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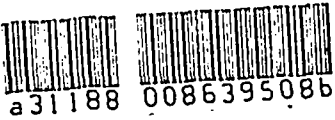
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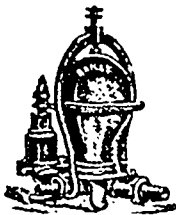
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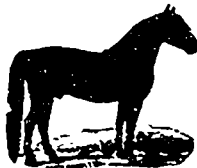
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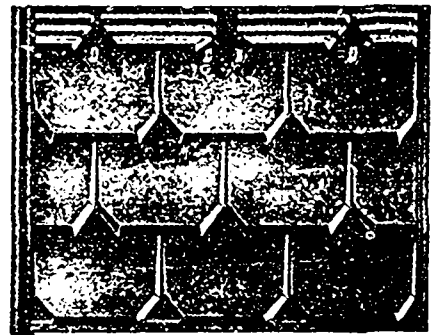
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FARMING

VOL. XVII

OCTOBER 10th, 1899.

No. 6

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Is Agriculture Losing Its Hold Upon the Big Exhibitions?

In conversation recently with a gentleman closely identified with the agricultural interests of this province he stated in effect that agriculture was gradually losing its hold or influence upon the leading Canadian exhibitions, or in other words, so much time and attention are being given to special attractions and similar features of the show that agriculture and its interests instead of forming the leading departments of the fair are gradually being forced aside by these other branches of far less educational value and interest to the public generally.

To make a statement of this nature in face of the fact that the exhibits of live stock and the bulk of farm products shown at the 1899 exhibitions have been larger and better than for several years back, is seemingly to state something that is not founded on fact. But while the gentleman referred to fully recognizes that the exhibits of agricultural products at our fall fairs are as large if not larger than ever before, he takes the ground that the growing prominence given to the attractions before the grand stand and to the ubiquitous side-show tends to detract from the agricultural features of the show and so make the whole exhibition more of a place of amusement than, as it should be, an event of the greatest educational value to the country.

While many may not concur with the above view, yet it must be admitted that the special attraction feature is year by year gaining a greater hold upon and becoming a more important factor on the programmes of our leading exhibitions. Whether this tends to lessen the influence of or to supplant the place of agriculture at the fall fair may be open to question. It does seem to be, however, that the greater prominence given of late years to the special attraction and the side-show, naturally lessens the importance of the agricultural exhibits, both of live stock and farm products as a feature of the fair and tends to give the amusement or entertainment feature of the exhibition a more important place than is given to the more valuable educational side of it.

The time was, and it is not many years ago either, when

the special attraction formed only a mere incidental feature of the fair. In fact, we well remember the time, and it is not a generation ago, when all that was to be seen before the grand stand at any exhibition was the old, enjoyable horse race, the parade of the show animals, and other like events. But how all this has changed! Instead of being the leading event, the horse trot or the prize exhibit is a mere incidental, and at most leading shows has had to give way nearly altogether to the trapeze artist, the skirt dancer, the high diver, or the clown. Besides, the scenery necessary for the elaborate fireworks display at the evening performance, and which remains standing during the day, so obstructs the view of the track that a horse race cannot be watched all the way around the ring, and a person on the grand stand can only see the beginning and the end of the race.

We may well ask what has been the cause of these changed conditions? Is the agriculturist to blame in not keeping up his end of the concern, and in not making exhibits sufficiently attractive, or is the management of the exhibition responsible in catering to the lighter side of human nature rather than to that which makes for education and progress? Probably if we submitted this question to the board of directors of a fair we would get the reply that special attractions are a necessity at a big show in order to make the finances come out on the right side, and that the exhibition association could not afford to pay the amount of money for prizes it is now doing if the increased revenue which the special attraction brings were not forthcoming. While there may be some ground for this contention, yet we are somewhat inclined to the view that the cost of these special features would probably equal the amount of extra revenue they bring into the treasury over and above what would be received if they were not there.

But what is a special attraction anyhow? Is it not something that will draw or specially attract people? If so, then why could not some features of the agricultural exhibit be given more prominence and made to take the place of many of the special attractions? We are convinced that there are many features connected with agriculture and its interests which if brought to the front and advertised as such would constitute as good a drawing card as many of the so-called special attractions to be seen at any of our big fall fairs. We have a striking instance of this in the butter-making competition which took place at the Toronto Industrial Fair a few weeks ago. Though located under the grand stand and with no very special accommodation for visitors it was, from the time the contest opened till it closed, closely watched by a large crowd of on-lookers. And what is more, a large number of these were people living in the city who came specially to see how the butter they consume every day is made. There are other features of the farm and of agriculture generally that in like manner could be put forward as drawing cards for the fall fair if properly arranged and advertised.

But we have enlarged more on this topic than we intended. This whole question opens up such a wide field for profitable discussion that it is hard to confine ourselves to reasonable limits in touching upon it. We would be pleased, however, to hear from any of our readers interested in this question. The position or influence of agriculture at our fall fairs seems to be at stake and its champions should come forward in its defence.

Mature Plants for Feeding

The summary which Mr. Wallace gives in another column of Dr. Hubber's experiments furnishes another striking illustration of the importance of having plants well matured before feeding them. A plant never attains its full feeding value for animals until it is fully developed, or in other words has ceased to grow. The fallacy of cutting



An English rural scene, Skimblecott House, Shropshire, England; referred to by Mr. Frank Wallis, in another column.

fodder when in the milk stage and expecting to get good feeding value from it is clearly borne out by these experiments. In the case of phosphoric acid we find that when the oat plant was ripe 14.25 grains of phosphoric acid had been taken into the plant as compared with the milk stage when only 10.30 grs. in all had been taken up. In the same way the total amount of nitrogen absorbed at the milk stage was 32 grains as compared with 55.5 grains when the plant was ripe.

What will apply to the oat plant will apply in the same way to any other plant cut for feeding purposes. In this country, perhaps, the corn plant has been subject to cutting in an immature state more than any other plant. Many farmers have had the idea that to cut it when in a watery condition such as it would be in the milk stage was the correct thing in order to get the best feeding value from it. But in this they have been greatly mistaken and have wondered many times why they were not getting the results from corn feeding they should. With the exception, perhaps, of cutting green fodder during the dry weather to supplement the pastures it always pays to have all fodder well-matured before cutting.

The British Army Demand for Horses

Though the prospect of war in South Africa has as yet brought no orders to Canada for horses for use in the British army, still there is a possibility of a big demand from that quarter should hostilities break out. The placing of large orders in the American horse markets by the British Government during the past few weeks has, however, caused a firmer feeling here in horse circles, as intimated in last week's market report. The demand for good, heavy horses has been active for some time past and if any orders should be sent to Canada by the British army authorities prices may advance with a bound.

The Canadian Secretary of State has recently cabled to Great Britain to the effect that Canada is in a position to supply artillery horses for South Africa. Some doubt this statement and refer to the fact that a few years ago an Imperial officer who visited Canada could not obtain a sufficient supply of horses for remounts for the cavalry. When the American Civil War was in progress Canada supplied a great many horses for use in the army. But since then horse breeding has greatly deteriorated in

this country and instead of having a supply of really good horses suitable for army or artillery purposes, many of our farmers are overstocked with a lot of inferior animals for which there is no regular or active demand. An improvement has, however, been made in this direction during the past year or two. The recent importation of a number of good stallions and the greater attention that is now being given to breeding on the part of our farmers will in a few years greatly improve the quality of the horses to be found in the country. But this will take time, and in the meantime our farmers may lose this fine opportunity of making a good profit by supplying this war demand.

But while the supply of good horses in this country is undoubtedly very much smaller than it was twenty-five years ago, there are some who believe that there is still throughout the country a number of horses suitable for army purposes and that if orders were received here and good prices paid there would be no difficulty in filling them. The difficulty would be, however, to get these horses together on short notice. One of the reasons why army orders for horses are sent to Chicago and other points in the west to be filled is that a large number of good horses can be picked up very quickly. But in this country under present conditions it is different, and should an order come for a few thousand army horses it would take some time to fill it, and as we have already indicated it is somewhat doubtful if it could be filled at all in reasonable time. But there are some in the trade of the opinion that it could be done, and among them a leading horse dealer in this city who stated a few days ago that if an order for army horses were received here and the fact were made public throughout the country there would be no difficulty whatever in filling it in a very short time. We trust that this would prove to be the case, but from a more or less close study of this question for the past year or two we are inclined to the opposite view. We would, notwithstanding, like to see an order come this way. The horses required for the British market are heavy, well-built animals of the kind favored in London for cab and draught purposes. They are valued at from \$1.25 to \$1.50 each, and stand on an average about 16 hands high.

Farmers' National Congress

The Farmer and the Teacher

At the Farmers' National Congress, which met in Boston last week, President W. D. Hoard, of Wisconsin, in his annual address among other good things said:

The principal drawback and hindrance to agricultural thought, profit, and progress is a lack of union and sympathy between scientific theory and the every-day practice of the farm. As yet there is a wide gulf between the



Pasturage at Skimblecott Farm in the dry season.

teacher of agricultural science and the working farmer, and our farmers are especially lacking in appreciation of the great value to them of the scientific teacher. A moment's study of the situation will disclose a reason for this. The

farmer knows from hard experience what he knows. He has worked it out with his hands. He may not have used his mind as he ought, may not have seen what science has to give him, but it is because he has had but little time to leave hand work for brain work.

But beyond this is a lack of sureness in his mind of the truth of what the agricultural teacher is saying. He is not sure that the facts which environ him are the same as those which surround the teacher. His isolation on the farm compels him to be independent and self-reliant. He can depend on no one but himself for the soundness of his judgment or a hand to execute it. He thinks that very much of what is done at Experiment Stations, taught at Agricultural Colleges, or related in dairy and farm papers, for instance, is nothing but theory. He cannot see how it is going to help him. And because he does not see he does not accept. Who can blame him? His business is to make a profit out of farm work, be it ever so small. He must earn more than he spends, for very likely there is the interest on the mortgage to satisfy. If he cannot make a margin in any other way, he must do it by hard self-denial of many comforts, and still harder work. It is hard on the wife, on the children and on himself, but there is no help for it; he must pay his debts. No wonder, then, that he cannot always see that he can follow the advice outsiders give him. Most men will not act any further than they can see. There needs to be instituted a new order of teaching agriculture in this country, such as is being done in some of the countries of Europe.

The mountain will not, cannot if it would, go to Mahomet. There should be established, at various places in each state, experiment and demonstration farms carried on by men who can correlate both science and practice. The Canadian Government, under the wise direction of Prof. Robertson, has solved this problem in one line at least. It has introduced dairying into regions where the industry was unknown, by building cheese factories and creameries, in the latest and most approved form, and placing them in charge of graduates of government dairy schools. These institutions were maintained until the farmers about them had learned the way and method of true practice, when they were absorbed by local capital. In this way the farmers learned that what they are too apt to call "theory" and "book farming" was the essence of practical method.

