of candidates for Junior High School Entrance and Junior Public School Graduation Diploma examinations (not later than 24th April).
30. Notice by candidates to Inspectors due for Senior High School Entrance, Senior Public School Graduation Diploma and the Model School Entrance examinations and the Lower School examination for Entrance into the Normal Schools and Faculties of Education (before 1st May).

The Royal Military College of Canada



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

The College is a Government institution, designed primarily for the purpose of giving instruction in all branches of military science to cadets and officers of the Canadian Militia. In fact it corresponds to Woolwich and Sandhurst.

The Commandant and military instructors are all officers on the active list of the Imperial army, lent for the purpose, and there is in addition a complete staff of professors for the civil subjects which form such an important part of the College course. Medical attendance is also provided.

Whilst the College is organized on a strictly military basis the cadets receive a practical and scientific training in subjects essential to a sound modern education.

The course includes a thorough grounding in Mathematics, Civil Engineering, Surveying, Physics, Chemistry, French and English.

The strict discipline maintained at the College is one of the most valuable features of the course, and, in addition, the constant practice of gymnastics, drills and outdoor

exercises of all kinds, ensures health and excellent physical condition.

Commissions in all branches of the Imperial service and Canadian Permanent Force are offered annually.

The diploma of graduation, is considered by the authorities conducting the examination for Dominion Land Surveyor to be equivalent to a university degree, and by the Regulations of the Law Society of Ontario, it obtains the same exemptions as a B. A. degree.

The length of the course is three years, in three terms of 9½ months each.

The total cost of the course, including board, uniform, instructional material, and all extras, is about \$800.

The annual competitive examination for admission to the College, takes place in May of each year, at the headquarters of the several military districts.

For full particulars regarding this examination and for any other information, application should be made to the Secretary of the Militia Council, Ottawa, Ont.; or to the Commandant, Royal Military College, Kingston, Ont.

H.Q. 94—5.

9—09.

You Can Save Money

by means of a life insurance policy.

Life insurance would create for you an immediate estate at small cost. It would provide security for the person paying your way through college. We are the only old-established Company under the Supervision of the Dominion Government which offers

TOTAL ABSTAINERS

the special rates and plans which they deserve. Consult us before placing your insurance.

W. E. BROLEY, General Agent, ELORA.

The Manufacturers Life Insurance Company

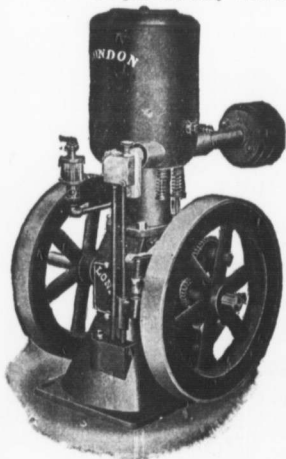
HEAD OFFICE, TORONTO, CANADA.

London Gasoline Engines

Are

Simple, Safe, Powerful

AFTER careful examination of a number of makes we decided that the London engine on account of its simple construction was particularly well suited to the farmers' needs.



These engines are built in sizes ranging from 1½ to 12 H. P., and can be easily fitted up to supply power for all light farm machines. The upright engine shown requires only a very light foundation and can be moved about to run the churn, washing machine or separator, cut or pulp roots and perform numerous other tasks.

No danger. No trouble to operate. Every part is simple. It requires little or no adjusting. Get one for your farm, and a force pump with jack—it will protect you from fire.

We want you to write us to-day. We will show you how you can STOP HARD CHORES with this London Gasoline Engine. Write for Engine Catalogue.

COCKSHUTT

**PLOW
COMPANY
LIMITED**

BRANTFORD

Sole Selling Agents in Canada, Peterboro' West and North for Frost & Wood Farm Implements, Kemp Manure Spreaders and London Gasoline Engines.