The *Southern Farm Gazette*, in noting the fact that the German farmers import from 4,000,000 to 5,000,000 bushels of corn a week to feed their fattening animals says:

"It does seem a little strange that German farmers are able to import American corn for hog and cattle food, while Southern farmers claim they cannot afford to raise pork on corn. Where is the difference—in the stock or the feeders?"



Shire fillies, cattle and pasturage, Skimblecott.

The German farmer is a scientific feeder. He is a believer in the balanced ration. He makes large use of his experiment stations. When a little boy, he was taught the elements of agriculture in the primary school. When he became a man he was a reader and student of the science of feeding. If any professor, like Wolfe, had patiently

experimented on the feeding question, the German farmer did not sneer at him and call it "all book farming and theory." He reached out after the truth wherever he could find it. As a consequence, he can pay the freight on American corn for 4,000 miles, pay the speculator's profit for it besides, and make money by feeding it. When our American farmers evidence a disposition to respect what science is patiently doing for them, and become more studious and intelligent, they will make more money with their farm animals.



Cattle and pasturage, Skimblecott.

But something must be done to close up this gap between the farmer and what agricultural science has to offer. The Short Course in the Wisconsin Agricultural College, the Dairy School, the Farm Institutes, the Wisconsin Dairymen's Association, all aided very greatly by the agricultural press, are doing what they can to close this gap in Wisconsin. I speak more particularly of my own State because I am more conversant with the results obtained among the people. These forces are taking hold of our young men, giving them a broader idea of what it means to be a farmer, and how a better study of what science has to give will lighten their labor and increase the profit of that labor. Three great ruling objects control here: To make better farmers, and thus encourage the making of more farmers. Hard, unthinking, unprofitable farming drives the boys away from the farm. The farmer must give his boy a chance to know a little more than he can teach him about farming in these days, or he will leave the farm. The third grand result is the building up of the wealth and agricultural prosperity of the State, which comes as the crowning result of a wiser and more practical union of the farm, the farmer, and the teacher of agricultural science.

Results of the Ottawa Milk Test

We have received the following official statement of the results of the milking competition at the Central Canada Exhibition, Ottawa, from J. W. Hart, Superintendent of the Kingston Dairy School, who conducted the test:

The prizes offered amounted to \$140 in all; \$50 of this amount being given by the Exhibition Association and a like sum by the Canadian Holstein-Friesian Association, and \$40 by the Holstein-Friesian Association of America, provided the prize winners were recorded in the Holstein-Friesian Herd Book.

Ten cows entered including one Ayrshire, but the last mentioned was withdrawn before beginning the test, leaving the field to nine Holsteins. Clifford M. Keeler, Greenbank, Ont., entered "Princess Lida 4th" and "Rideau Gretqui." His cows were handicapped by having had the milk left in the udders the morning previous to beginning the test on account of judging. C. J. Gilroy & Son, Glen Buell, Ont., entered "Inka Sylvia," 41006; "Carmen Sylvia," 39060, and "Juanita Sylvia," 44825. A. and G.

Rice, Currie's Crossing, Ont., entered "Paulina Mercedes Jewel" and "Daisy Texal 2nd," 44831, a cow having a seven days' official test of 437 pounds of milk and 18 pounds 2 ounces of 80 per cent. butter as a three year old. "Queen De Kol 2nd," a four-year-old, that had dropped her last calf on July 29th, was entered by G. W. Clemons, St. George, Ont. Considering her age and the fact that she was competing with cows fresh in milk her performance was a most creditable one. John Drummond, of Parry Sound, entered "Lucknow Queen." This cow seemed to be more affected by the strange surroundings than were her competitors.

The cows were milked dry at 9 p.m. on Tuesday, Sept. 19th. On Wednesday and Thursday, the days of the test, they were milked three times daily, at 5.30 a.m., 1 p.m., and 9 p.m. The particulars of the test are given in the following table. In scoring the solids, not fats, were estimated to be one-tenth as valuable as the fat:

Rank.	Name of Cow.	Weight of milk.		Lbs. fat in 48 hours.	Lbs. solids not fat in 48 hours.	Total milk solids in 48 hours.	Score: Solids not fat + 10 times fat.
		Lbs.	Oz.				
1	Inka Sylvia	132	5	3.73	10.51	14.24	47.84
2	Juanita Sylvia....	125	8	3.58	10.42	14.00	46.21
3	Carmen Sylvia..	115	3	3.37	9.45	12.82	43.13
4	Queen De Kol 2nd	129	2	3.22	10.49	13.71	42.65
5	Princess Lida 4th	105	9	3.27	8.84	12.11	41.53
6	Daisy Texal 2nd..	108	9	3.19	8.96	12.15	40.87
7	Rideau Gretqui..	97	4	3.08	8.41	11.49	39.21
8	Paulina Mercedes Jewel	95	15	2.60	7.73	10.33	33.76
9	Lucknow Queen..	86	14	1.97	7.28	9.25	26.98

Inka Sylvia's record in detail for the two days' test was as follows:

September.	Weight of milk.		Per cent. of fat.	Lbs. fat.	L.R. at 60°F.	Lbs. solid not fat.	Score: S.N.F. + 10 F.
	Lbs.	Ozs.					
20th, 5.30 a.m.	21	14	2.4	.525	30.	1.746	7.000
1 p.m.	20	0	2.6	.520	29.5	1.578	6.778
9 p.m.	23	6½	3.2	.749	29.	1.847	9.337
21st, 5.30 a.m.	23	6	2.8	.655	30.	1.884	8.429
1 p.m.	21	6½	3.4	.728	29.	1.700	8.978
9 p.m.	22	4	2.5	.557	29.5	1.754	7.324
	132	5		3.73		10.51	47.84

Old Hens vs. Pullets

In the last annual report of the Commissioner of Agriculture and Dairying some valuable data, based upon experiments conducted at the Agricultural Experiment Station of Utah, are given relative to the profits to be derived from the keeping of old hens and pullets for egg production. The accompanying illustrations represent in a very striking way the per cent. of profit from pullets and from young hens. It would appear that the per cent. of profit from the former is fully five times greater than from the latter. The following extract from the report, including the tables, shows very clearly that our farmers, in order to make the most out of their poultry, must get rid of their old hens as soon as possible and keep only young birds for egg production:

When it comes to a comparison of the records of the old hens and the pullets, there is no disputing the fact that whatever other glories age may bring, it does not bring with it a profitable egg basket. A comparison of pens 1 and 5 with 2, 3, 4 and 6 in tables 4 and 5, will show that the profit from the young hens or pullets is about five times greater than that of the old hens. Not only did the old hens lay considerably fewer eggs, but the eggs were worth less per dozen. Those of the old hens averaged less than a cent a piece, while those from the pullets, with the exception of pen 2, averaged more than a cent apiece. This is accounted for by the fact that the pullets laid a larger proportion of their eggs in early winter, when the price was good. As already stated, the old hens were three to four years old.

It should be stated that the results of this experiment have been accomplished with fowls kept in confinement. During the winter months, a period of between three and



Fig. 2—Representing the per cent. of profit from old hens.

four months, they were not outside of the building. The four fowls had less than 8 square feet of floor space inside of the building, and when the male was with them, still less.

TABLE NO. 4.
EGG RECORD.

Pen.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	Total.	Average per Fowl.
1.....				6	38	54	59	27	14	21	12	231	64
2.....			15	28	57	79	80	67	63	76	60	25	550	137½
3.....	15	29	53	59	67	80	75	64	57	60	44	28	631	157½
4.....	19	26	54	64	76	88	91	78	65	85	62	19	727	181½
5.....	2	11	15	21	74	73	67	51	49	56	4	4*	427	106½
6.....		3	41	35	73	72	73	71	72	68	52	43*	603	150½

*Pen 6 laid eight eggs the last week of experiment, and these are included in the number recorded in October.

VALUE OF EGGS PRODUCED.

Table No. 5 shows the market value of eggs laid each month by the several pens. The average monthly price of eggs is given at the bottom of the table. Taking pen 4, the best month was August when 85 cents' worth of eggs were laid; eggs were then 12 cents per dozen. January was the next best, when 81 cents was made, with eggs at 18 cents per dozen.

TABLE NO. 5.
VALUE OF EGGS IN CENTS.

Pen.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septemb.	October.	Total value.
1....				.06	.32	.45	.50	.23	.12	.21	.14	...	\$ c.
2....			.22	.29	.48	.66	.66	.56	.52	.76	.70	.42	2 03
3....	.25	.60	.80	.62	.56	.67	.63	.53	.48	.60	.51	.47	6 72
4....	.32	.54	.81	.66	.63	.71	.76	.65	.54	.85	.72	.32	7 53
5....		.04	.17	.20	.18	.61	.61	.56	.42	.49	.65	.07	4 00
6....		.06	.61	.36	.61	.60	.61	.60	.60	.68	.61	.27	6 06
* Price of eggs	.20	.25	.18	.12½	.10	.10	.10	.10	.10	.12	.14	.20	

* Market price per dozen.

The Tulip

By John B. Pettit, Fruitland, Ont.

Of all the so-called hardy Holland bulbs there is, in all probability, no other one so important for early spring display as the tulip. For beautiful forms and dazzling brilliancy of color the tulip is far in advance of all other spring flowers, and nothing can equal their gorgeous appearance in beds, groups, lines or ribbons in the spring garden or in any other position in which they may be placed.

About the middle of the 15th century the tulip craze started in Holland, and since that time there has been no decline in the popularity of this the most brilliant of spring flowers. In those days there were but very few colors and varieties, and most people of the present day are surprised to learn that none but the most wealthy were able to obtain a single bulb, much less have them planted by hundreds or thousands in their gardens or lawn beds, as now is often the case. The following instances of exorbitant prices demanded for bulbs in those days may prove of interest to readers. One single bulb of the variety "Semper Augustus" was sold for thirteen thousand florins, or, in our coin, about \$5,200. For a bulb of another variety a man paid his friend four thousand florins, a new carriage and a pair of handsome harnessed horses. In another instance four brothers went into partnership to buy a single tulip bulb, no one of the four having sufficient means to purchase it himself. These instances may be received with doubt, but documents are on record to verify the truthfulness of the same, and many interesting stories could be told of the great excitement that prevailed in Holland at that time, and of how fortunes were made and lost in bulb speculation when the tulip mania was at its height. Since that time there has come about a great change and now instead of few colors we have them, "in selfs," in all imaginable shades, purple, crimson, scarlet, pink, yellow and of the purest white. Of the striped, or variegated flowers, there are purple, violet, crimson, rose, puce, cerise and yellow stripes on snow-white grounds, and crimson, scarlet, maroon and red flakes or feathers on rich gold grounds. As for named varieties—there are hundreds of them. Instead of paying a fortune for a single bulb, we may now secure them for such a mere trifle that it is possible for almost every home to be supplied with hundreds of them. All this is the result of the labors of the hybridist and the practical gardener. The former has spent his time and exercised his skill in improvement of form and color, and the latter has studied out the cheapest manner of production and cultivation.

Of the many distinct classes we will in this article give a very short description of but a few, each having distinct characteristics and merits. (1) Bybloemens.—Of this class there are a number of beautiful variegated flowers of many different colors, but all of them are striped, flaked, feathered or spotted with white. They are extremely beautiful. (2) Bizarres.—This beautiful class is identical in every respect with the bybloemens except that its rich colors are dark and velvety and its variegations yellow where the bybloemens are white. This is a magnificent class. (3) Sweet-scented.—The flowers of this class are more or less fragrant as well as very beautiful. (4) Parrot.—These have exquisitely fimbriated petals, made up of crimson, green and yellow colors, some combinations of which remind one of the beautiful plum-

age of some species of parrot—hence the name. These are extremely large, distinct and beautiful. (5) Darwins.—This is the most recent class among tulips. The blooms are borne on long, slender stems, are large and richly colored, the shades ranging from black to crimson (mostly dark) and are grand. (6) Gesneriana.—This is a very brilliant scarlet with blue centre, very large, and in many respects the most gorgeous of all tulips. (7) Single Early.—Of this class there are hundreds of varieties and to it belong most of the single varieties in cultivation. (8) Double Early.—This class furnishes most of the double tulips grown at the present time. Some of them are almost as large and as fine as peonies. (9) Variegated Foliage.—This class has many varieties, both double and single. All have beautifully variegated leaves and the flowers are exquisite. This is a most charming as well as a rare class. (10) Duc Van Thol.—Of this class there are about a dozen beautiful varieties. They are dwarf of habit, but are very early bloomers, in this respect leading all other classes. They are mostly used for forcing for winter blooming.

Tulips are of the most simple culture and when once secured they will last a lifetime, not only giving regular yearly bloom but also increasing rapidly annually. They will thrive in any kind of soil and in any location. Although this is a fact they will give much more satisfactory results if care is exercised in the selection of their location. They thrive best in a rich, deep, sandy soil. This should be well and deeply spaded up before the bulbs are set. They should be planted four inches deep and from four to six inches apart according to variety and size of bulbs. In selecting a place for tulips a location should be chosen where they may remain for some years. Many people lift their bulbs every year after they have ripened up in the summer and replant them again in the fall. This is a mistake, for, besides the annual labor in connection with lifting and replanting, they will not produce as fine flowers or multiply as rapidly. They should be left in four or five years and then lifted for a summer as the clumps, by that time, would need dividing.



Fig. 1.—Representing the per cent. of profit from the pullets.

When a new bed of tulips is being planted the work should be done early in the autumn, if the best results are desired. Although they may be planted on into November if the soil is not frozen, and still produce flowers, the results will not be satisfactory. The bulb has to make the most of its roots in the autumn before the earth freezes up, for as soon as the frost is gone in the spring the flower buds are beginning to appear. Then there is no time for the bulb to make roots, but instead of this the root must be feeding the flower and producing a new bulb.

The earlier they are in in the autumn, the better, as more time is given for root formation and the stronger the roots the larger and finer the flower the coming spring. Early in September is the time to plant tulips for most satisfactory results.

Although tulips are perfectly hardy, they do much better if they have some protection during the winter. Put a covering of stable manure over the bed in the autumn to the depth of from four inches to six inches. This will keep the bulbs from being repeatedly thawed out and frozen up should the winter be an "open" one. Besides this, the strength is washed out of the manure down into the bed, and thus the soil is annually enriched. If manure cannot be secured use straw, hay, or any coarse litter. Of course this covering must be removed early in the spring.

In buying bulbs for planting do not secure the cheapest mixtures obtainable. Although they give much pleasure, with a little more outlay and the selection of some named varieties the result will be far more pleasing. As they are a thing that will last for years, careful selection should be made in the outset. Among the finest named early single tulips are: "Canary Bird," yellow; "Cerise Grisdeline," beautiful rose; "Cottage Maid," delicate rose with white stripes; "Keizer's Kroon," bright crimson, broadly edged with yellow; "L'Immaculee," pure white; "Potterbaker," bright canary yellow; "Van der Neer," the finest of all violets—extra large flowers; "Proserpine," rose, shaded with salmon, extra fine. Among late singles are many varieties of Bybluemens, Bizarres and Parrots. In early double are "Gloria Solis," scarlet, deeply edged with bright yellow; "Le Blason," white, tinged with rose; "Purple Crown," dark purple red; "Rex Rubrorum," bright scarlet; "Titian," bronze red with pale yellow margin. In late double are "Blue Flag," purplish violet; "La Belle Alliance," violet and white; "Marriage de ma Fille," pure white; "Yellow Rose," golden yellow. Out of the many varieties which I have tested these named were found among the best.

Most pleasing effects can be produced by filling a whole bed either with one variety or with two or more varieties coming into bloom at the same time. In planting more than one variety in the same bed care should be exercised to select colors that will "blend," and also varieties whose flower stems are about the same length. Nothing gives more displeasure to the true florist than to have a bed of tulips made up of a hundred varieties: some short, some tall, some early, some late, some single and some double. Solid masses of color are what pleases the flower-lover's eye.

The tulip, the flower that many years ago caused men to go crazy, and brought about the financial ruin of men of wealth; the flower that then was, and now is, admired and loved by all, and the growing of which furnishes labor for thousands of men in Holland, should be in the garden of every flower-lover in the land.

Heavy Horses

By Stockman

Few of our horsemen ever go into the question of what is the best horse for the farmer to raise. Perhaps most men, if casually asked, would say the heavy draft horse. If asked for a reason, probably the first to hand would be that he can better work for his living in his youth than can the fast driver or the high stepper, and, secondly, that there are fewer misfits or damaged horses amongst the

heavy ones. If a driving horse is blemished slightly, it seriously impairs his value or may make him unsaleable. On the other hand, a slight blemish seldom interferes with a draft horse, and if serious he is always available for farm work.

The feature of the question which has, perhaps, not so much been considered is the fact that for export *only* the draft horse is wanted. This statement is, of course, comparative, but its value will be apparent when one thinks that, out of 30,000 horses exported to Europe, over 90 per cent. were draft animals weighing 1,500 pounds and upwards. Of those going to Germany, 95 per cent. were draft. To Great Britain for a series of years the average has been 90 per cent. draft, 7 per cent. of carriage and coach horses of a high class, and only 3 per cent. of trotters and road horses. France and Belgium take a larger proportion of lighter horses—cheap "cabbers" they are called,—but France only takes less than 4 per cent. of the horses which cross the Atlantic. Draft horses of good size and fair quality is the export horse wanted, and there is practically no market for any number of other kinds, while for heavy horses, if quality be right, the demand has always been much greater than the supply.

WOOL.

The price of wool has been very low this year and many farmers held for an advance. There is no immediate prospect for increased prices. Canadian wool is not as clean as the ordinary English fleece. Our winter feeding causes more bits of hay chaff and clover heads to get into the wool and these detract from its value. Lately ~~top~~ from English wool was sold in Bradford for 18c. per lb. This is the wool scoured, cleaned and worked into long rope strands about three fingers in thickness.

With the clean manufactured article selling at 18c. there is not much prospect for a big price for Canadian wool. There is, however, an increased American demand. The excessive stocks are being worked down in the States and the demand for our sheep, if not for the clipped wool, is very good.

Winter Butter Making

By J. F. Miller, St. George, Ont., at Listowel Makers' Convention.

SEPARATING MILK.

In order to get the best results in separating milk it should be done just as soon as the milk is drawn from the udder, before it gets cold. However, we find that this cannot be done when operating a creamery, so we must do the next best thing. When the milk arrives at the factory it should be weighed and the amount credited to the one who sent it. All milk which is not sweet and clean should not be taken into the factory, as this will only spoil the good milk to a certain extent.

The butter-maker will find it more difficult to detect flavors in the milk in the winter season, as the temperature is generally so low. A good way to detect a flavor is to take a sample, cork it in a pint jar, then put this bottle in a pail of water and heat the water up to a temperature of 125 degrees Fahr.; then draw the cork and you will be able to detect any bad odor there may be in it.

All milk should be pasteurized unless it is all of a good flavor. By pasteurizing the whole milk all bad germs in the cream and skim-milk are killed, thus making the skim-milk of much more value to anyone feeding calves. It also gives a more uniform flavor in butter.

After the milk has been run into the receiving vat the steam should be turned on gradually, bringing the temperature up to 70 degrees, and should be held at this heat a few minutes before running through the separator. If not pasteurized the milk should be heated up to 100 degrees for winter and 85 degrees to 90 degrees in summer. When the milk begins to arrive at the factory the separator may be started, after oiling all the parts, and filling the bowl with warm milk or water.

Increase speed gradually at first, taking from 10 to 15 minutes for large machines. When the speed is up to the proper number of revolutions start the milk into separator, slowly at first. The speed of separator should never slacken during the run unless forced to do so. Keep the separator well oiled, but do not have the oil running in streams down the floor, as this is simply waste. Keep the separator perfectly clean; after washing set bevel under steam pipe and steam the inside for a few minutes. Catch a sample of the skim-milk every day and have it tested; any separator leaving more than 1% in skim-milk should not be used as you will soon lose enough to buy a new separator. In order to get a fair sample of skim-milk have a little hole made in skim-milk pipe where a drop will come out about every minute, there you may set a jar and get a fair sample.

Run speed of separator about 500 revolutions more than the number which is marked on the bowl, we find we can do better skinning by so doing. Do not let milk be dripping or spilling around the floor; see that all pipes and joints and taps are perfectly tight and have everything in good shape.

The cream should contain from 30 to 34 per cent. fat. Put about 10 or 12 per cent. of good starter into it, which will reduce it to 28 or 32 per cent. This I have found to give good results when churning. The starter may be added as soon as cream starts into the vat.

RIPENING THE CREAM.

Ripen the cream at a temperature of from 70 degrees to 75 degrees or have the cream started to thicken in 6 hours from the time it has been separated. Quick souring will improve the flavor of butter. As soon as cream is thick it should be cooled down quickly to a temperature of 60 degrees, say in one hour's time, then gradually down to 50 or 52 and should remain at that temperature for 3 or 4 hours before churning in order to harden the globules of fat properly. Cream should be thick 10 or 12 hours before it is churned. During the ripening process it should be well stirred occasionally to ensure even souring; the cream vat should also have a cover to help keep the heat even and keep any taint out.