The House of Quality

Why is it that the "House of Quality" is so popular with the O. A. C. Students? Because it is at the "House of Quality" where "quality" is paramount—where "Variety" and "Choice" stand unparalleled in this city—and where an eagerness to meet the requirements of the customers and an earnest desire to give satisfaction is the desire of its staff. Our shelves are filled with goods drawn from the best factories and warehouses covering practically the whole world from the British Isles, France, Norway, Germany, Switzerland, Austria-Hungary, Russia, China, Japan, Denmark, Spain, Italy, United States, and last, but of no means least, from our own fair Dominion of Canada. Our Wedding Cakes are the delight of all who have partaken, and, justly, can it be said that our Cakes and Confections are appreciated over the whole Continent. We are direct importers of

HOME AND FOREIGN GROCERIES, CHOCOLATES, BON-BONS AND CONFECTIONS

Our Cafe is the rendezvous of hundreds of partakers of Bovril and other Hot Drinks, Oysters, etc., while our Ice Cream is the delight of old and young alike.

We are Caterers to the largest social functions and yet there is no order so small but that it receives our careful attention.

Six delivery wagons cover the whole of the city and vicinity, daily calling upon and delivering to our hundreds of customers.

Remember

"THE HOUSE OF QUALITY"

GEO. WILLIAMS

Phone 109

GUELPH

Upper Wyndham St.

PROVE TO YOURSELF THE VALUE OF THE

SEEDS

You Buy

This you can do only by making a personal comparison. To enable you to do this we will gladly send you samples of our Clover, Timothy, Alyske, Alfalfa, Oats, Barley and Wheat. You to state in your enquiry what you want, what quantity you want and we will quote prices delivered at your nearest station. If you do this we are certain you will find that our seeds are the best value on the market.

SEND FOR CATALOGUE—OUR PRICES ARE INTERESTING

GEO. KEITH & SONS

Seed Merchants since 1866.

124 KING ST., EAST, - - - - - TORONTO, ONT.



Massey-Harris Drills

Will Sow your Grain Right.

MASSEY-HARRIS DRILLS have strong Steel Frames which hold all parts in proper relation.

MASSEY-HARRIS DRILLS have reliable Force-Feed Runs which sow uniformly and without injury to the seed.

MASSEY-HARRIS DRILLS have Positive Gear Drive.

MASSEY-HARRIS DRILLS have simple and easy control—one motion of a lever lowers the Furrow Openers, applies pressure and starts the feed—the opposite motion raises the Furrow Openers and stops the feed.

MASSEY-HARRIS DRILLS are made in a wide range of sizes, and with Hoes, Discs or Shoes.

Grass Seed Boxes when ordered.



Young Men Stay in Canada

Advise Your Friends to Come to
C A N A D A

Nowhere in the world are to be found so many and such good openings for a career in

Agriculture

FRUIT-GROWING, DAIRYING—WHAT YOU WILL!

The cry now-a-days is "BACK TO THE LAND," and CANADA has got the LAND.

The day of CANADA'S PROSPERITY is the day of

Your Opportunity

Do not neglect it. Think this over.
You can never do as well anywhere else.

Tell your friends to apply for further information

to

W. D. SCOTT,
Superintendent of Immigration,
Ottawa.

or to

J. OBED SMITH,
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DE LAVAL CREAM SEPARATOR

New Automatic Oiling

The most important Cream Separator improvement
since the introduction of the present type
of De Laval machines

The new automatic oiling De Laval Cream Separators are now being supplied in all sizes, and this improvement constitutes another great step forward in cream separator construction—the one thing possible in betterment of the previous De Laval machines of the present type.

The new system of De Laval automatic oiling is distinctively different from any other splash or spray system in that there is a constant regulated feed of fresh oil and discharge of used oil. Other splash systems use the same oil over and over, until it soon does more harm than good.

In the new automatically oiled De Laval machines all gears, shafts and bearings practically float in a mist-like spray of oil and literally never touch each other during their operation.

De Laval agents will be glad to exhibit the new machines and demonstrate the working of the new automatic oiling system, which more than ever enhances De Laval superiority in every feature of cream separator practicability.

De Laval Dairy Supply Company, Limited
14 Princess St., Winnipeg. 173 William St., Montreal.