CHURNING.

Scald the churn thoroughly; have water not less than 180 degrees; revolve churn five minutes, then draw water and cool the churn by adding cold water. Always stir the cream well in the vat just before removing it into the churn, and, when at all possible, run it in by gravitation. The cream, of course, should be strained into churn. For export butter color will hardly be required. The temperature for churning will depend on the richness of the cream; have cream rich enough to churn at 50 to 54 degrees Fahr., time of churning varying from fifty minutes to one hour.

When the butter is about to break, the churn should be stopped and the temperature taken; if the cream has warmed up a little put a pailful of cold water into the churn, but if it is cool enough do not use water too cold, but in all cases water should be used at this stage, as it will aid in getting a better separation. A loss of butter fat is often due to cream being too warm at this stage and temperature not being lowered. Churn until granules are as large as grains of wheat; then stop the churn.

After allowing it to stand five minutes, draw off the buttermilk, then wash with plenty of pure water. The temperature of the water for washing butter may be about two degrees lower than butter. If the butter is in good condition once washing will be enough, otherwise wash twice, or until water runs off perfectly clear; a little salt may be added to the washing water. This will give the butter a bright color, and help the separation. Keep temperature of butter room about 55 degrees.

WORKING THE BUTTER.

When the butter has been properly washed it should be allowed to stand for thirty minutes, at least, before working. The amount of salt used will be gauged entirely by the requirements of the market. Where butter is made in a trunk churn and worked on a separate worker, the butter

will be weighed before salting and salted accordingly. But when salted in churn or combined butter churn and worker, the weight of salt may be calculated from weight of milk; salting should be uniformly done, especially for export trade. When salting butter in churn one-eighth ounce more should be used per pound butter than salting on table. When butter is worked once, working should be carefully done. All little particles should be incorporated into the mass, and not left lying around the table.

When butter is worked by number of revolutions of worker be careful not to overwork it. You may find out the proper number of turns to give worker by a careful examination of butter forty-eight hours after it has been worked; if it has been over-worked it will be greasy and show injured grain. If not worked enough, it will be streaked.

PACKING.

If butter is made for export, nothing but a first-class package should be used; it should be lined with parchment paper. A little salt may be put in bottom of box.

After paper has been brought over the top of butter, a little more salt may be sprinkled on, the cover of package should rest tightly on this. Butter should be tightly packed and the package should be air tight. Keep the packages clean by using canvas sacks, which will aid in selling the butter. Give the creamery business your most careful attention. Keep everything scrupulously clean and success will surely follow.

Leaks on the Farm*

By A. W. Peart, Burlington, Ontario.

There are so many different departments in agriculture, its operations are so varied and complex, and it is under the control of such diverse and innumerable laws, some of which are within our command, and others again that are not, that it would be an utter impossibility to provide against every source of loss. Still there are some leaks for which we ourselves are alone to blame, and it is to a few of those I wish to direct your attention.

INATTENTION TO OUR OWN BUSINESS.—Owing to the keen competition in every line of work no man can expect to succeed if he wastes his time on matters that have no connection with his business. If you profess to be a farmer, be one, first, last, and above all things, and give your farm the best of your thoughts and time. Do not leave the management to incapables, though perhaps well meaning heads, nor the work entirely to your help. Look the world over and you will find that the most successful men, financially, are those who are generally found in the heart of their business. We cannot afford to neglect our farms, and should we habitually do so, sooner or later we shall be awakened by the shock of a crisis in our affairs.

LACK OF SYSTEM.—The more perfect are the parts of a machine both in themselves and in their relation to each other, as a whole, the more effective is the work in quality as well as quantity. What we want is well directed energy, not blind force, and to use our brains as well as muscle. Some of us appear to be guided by rules as yet unknown. Whatever work we start to do we plunge blindly on towards its end without taking the trouble to think, "What is the best way to do this?" Rather than examine for ourselves whether or not it will pay to do a certain thing, we sometimes take the word of someone else for it and go ahead. Now, unless our venture is based upon sound and well tried experience, it will probably end in disappointment. Everything is in disorder around us; nothing is done at regular hours; there is no stated time for work, for rest, or for anything. Whether our work is done in season or out of season it seems to be all the same to us. But it is not all the same; for every violation of the law of order we suffer a loss. Some keep more help than would be necessary with good management. Wages are high in this country, and here is room for a big

*A synopsis of an address prepared for Farmers' Institute meetings in Ontario, condensed for publication by the Superintendent.

leak. Again, we sometimes err in the opposite direction, and try to make two men do the work of three. What happens? Nothing is done well; our hoed crops, grains, foddery, and orchards do not get nearly the care and cultivation they require, and, instead of having even an average crop, we scarcely get a half one. We have followed the "penny wise, pound foolish" course, and have lost money. No two laborers that we employ have the same grip on different sorts of work. One may excel with a team and the work involved thereby, while the other has greater aptitude with the hoe, the pruning shears, or in feeding and caring for stock, etc. As far as possible, then, we should so arrange our work that each man may do that for which he has the greatest liking and the most skill, and thus make the most of the labor at our command.

EXTRAVAGANCE.—By this I mean more particularly those outlays of money that are unnecessary from an economic standpoint, and which, if excessive or unwise, lead towards decay. Some of us have a weakness for buying implements or machines, although we may not require them, simply because they are cheap. I think it may be laid down as a safe rule that "any article we do not require is dear at any price." Our expenditure may be divided into two classes: productive, and unproductive. An example of the former would be money invested in some article necessary to carry on our business, as a plough or a binder; and of the latter, any of the luxuries of life, things unnecessary to prepare us for our work or to perform any of the operations of the farm, as expensive houses, costly dress or furniture. Individual means and social considerations step in here, and each of us must be his own judge. It seems to me, however, that the principle or test we should apply in making outlays of the latter sort is, "Can I, in living on this scale, keep within my means or income permanently, and also lay something by for a rainy day?" To me there are few things more sad than to see a man who in his early and middle age, having had a competence, becomes as he grows old the victim of past extravagant habits, or perhaps of a combination of circumstances over which he has no control, and who is dependent, when he is unable to do any more work, either upon the charity of friends or perchance upon that of the public. So that I think it is the part of wisdom for each of us to look carefully into our expenditures.

EXPOSURE OF MACHINERY.—A very frequent source of loss lies in the lack of care of farming implements and machinery. Instead of having a place under cover for things, the binder, plough, wagon, or whatever it may be, are too often exposed all the year to the damaging effects of the weather. Rain, dew or moisture rusts and eats away the iron and steel, and the machine is injured more than by the wear and tear of the whole season's work. It lasts but a few years, and literally rusts out instead of wearing out. Thousands of dollars are lost every year through carelessness in this matter, and I venture to say that the saving made by proper care would in five years on a farm of average size more than build ample implement buildings and keep them in repair through succeeding years. I do not favor storing implements and machinery in barns. Should they be burned the loss is so much the more heavy and grievous.

GENERAL LACK OF CARE.—A great deal may be saved by keeping the axiom in view that "a stitch in time saves nine." We should keep an eye upon our farm appliances, and if anything wants repairing see to it at once. If a bolt breaks in your mower or binder, or a nut loosens, attend to it immediately. A few minutes now may save many dollars and much valuable time afterwards. Have a place for everything, and when any article is not in use insist that it be put in its place, and there will be no loss in looking for it when again wanted. As soon as our soils are in the right condition to work in the spring there should be no delay in seeding our barley, oats or spring wheat, as every week we lose means a decreased yield of grain at threshing time of three to five bushels per acre. This is one of the great advantages of fall ploughing. Unused wells should not be left open or machinery exposed where

stock runs. We may lose a valuable horse or cow. We should see that there are no holes in our bridges or in the floors of our buildings. A broken leg may easily result. And above all we should carefully guard against fire. It has taken the heart out of many an honest man. And so on with hundreds of other matters.

MISTAKEN ECONOMY.—Liberal economy I am convinced is the happy medium at which we should aim, free from extravagance on the one hand and niggardly parsimony on the other. Sometimes we refuse to spend even a cent upon an object or in a cause which clearly would be a help to us. This is false economy. It seems to me to be a mistake to fall into the habit of always staying at home. We are apt to grow narrow and set in our ideas and to view changes or innovations even if they would benefit us, with suspicion. There are times during the year when we can leave our farms without much sacrifice to our work. Let us go; we need not spend money extravagantly but let us use enough to make our trip pleasant and comfortable, then our minds will be in an attitude to absorb ideas which we may be able to apply with advantage to our work. Our outing will make us happier, more contented, wider-minded and better citizens.

BUSINESS HABITS.—I do not suppose that more than ten per cent. of the farmers of the province keep cash accounts of their various receipts and expenditures. Farming is of such a nature that I think it would not be wise to advocate any elaborate system of bookkeeping, but my conviction is strong, and it is grounded in experience, that many leaks would be closed were cash accounts more generally kept. Each farmer has money coming in from various sources—sales of cattle, hogs, sheep, horses, grain, fruit, interest on money loaned, etc. We also have expenditures in different directions—purchases of implements and machinery, wages, taxes, outlays for the home, etc. Make as many divisions of your receipts and expenditures as best suits your business and purposes; of the former say one heading for "Farm Receipts," one for "Stock Receipts," another for receipts from sales of "Fruit," etc. In expenditures there might be one heading for "Farm," another for "Stock," another for "Wages," and still another for "Domestic Expenditure," and so on. You might also have a heading for "Notes and Bank Accounts." A well bound account book about fourteen inches long by seven wide with two narrow columns at the right of the page for the dollars and cents, and two at the left for the month and date and containing about 200 pages would be suitable for the above purposes and would last several years. Number the pages of the book if it is not already done, and on the first page make an index setting forth various headings with their respective pages in the book, e.g., "Farm Expenditure," page 32. Then when you wish to make an entry just glance at the index and you can see at once the proper page to turn up. You can add up your various receipts and expenditures yearly or half-yearly or as best suits you, compare and balance, then take a mental glance or inventory of the value of your stock, machinery, farm, etc., as compared with say a year ago and you can tell close enough for all practical purposes where you stand financially. It may be said that I know how I stand close enough without going to the trouble of keeping accounts. But that is not the point. If there is anything that we as farmers are lacking in today it is in business ability, and by keeping even cash accounts we develop that faculty, because we are then beginning to do our business in a business-like way. Every evening say, let us enter the business transactions of the day, if there were any, and instead of being a task it will soon become a pleasure. This habit begets other business habits, such as taking receipts for money paid out, and filing them away so that if the account is presented the second time for payment, you are saved from paying it again by producing your receipt; paying cash as you go so far as you can and thus saving about 20 per cent. on running accounts or credit prices. Your account book in court too would be as good as that of the man who billed you the second time. It also makes a person more careful in his expenditures, and is moreover a useful record that one

can refer to years later for the price of a given article. In short, it makes a man brighter and keener and less likely to be bitten by the sharks of humanity.

SOCIAL AND PUBLIC MATTERS.—I am persuaded that there has been in the past a great leakage or rather lack of influence in social and public lines. The problem is how can we best develop the social status and public power of our farmers? I would reply by educating our boys better than we have done in the past. Farming, like every other calling, has the two sides, the practical or daily routine, and the scientific, or the natural laws or principles that underlie our daily work. By a wise combination of the two we should expect the highest results, I would like to see the principles of agriculture taught in every rural public school of the province as well as in the science departments of our High schools and Collegiate Institutes. With the powerful assistance of the Agricultural College at Guelph to complete the education of our boys, it seems to me that the farmers should take that standing which by virtue of their wealth and numbers they should have in the social and public dynamics of this country.

I hope the boys and girls will not trouble to write for any further information; but select the 100 largest heads of grain, and save them carefully with the grain on.

Full particulars, regarding the report to accompany the heads, and some other matters, will be given in an early issue of this paper.

I shall watch with keen interest the part the boys and girls and teachers take in this movement for the improvement of the crops of the country.

JAMES W. ROBERTSON.

Ottawa, September 30th, 1899.

Phosphoric Acid and Nitrogen in Grain Growing

To the Editor of FARMING:

The importance of phosphoric acid and nitrogen to grain is very nicely exemplified in the published results of Dr. Hubber's 1899 (German) experiments. The oat plant was taken to exemplify the work, and examination made at four stages of its growth.

PHOSPHORIC ACID.

14.25 grs. of phosphoric acid in all were taken from the ground by the plant during growth and ripening. It was found that when 3.267 grs. phosphoric acid had been taken up by the young plant, the three lower leaves contained 1.048 grs., the stem 0.471 grs., and the two upper leaves (one furled) 1.748 grs. A little more than half the phosphoric acid was then in the two upper leaves. The next stage was when the head was forming, and the plant had fed from the soil nearly 6 grs. phosphoric acid. Of this 0.698 grs. was found in the three lower leaves, 1.675 grs. in the two upper leaves, 0.202 in the three lower sections of the stalk, 0.393 grs. in middle section and 0.660 grs. in the upper section of the stalk. The head contained 2.362 grs., or nearly 40 per cent. of the total, and the two upper leaves and upper section of the plant, including the head, contained 78 per cent. of the total phosphoric acid.

The third stage of growth is when the head had opened out and the grain was in the milk stage, and 10.30 grs. of phosphoric acid had been absorbed. The three lower leaves then contained 0.680 grs., and the lower sections of the stalk 0.213 grs. The middle section of the stem, however, showed 1.137 grs. and the upper section 1.741 grs., a rapid upward movement of the phosphoric element. The two upper leaves now show that they are feeding the grain, as only 1.171 grs. remain. The head contained 5.362 grs., or about 52½ per cent. of the total, and with the upper section of the plant about 80 per cent.

The last stage was the ripened grain, the whole plant then having taken from the soil 14.25 grs. phosphoric acid. The three lower leaves now have only 0.351 grs., the lower section of the stem 0.193 grs., the middle section 0.185 grs., the upper section of the stem 0.394 grs., and the two upper leaves 0.589 grs. The ripened head showed 12.538 grs., or nearly 90 per cent. of the total phosphoric acid utilized by the plant. The same action occurs in all grain plants, and teaches with great clearness the feeding value of such material used as fodder at various stages as well as the necessity for phosphate feeding of grain. Also we can more readily understand that 76 per cent. of the mineral element of the grain is phosphates.

NITROGEN.

The oat plant used from the soil 55.5 grs. of nitrogen. The first examination of the young plants showed 15.1 grs. nitrogen, 6.727 grs. being contained in the three lower leaves, 1.755 grs. in the stalk and 6.593 grs. in the two upper leaves. A pretty even distribution, with the preponderance in the lower portion.

In the second stage the plant had taken 25.1 grs. from the soil. The three lower leaves had 5.257 grs., the lower portion of the stem 0.981 grs., and the middle portion 2.676 grs. The two upper leaves contained 6.752 grs., and the upper portion of stalk 1.154 grs. The sheaf, 8.291 grs.,

CORRESPONDENCE

One Hundred Dollars in Prizes

What Professor Robertson Offers the Farmers' Boys and Girls

To the Editor of FARMING:

"Like produces like." Can my own enthusiasm—tempered but not turned by age—produce a like quickening power in the farm boys and girls of Canada? I think it can. Many of us have had them "up before the Lord" in the most sacred sense of those words, for years; and now the time has come to act in new ways. This is only one of the little first steps in one direction in a great movement.

Since the publication of my statements on the importance of selecting as foundation stock for seed grain only heads which carry a large number of seeds each, I learn that many farmers and their sons and daughters have gathered large heads from the growing crops. Others have arranged to pick large heads from the sheaves in the barn.

I desire to obtain a small quantity of seed from different localities; and also to learn how great numbers of seeds per head of oats and wheat have been secured in different parts of Canada. To gain the co-operation of the boys and girls, and also of teachers, I offer the following prizes for open competition:

For the 100 heads bearing the largest number of seeds,

OATS.		WHEAT.	
First prize.....	\$20.	First prize.....	\$20.
Second prize.....	10.	Second prize.....	10.
Third prize.....	5.	Third prize.....	5.
Fourth prize.....	4.	Fourth prize.....	4.
Fifth prize.....	3.	Fifth prize.....	3.
Sixth prize.....	2.	Sixth prize.....	2.
Seventh prize....	1.	Seventh prize....	1.
Eighth prize.....	1.	Eighth prize.....	1.
Ninth prize.....	1.	Ninth prize.....	1.
Tenth prize.....	1.	Tenth prize.....	1.
Eleventh prize...	1.	Eleventh prize...	1.
Twelfth prize....	1.	Twelfth prize....	1.
Total \$50.		Total \$50.	

The whole of each lot of 100 heads should be picked from one variety grown in one field; and only from a crop which has given a large yield per acre.

I shall want every competitor to furnish from the same crop 10 (ten) heads with the smallest number of seeds per head which he or she can find. But the number of seeds in the small heads will not be considered in making the awards.

about 33 per cent. of the total nitrogen. The upper section of the plant, including the head and two leaves, had $64\frac{1}{2}$ per cent. of the nitrogen of the plant.

At the third stage of examination, with the grain in the milk, the nitrogen absorbed was found to be 32.0 grs.; the three lower leaves containing 4.789 grs. nitrogen, the lower section of the straw 1.234 grs. and the middle section 2.338 grs.; the two upper leaves, 7.832 grs.; the upper section of the stock, 2.894 grs.; and the head, 12.961 grs. The head then contained $40\frac{1}{2}$ per cent. of the total nitrogen, and with the upper parts of the plant, including two upper leaves and section of stem, 74 per cent.

The ripened plant and grain contained the total of 55.5 grs. nitrogen. The three lower leaves, 2.851 grs.; the lower section of stalk, 1.167 grs.; and the middle section, 2.843 grs. The two upper leaves, 6.384 grs.; the upper portion of stalk, 3.440 grs.; and the ripened head, 38.871 grs. The head then showed about 70 per cent. of the total nitrogen taken from the soil. We thus see that while about 90 per cent. of the total phosphate of the plant is used by the grain, about 30 per cent. of the total nitrogen remains in the straw.

The potash, of course, remains almost wholly in the straw, but a small percentage of it enters into the grain.

T. C. WALLACE.

Fernside, Sept. 29th, 1899.

Commercial Fertilizers

Single or Repeated Experiments ?

To the Editor of FARMING :

In FARMING Aug. 29th, Mr. B. W. Ralston remarks that I have not made it quite clear whether the experiments I referred to were single trials or an extended series. Probably they were a little of both. I think my intention at the time was to show that under certain circumstances—more particularly those circumstances of soil exhaustion which must sooner or later inevitably occur when produce is continuously marketed out of the unaided natural resources of the land—commercial fertilizers were of the utmost importance, and, indeed, an absolute necessity. The various examples I quoted were, I expect, intended rather to illustrate the general question of the advantages that might arise through the assistance of artificial fertilizers, than to act as special lessons to be directly and universally followed.

Single experiments often appear contradictory when compared with others, yes, and not infrequently appear absurd themselves when compared with the proven facts of practical agriculture. But as I have remarked aforetime, these apparent contradictions are but "apparent"; and arise through our not having obtained a grasp of *all* the facts. I entirely agree with Mr. Ralston that trials must be repeated before conclusions can be arrived at; aye, and many times repeated.

Our agricultural professors are, to a great extent, under the necessity of showing direct immediate results, and have to be so continually demonstrating to fresh pupils, that they are apt to acquire a more confirmed habit of prescribing exact manurial recipes for each particular crop than is altogether conducive to the best interests of the practical farmer. In a lecture I delivered to a company of farmers last spring, and which has been widely published, the following remarks occur: "I have formed a very decided opinion that the land may be much more effectively and profitably manured and fertilized on liberal, broad, general principles, than by endeavoring to screw the matter down to the exact manurial requirements of each particular crop. I believe the 'exact' method to be too much the fashion at present, and with the very frequent result of many crops being left without any manure at all; whereas fertilizers at their present low price may be used liberally and profitably in the production of maximum crops, and as fixed

cost of production is the same in a poor crop as in a good one, it follows that any increase of crop beyond cost of manure is so much advantage gained. In producing maximum crops lies our only chance of contending with low prices."

These scholastic "exact experiments," however, if not altogether desirable as direct examples to be followed by the practical farmer, are of immense value as object lessons in assisting the agriculturist to arrive at those general conclusions upon which he may safely base his practice.

One of the greatest producers of corn and live stock in Britain is Mr. John Woolley, Skimblescott, Shropshire, and he has manured on "general principles" during the twenty years he has occupied the farm. It was through the inspection of his farm two years ago that I formulated the expression—"a good phosphatic heart is the foundation of all profitable agriculture"—which has now become proverbial. The Skimblescott farm was in such an exhausted condition when Mr. Woolley entered upon it, that the corn crop was valued at less than £1 per acre; but with such effect did he use artificial manures and cake, that in 1896 he grew the record crop of 77 bushels of wheat per acre (60 lbs. per bushel). It was to learn something of the *modus operandi* of producing such desirable crops that I visited Mr. Woolley. My new friend courteously gave me his farm books to look over (the keeping of correct farm accounts is a highly desirable, but greatly neglected thing), and my attention was at once attracted by the large amount of bones and super-phosphate bought in the earlier years, and Thomas-phosphate during later years, a continuous and extremely liberal application of phosphate throughout; with a corresponding continuous increase of production. Further investigation and consideration satisfied me that there was a direct and close affinity between the two facts: cause and effect.

The farm is 346 acres in extent, and there has been a continuous annual application of from 40 to 70 tons of phosphate. Bones and super-phosphate were used until the introduction of Thomas-phosphate, when it was resorted to, Mr. Woolley telling me that he can now get his phosphatic supply from that source at half the cost of formerly. Although the amount of hay, straw, corn, and fat stock sold off the farm has been enormous compared with its acreage, there has yet been a continuous increase of fertility.

We have had an excessive heat and drought for a few weeks this summer in England, the pastures being, for the most part, burnt up and bare. I thought I should like to see how friend Woolley was getting along under such conditions, so I again visited him two or three weeks ago. I found some hundreds of tons of fodder in the yards; the corn crops as good as need be; ninety head of cattle in high condition; 360 sheep summered and sold fat, others now replacing them; nineteen horses; with pigs and poultry innumerable. But the most surprising thing of all was that even with so much live stock and hay there was yet a great excess of remaining grass. I enclose you three or four photographs I took illustrating this. Of course I was anxious to learn whether the copious dressing with phosphate was yet being continued, as most people would have stopped short long ago. The books showed that seventy tons of Thomas-phosphate powder had been applied as usual last autumn. I cannot say what might have been the effect without the repeated heavy phosphatic dressings, but undoubtedly the results achieved by Mr. Woolley bear marvellous testimony to the efficacy of his system.

In conclusion I may say that Mr. Woolley does not overweary himself with studying exact quantities, but believes in the broad principle that if the land is liberally supplied with plant food, it will yield a remunerative return sometime; and that if, as Mr. Ralston so aptly says, the immediate scheme "gangs alee," a more auspicious season will assuredly arrive.

FRANK WALLIS.

Lincoln, England.
Sept. 22, 1899.

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

VOL. III.

No. 1.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$1.
BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Associations allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. HODSON, Secretary.
Parliament Buildings, Toronto, Ont.

FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to F. W. Hodson, Secretary Live Stock Association. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Farm Help Exchange.

Help Wanted.

Mr. J. J. Fox, Marden P.O., Ont., requires a first-class farm hand, capable of taking care of a dairy herd. Mr. Fox is an exceptionally fine man, honorable and upright and a good farmer. A suitable man would find a good home and a fair remuneration with Mr. Fox. 2

Matt. Richardson & Son, Caledonia, Ont., breeders of Holstein Friesian cattle, keep from 30 to 35 cows and make cheese the year round, and carry on general farming as well. They wish to employ a man whose principal work in summer and winter would be to feed and milk the cows and be able in any spare time to do any ordinary farm work. They can give steady work by the year to a suitable man, and would prefer to employ a man who would be likely to stay with them for a number of years. 2

Mr. W. W. Spaven, Hagersville, Ont., wishes to employ a man who thoroughly understands farm work and is capable of taking charge of a dairy herd. For particulars address Mr. Spaven with references, stating wages expected and other particulars. 2

A young man for mixed farming.

Must be married. Yearly engagement to the right person. Apply A.F., this office. 1

A working foreman. Must be able, willing, skilful and honest, and experienced in the care of live stock. Can supply a good house and garden. Would prefer a married man. Apply J.H.D., this office. 1

Situations Wanted.

A young man, 26 years of age, reared on a well conducted live stock and grain farm, thoroughly understands the care of live stock and the management of field work, is a first rate plowman, a graduate of the Ontario Agricultural College, and unmarried, is anxious to obtain a situation as farm manager or working manager of a farm in Ontario, Manitoba, or the Canadian Northwest, where the work will be done thoroughly and well. Wages to commence with \$225 clear above board and washing. Apply W., this office. 1

As manager of an up-to-date stock and dairy farm in Eastern Ontario or Province of Quebec by married man, 37 years of age, who has had a life-long experience in all branches of farming; was manager for five years of an extensive stock and dairy farm in Quebec. Apply with reference to this office. 2

Stock for Sale.

The next list of stock for sale will be published in FARMING October 17th. We will be very glad to have members of the associations avail themselves of the privilege of thus advertising their list of stock for sale free of cost. Lists to insure insertion should reach the office of the secretary not later than October 10th.

Studying in Europe.

Mr. F. C. Harrison, B.S.A., Bacteriologist of the Ontario Agricultural Col-

lege, is now pursuing special studies in connection with his department at various scientific institutions in Europe. He writes Mr. Hodson, from Berne, Switzerland, under date of September 26th, 1899, and among other things says, "I am at present pursuing my studies in as many places in Europe as I can find time to visit. My chief aim is to become acquainted with newer methods of work and to pick up many new ideas. The work is very interesting, the equipment of many of the European laboratories is magnificent, and the service excellent. The weather here is turning quite cold to-day, and feels almost like snow. From my window I can see the white tops of the Alps, and at times get a glimpse of a magnificent sunset."

We hope to be able to treat our readers with a longer article from Prof. Harrison at a later date.

Marketing Apples.

By W. M. Robson, Lindsay, Ont.]

It is frequently said (and it may be with much truth) that our best friends are those that tell us of our faults, but this axiom is probably more honored in the breach than in the observance. For this reason it is a rather critical thing to criticise the public. Nevertheless, the above heading during the fruit season (or selling season) has for many years forcibly and painfully presented itself to me, often in the most practical way. For over thirty years I have been an active dealer in fruit in this locality, and as most of you know a grower of fruit (apples in particular) and I am sorry to add, that during all these years, with some admitted exceptions, there has been comparatively little improvement in a general way in the condition and marketing of this fruit in this neighborhood. True, varieties have been added and quantities increased considerably, but there is still noticeable that apparent lack, in a large percentage of this fruit, of that proper care and application required in the cultivation, pruning, spraying, harvesting, grading, and, most of all, the packages and conveyances that this fruit is brought to market in. Now, this is to be regretted, as a little attention to these requirements would very materially enhance the value, and, of course, correspondingly lessen the loss to a majority of fruit growers in this vicinity, who are not living up to the privileges of getting and applying the knowledge that is spread broadcast at Farmers' Institute meetings, and the Government literature so extensively circulated through the Province, all intended to benefit the producer and keep him up to the requirements of

the times, and the demands from a more and more discriminating public, as to the quality of their food supply. We must remember that as a rule we make improvements just in proportion to the interest and application devoted to the calling or business we follow, and just in proportion will our financial success be determined. Then by practical efforts we may minimize our losses in apples or other products. For anything that is worth doing, it pays to do it well.

In passing, just for the sake of illustrating our probable losses in this fruit, permit me to attempt an approximate estimate of the quantity of apples marketed in Lindsay, grown within a radius of, say, 15 miles. For want of any definite information I will say in this circle we have 3,000 growers, and the average product for sale during a good fruit year will be five bushels each, or 15,000 bushels, and it would be safe to estimate that fully half would not pass inspection as No. 1 fruit. Then 7,500 bushels will be second and third class fruit, and subject to a deduction of at least 10 cents per bushel. If this is permissive, then the fruit growers in this section would sustain a loss on this one product of \$750, much of which might be avoided and ultimately will be, when competition and education have filled their mission along this line. Now a deduction of 10 cents per bushel for inferior qualities is a low estimate, as you would readily admit, referring to the quotations of reductions made on a barrel when it is found a little slack, or off quality, in the English apple market; it is subject to a most unreasonable reduction.

But permit me to give you another and more practical demonstration by way of a comparison. Suppose a Mr. Jones and a Mr. Smith live on adjoining farms, and each brought to market for sale one barrel of winter apples. Mr. Jones' fruit had received good cultivation, was carefully hand picked, selected, and properly packed in a new barrel, firmly pressed and headed up, and deservingly branded XXX. with Mr. Jones' name stencilled thereon, while Mr. Smith's apples had been grown in a neglected orchard, gathered carelessly, dumped into a barrel that had been in use, without being selected or headed up, sent six or eight miles to market in an ordinary farm wagon (badly bruised of course on the passage), and presented to the same buyer as Mr. Jones sold to. Now Mr. Jones' barrel would be probably worth \$2.50 or more at this season, while Mr. Smith's would only bring \$1.50, and the buyer would prefer the best quality every time, and so would the majority of his consumers. Now, sir, here is a loss of three times 10c. per bushel, and I think you will admit that it is correctly estimated.

In closing, permit me to intimate (with all due deference to growers) that the object of this paper is to en-

deavor to show that to some extent there is yearly an avoidable loss to many apple growers in this district for want of attention and care in growing and marketing this, the king of fruits and the fruit of kings, lords and peasants.

The Care of Breeding Ewes.

By James Tolton, Walkerton, Ont.

It would be folly on my part to lay down any hard and fast rules for the management and care of the breeding flock, that would apply to the whole province. In the first place, climate, locality and nature of the soil have very much to do with the production of feeds that are profitable and suitable for the feeding of the flock. So that in what I say about the care of the breeding flock can only be in a general way. First, get the flock. If it is to be a purebred one, see that you have the type and character of the breed, that they have constitutional vigor, and that there are no culls, or ewes that are too old, for when a ewe begins to lose her teeth she is getting too old to be profitable. If it is only possible to have a grade flock, much the same conditions will apply. Aim to have them about the same type and be sure that they have constitutional vigor, for upon this much will depend as to your success or non success with them.

Now suppose it is about the mating season; the flocks should be carefully looked over, and if in too low or thin condition from suckling one or two lambs the preceding season, they should be put on better feed, so that they may be gaining in strength and flesh during the breeding season. By attending to this the offspring will be more vigorous and there will be a larger proportion of twin lambs. Another thing, a small matter apparently in itself, watch for parasites that sheep are subject to. I mean the sheep tick and sheep louse; if they are infested with them they should be during the warm days of the fall, dipped, or have poured over them one of the antiseptic non poisonous sheep dips that are now obtainable at almost any drug store. It is of vital importance that the sire that is used should be purebred. If he is to be used on a purebred flock, he should be of the same breed as the flock. If on a grade flock, of a breed that best meets the requirements of the owner, and the flock; that is, in some localities a fine wool breed would be more profitable than a long wool breed, and *vice versa*. After making the selection of the breed, next comes the selection of the individual animal. He should have the type and character of the breed, he should be robust, vigorous and of a masculine character. The time of mating depends largely on the locality and the use the flock is to be put to. It should be regulated

so that the lambs may dropped in comfortable and dry quarters, or else not before the weather has become warm and the fields are partly dry. It is better to apply some kind of marking on the sire's breast, so that he may leave his mark of service. This application can conveniently be put on when he is going to his grain ration which he should have daily while in service. There are two objects in this marking process. You can know for certain in two weeks if the service is effectual, and you can keep a record of service and if necessary make suitable arrangements for the ewe dropping her young. In some parts of America no protection against the inclemency of the weather is required. In others suitable buildings are necessary. But in no case need they be expensive, all that really is necessary is that the flock be kept dry, protected against draughts and have plenty of pure air and exercise. It is proper here to say that the flock, particularly the long wools, should be protected against the cold and drenching rains that we sometimes have during the late fall.

FOODS.—Now about feeding and foods. The natural habit of sheep is to run at large and pick its food from the grasses or other feeds, and the nearer to nature we can keep along this line the greater will be our success. But sheep as well as other of our domestic animals, will accommodate themselves to confinement and prepared foods, and none of our domestic animals respond to generous treatment more readily than sheep. While we have winters we will not only have to provide protection, but suitable food for the flock. I have already observed that the ewe should have generous treatment during the fall. This may be done by having good pastures of clover or other grasses, or by providing some rape, and during the winter giving plenty of good sweet clover hay. Where peas and beans are grown the straw of these grains can take the place of the hay to some extent, say one feed per day of hay and two feeds of straw, or vice versa. In addition to the hay and straw a breeding ewe should have two or three pounds of roots per day, the quantity being increased as parturition draws near, and after that period give her as much as she cares to eat. The ewe should also be fed during the winter some grain for at least two months before dropping her lamb. One to two pounds is sufficient. I think, perhaps, the most suitable grain is oats or oats and peas mixed, and where peas are not grown, corn can take their place. Where roots cannot be conveniently grown wheat bran will take their place to good advantage; in fact, for increasing the flow of milk, no food will excel wheat bran. Sometime before the ewe is shorn she will be put on fresh and succulent grass. Before this is done she should be tagged, or the wool clipped from between her hind legs, to

prevent her udder getting dirty, causing the lamb to refuse its food,

Then sheep require salt regularly once a week, or, what is better, keep rock salt, or a box of salt, at all times within their reach. While the ewe is suckling her lambs she requires generous treatment, so that the lamb may not be stunted but kept growing in its youth. In about a week or ten days after the ewes are shorn the lambs should be dipped in a sheep dip, for about this time if any sheep ticks are in the flock they will be upon the lambs.

In my opinion more of our farmers should have a breeding flock corresponding in numbers with the size of the farm and the other live stock kept. For the capital invested, the feed consumed, and the time and labor expended, none of our domestic animals are so profitable.

MISTAKES IN SHEEP BREEDING.—It is a mistake to pasture sheep on the highways during the summer months, to be run up and down by all the passing dogs who take great delight in chasing them. Besides, the owner is losing their manure, which is very important, for the amount of food consumed. The droppings of sheep have more manurial value than that of other animals kept on the farm.

It is a mistake to think that a straw stack is sufficient protection, and that the sheep can pick from it all the food they need during the winter. Is it any surprise the sheep kept in this way are a disappointment and the owner says that sheep do not pay? For in the spring the sheep that remain alive to tell the tale will probably have lost about half their wool, and the little that remains will be of very poor quality.

It is a mistake to think that the only use for a sheep is as a scavenger to eat down the briars and other bushes on the back lot and around the fences, and to keep down the thistles and weeds upon the summer fallow, if there should happen to be one. None of our animals respond to generous treatment more readily than the sheep.

It is a mistake to crowd too many sheep into an ill ventilated pen or stable, during the winter season, or to have too many on the pasture during the summer. During the winter sheep need protection from the storms, but the buildings need not be expensive nor too warm; all that is needed is for them to be kept dry and sheltered from the winds. In the summer they require plenty of pasture, but it should not be allowed to grow too high or to run to seed, because they prefer the sweet and fresh grass near to the ground. They like changes, and it is better if it can be so arranged to have them a few days in one field, or portion of a field, and change to another field.

It is a mistake to use a scrub sire, because he can be bought cheap. Some farmers go to a sheep dealer

and pick a ram from the flock he has bought to ship to some lamb market, and get a sire at about mutton prices, because they say that it would not pay them to go to a pure-bred breeder, and pay the price for a good pure bred sire. The result is that in all probability they get a mongrel-bred sire, and as like begets like his get have no particular type or character, because he has none to transmit.

AVOID CHANGES OF BREED.—It is a mistake to change the breed every time a change of sire is necessary. It is better to aim to have some particular breed in view, and keep to it, always buying sires of that particular breed. If good sires are selected the flock will soon have the type and character of that breed, and it will be uniform, and when either wool or mutton is desired to be sold it will command the highest price.

It is a mistake to go out of keeping sheep every time there is a change of government, or because there is a temporary depression in prices. It is true that legislation may help some industries, but it would be folly for the stock breeder or farmer to look for success in that direction. Success depends more on the knowledge, thrift, energy, economy and business-like tactics adopted by the manager of the industry, whatsoever kind it may be. Besides is it not a well known fact that there is nothing we raise or produce upon our farms but has its season of depression?

It is a mistake to say that sheep do not pay. There are but few farmers or breeders who carry on their business either for the pleasure or fun there is in it. Nearly all of us who are engaged in these occupations are doing so because our bread and butter depends upon them. If the sheep business does not pay us, we should certainly go out of it. There are two sources of revenue from the sheep each year, wool and mutton. It used to be said that the wool would pay for the sheep. But that was when wool commanded a higher price than it does at present, but with the addition of the crop of lambs we not only get return for food consumed and attention given, but interest on the investment and a profit besides. I have sold lambs for mutton purposes in the early part of November at \$4.12½ per cwt. that realized \$5.60 each. A flock of grade ewes are worth \$6 to \$10 each, and the flock of ewes raise one and a half lambs to the flock. By selling the crop of lambs in the fall the investment is returned, and the flock of ewes remains to the good.

It is a mistake to assume that sheep require but little or no attention. The careful shepherd will see that his flock has plenty of nutritious food during the summer months, and a similar ration during the winter, for he knows that it is only in this way that the crop of wool will have a long, lustrous, and strong fibre. The flock will be kept

healthy and vigorous and, consequently, profitable.

Buying and Feeding Cattle for the British Market.

By Simpson Rennie, Milliken, Ont.

One of the most important objects to keep in view in discussing this subject is the selection of the right class of cattle for feeding purposes.

No one could expect first-class results under any conditions unless the right class of cattle is selected. Year by year I find it more difficult to procure suitable cattle for feeding. This may be accounted for by the introduction of the dairy breeds, which are unsuitable for feeding, especially for export to Britain.

I find that Shorthorn, Angus, Hereford, and many of their crosses make excellent feeders. Some years ago there was no difficulty in buying all the feeders required from the farmers near by; but since the introduction of the dairy breeds scarcely one can now be found. This necessitates our going to such markets as Toronto, and even there it requires careful selection, on account of the great numbers of inferior animals which are bred, raised, and find their way to that market.

It should be the aim of the feeder to buy nice, fleshy, straight, thrifty, young cattle weighing ten or eleven hundred pounds, and the younger the better, provided they have the weight.

I usually have the cattle finished in five and a half months. They are put in the stable by the 1st of December, or a few days before, if the weather is rough, and finished by the middle of May. I never tried feeding loose. I have them all in pairs, and it is very important to be very gentle with them when they are first being tied up, and not to excite them in any way, for an excitable animal is usually a poor feeder. In order to destroy the lice, almost as soon as the cattle are tied up the long hair should be shorn from their tails, along the top of their backs, necks, and heads; then with an old cloth apply black oil, made from crude petroleum to which has been added one half pint of spirits of turpentine to a gallon of oil. If you neglect attending to this until some time after the cattle have been stalled, the heat in a warm place will cause the lice to spread, not only over all the cattle, but also on the partitions of the stable, and thus become a source of annoyance for years to come.

GOOD CARE IS VERY IMPORTANT.

Do not allow children or dogs to run through the stable making a noise. Do not prod the cattle's heels with the fork when shaking up the bedding. I find by keeping cattle quiet in the stable that less food is required to make the same gain. Cattle should never be turned out in cold weather to drink ice-cold water. They do better

if the water is given in the stable and they are never turned out. As soon as the hair commences to loosen they should be frequently curried.

The feed mangers need not be expensive. A plank trough eight inches high and fourteen inches wide at the front of the cattle with a slanting manger for the hay or stray is all that is necessary.

The daily ration which we have been feeding is twelve pounds of clover hay, thirty pounds of roots, and ten pounds of mixed meal. Although we do not feed any meal the first two weeks, the full limit of ten pounds is reached after the cattle have been in the stable one month.

I place great importance in giving clover hay as the bulky part of the ration for beefing animals. It is an evenly balanced ration in itself. So by feeding clover hay, roots (turnips or sugar beets) and mixed meals (oats, peas and corn in equal bulk with ten per cent. of oil meal) there is no difficulty in having the nutritive ratio for beefing animals just exact. How different with corn ensilage, straw, or timothy hay as the bulky part of the ration. The nutritive ratio is not nearly right, and it is a hard matter to balance it with other foods to make a properly balanced ration.

Another point in the feeding of clover is the saving of labor required in cutting bulky feed and in pulping roots.

I feed three times a day. I first see that the troughs are perfectly clean. The roots are then put in and the meal placed on top of them. If obtainable a little wheat chaff is a good thing to mix with the meal. The hay is then laid on the slide manger. Salt is fed in a small box attached to the partition and should never be put in the feed.

In England our beef at present does not command the highest price. I would advise all cattle feeders as far as possible never to sell their animals until they are in first-class condition, for I know of nothing so injurious to the cattle trade as the sending of unfinished animals to the British market.

Feeding Loose for the Export Trade.

By George R. Barrie, Galt, Ont.

We have for seventeen years been in the habit of purchasing from 20 to 30 steers in the fall according to the amount of feed on hand, and fattening them for the export trade. We have followed the usual plan of stall feeding, letting them out once a day for half an hour for water, with varied success, some years with a fair profit but most y in latter years with little more than the manure for profit. They would usually gain in the six or seven months' feeding from 250 to 300 pounds, or an average of about 275 pounds per head. There is a great amount of work in

connection with this style of feeding, more especially if we have to feed on till the middle of June, as we often have to do.

I observed from accounts of those who tried feeding loose in pens that the cattle did much better. We decided to try that plan. Having a very large barn we made a pen 40x80 feet, with a feeding rack in the middle 50 feet long. The pen is open all around the rack. This rack is made 4 ft. 4 in. wide, with a plank six inches wide set on edge along the middle, to keep the cut feed at the sides. It is made with upright scantling every three feet around the outside. There are 36 spaces around it. We have a hay car track overhead, use a box large enough to feed them at once, fill the box with cut feed, meal and pulped turnips well mixed. We always mix the feed half a day ahead and let it stand. After the feed has been placed in we wind the box up to the car with a chain and pulley, run the box right through the feed rack and draw the feed out of the end of the box, which we have found to work exceedingly well.

I purchased a carload of twenty-two head at Parkhill, with an average weight of 1,153 lbs. They cost when delivered at the barn \$3.68 per cwt. We dehorned them, as that is necessary in feeding loose. We fed them on hay for the first six weeks, not having our arrangement ready for feeding cut stuff. During Christmas week we commenced to feed meal, nine lbs. per day of one part peas, two parts corn, one part bran and middlings amongst cut oat straw and wheat chaff. No hay was fed for about three months, then we commenced to mix a little cut hay gradually, and finished with pure cut hay and two feeds of long hay per day during the last two months. In mild weather they were allowed to run in the barnyard all the time, except in the afternoon, when the cows and young cattle were out, and if it was cold they were let out three times per day for water. I intend watering in the shed another year. We cleaned the pen out every month, driving the sleigh or wagon right around it, and bedded the pen three times per week. Out of the twenty-two head there was one which did not do well. We tied it up about February, but it made a very poor gain, only weighing, when shipped away, 1,280 lbs. The twenty-two averaged when shipped, the 19th of June, 1,508 lbs. each, which was, I think, seventy or eighty lbs. more than they would have weighed if they had been fed the old way. They were sold for \$5 per cwt.

I was exceedingly pleased with the experiment; the cattle were much healthier, made a better gain, and would eat anything and everything placed before them, and it was only one third of the work to feed them. They kept much cleaner, and, while you may require a little more bedding in cold weather, in mild weather, when

they got the use of the barnyard, especially in May and June, they require a great deal less.

Fields on the Farm.

By DUNCAN C. ANDERSON, Rugby, Ont.

Where the surface of the country is level, without hills, ravines or gullies, it is an easy matter to shape the farm fields as we choose, but where the country is uneven, made up of hills and low land, it requires some thought to skilfully plan to the best advantage the fencing of the farm so that there will be economy of labor in cultivating or harvesting. On what is called a square hundred acres a convenient farm is made by having a lane up the centre with a row of fields on each side. The fields should be twice as long as they are wide. Ten or twelve acres make a nice working field. When you come to finish with either mower or binder the last swath is a long, narrow strip. In ploughing or harrowing, forty or forty-five rounds make a fair day's work. When the farm is situated in a section where there is much rolling stone, the fields must be made of the right size before there are many stones thrown into the fence corners, otherwise there will be a lot of unnecessary hard labor required to remove the old fence bottom to the right place. But even if a few old fences have to be cleaned out to get the fields put in the right shape, it will in the long run well repay the labor.

In travelling through the province we sometimes see fine farms with good brick houses and large barns. The buildings, house and surroundings indicate that they belong to prosperous, thoughtful owners, but the fields are very small, five or six acres in each and exactly square. There should not be more than eight fields but there are nearly twice that number. It must be aggravating work to finish mowing or reaping one of those little square fields, half of the time would be taken up in end turnings near the finish.

ADVANTAGES OF LONG-SHAPED FIELDS—One of the essentials in modern farming is to cheapen the cost of production, and one way to do this is to have the fields long and narrow. If the fields are small and square there is much loss in hiring men at \$16 or \$17 per month and boarding, keeping and feeding teams which lose much of their time in turning around the ends that should have been used turning up the sod or stubble land. Long-shaped fields enable us to work to the best advantage, besides the saving of expense in keeping up one-half as many fences as have to be maintained when fields are square. If the field is sown with fall wheat there will be fewer fences to gather drift snow which so often kills the wheat during the first few warm days in the early

spring, the heavy weight of snow smothering it out owing to the want of air. With fewer fields there is a great saving in land, as fences, especially the old zig-zag worm fence, are too often a place where foul weeds mature and seed, and are a harbor for all sorts of rubbish. I know that it is not possible to have all our farms laid out in long-shaped fields, for some places are so broken and cut up by creeks, ravines, springy places and other obstacles, that it would be somewhat difficult to do so, but on most farms long-shaped fields can be laid out and worked to the best advantage. In sections where the land is all arable, four fields will be enough on a one hundred acre farm. When wheat, root or pasture land has to be fenced off a portable or movable fence can be used. Fencing is a costly material, which is becoming more scarce. Fence repairing is an annual outlay. The fewer of them there are the less cost will there be.

GATES.—Another time-saving convenience is to have a gate into every field. Since hinges and gate hardware have become so cheap, the cost of making and swinging gates is very little. The material for making a substantial field-gate wide enough for the binder, including lumber, hinges, nails, etc., will be about one dollar and a quarter. A couple of men could make half a dozen in a day. Use neither bolts (except hinge bolts) nor mortise, but $3\frac{1}{2}$ inch wire nails. Hemlock lumber makes a strong, rough farm gate that will last twenty years. The most important part of a gate is to have it swing true, easy and free. This can only be accomplished by firmly planting the post on which the gate is swung. Choose a good solid cedar, fourteen inches through at the butt end, and dig the post hole at least four feet deep. Instead of filling in with earth or clay, get some small stones, punch them in firmly with the point of a crowbar around the post until they come within six inches of the surface. This I have found to be the best way of holding the swing post secure. But if the land is soft and stones are scarce and there is danger of the posts sagging, dig a trench between them, ten inches deep, fit in a small cedar log; have the top of the log a couple of inches below the surface so that it will not cause the waggon to jolt in passing through the gateway. Opening fences or taking down bars to get in and out fields, is or should be a thing of the past. There is nothing gives more satisfaction, and helps to push on the field work quicker than having a true swinging gate into every field.

The aim of every farmer is to have clean fields, free from every obstruction. Unsightly stone heaps are a nuisance and should be moved to the side fences. Too many trees in the fields and around the fences are not much better. They are but great big

weeds, sapping the best of the strength for rods out of the land. Fence elms especially with their far-reaching root growth and wide-spreading tops are greedy feeders. How often we see fields which are surrounded by rows of natural or planted trees, yielding very little crops on the head lands, especially on the shaded side. Granting that a well-kept lane with a row of sugar and soft maples looks well at almost any season of the year, especially in the fall when the foliage changes and there is a blending in leaf color of red, yellow and green, yet the most of our fence rows need thinning out. He would be worse than a vandal who would cut everything in sight, but avoiding such extremes thinning out can be profitably practised, leaving here and there a straight maple or ash.

Going to Michigan.

In one of our American exchanges we note that Mr. J. J. Ferguson, B.S.A., Smith's Falls, Ont., has been appointed an instructor at the Michigan Agricultural College in connection with the dairy school department. Since he was graduated from the Ontario Agricultural College a few years ago Mr. Ferguson has been giving some special attention to the bacon hog question, and has spent considerable time as an institute worker in Ontario and in the Maritime Provinces. Though the information we have at hand does not give particulars as to Mr. Ferguson's duties in his new position we have no doubt but that he will acquit himself well.

What Makes Crops Run to Straw.

It is very important that nitrogen should be available at the right time and not at the wrong time to the growing crop. If the nitrogen in the field becomes soluble and available as late say as July in Canada it promotes the growth of the roots, stalks and leaves when the energy of the plants, if for grain crop, should be directed towards making seeds. The time when nitrogen should be available, and is worth most to cereal crops, is when the plants are young and getting their growth.

By the availability of nitrogen the growth of the roots, stems and leaves is greatly promoted, and the formation of the buds and flowers and seeds is slightly retarded. Everybody knows that if you have land particularly rich with farmyard manure, or other decaying vegetable material, in a wet season, the crops of grain do not ripen readily but keep on growing straw at the wrong time. That, in my opinion, was the main cause of the failure in the crops of wheat in the Maritime Provinces last year. The application of farmyard manure in the spring followed by a wet season had a tendency to make the straw grow too late and prevented the heads from filling with seeds.—*Prof. Robertson on Seed Selection.*

Books and Bulletins Received.

A Primer of Forestry. Part I.—The Forest. Published by the Division of Forestry, United States Department of Agriculture.

Report of the Maine Agricultural Experiment Station for 1898.

Experimental Exports of Butter, 1897. By Henry E. Alvard, Chief of Dairy Division, United States Department of Agriculture.

Black Leg in the United States, and the Distribution of Vaccine by the Bureau of Animal Industry. By United States Department of Agriculture.

Report of the Department of Agriculture of Ontario for 1897. Volumes I. and II., bound in cloth and for use in libraries, etc.

Annual Report of the State Board of Agriculture, Rhode Island, for 1898.

There is a famous restaurant in the town of Robinson Crusoe, near Paris, where rustic dining huts are built far up on the limbs of each tree. For fifty years or more men and women have made excursions to this place and eaten in the trees like squirrels. One of the trees is three-storied, the dining rooms and kitchens being connected by stairways. A waiter is stationed on each floor, and the food hauled up to him by means of a basket and rope. It is a novel experience to be eating away above the world in this fashion.

Exhibition Number

Some More Press Comments

The superb agricultural paper known as FARMING, this year begins its seventeenth year of publication and its third year as a weekly. Canada's wealth of agricultural opportunity is reflected brilliantly in the handsome pages of this periodical, than which no agricultural organ better performs its mission. FARMING is thoroughly entitled to the grand and growing support it receives from the Canadian husbandman.—*Strafford Herald.*

An English Opinion

Of the Canadian agricultural weeklies, FARMING is as practical and valuable as any, and its "Exhibition Number," of September 5th, to hand this week is a credit alike to proprietors and editor. The particular number in question—which consists of sixty-four pages, well illustrated, and in a beautifully colored wrapper—is issued in connection with the annual Toronto Fair, which is without doubt one of the largest and best fairs, if not both the largest and the best, in America. The annual subscription to FARMING is one dollar (4s. 2d.), and the offices are Toronto, Canada.—*English Rural World.*

His Work Appreciated.

The following resolution, passed at a recent meeting of the Advisory Board of the Ontario Agricultural College, is very commendatory of Mr. Rennie's work as superintendent of the College Farm during the past six years:

"Moved by Mr. Jeffs and seconded by Mr. Donaldson, that this Advisory Board of the Agricultural College hereby express its appreciation of the work done at the Ontario Experimental Farm, by Mr. Wm. Rennie, as farm manager during the past six years, and their pleasure at the marked improvement shown in all sections of the department under his charge; and wish for himself and his family, on his separation from the farm and college, continued good health and prosperity or many years to come."

The Farm Home

Information Wanted.

By way of opening up a discussion that we think will be very helpful to all concerned, we would like to have as many short articles as possible from the readers of these pages dealing with the following topics. Contributors can write on any one or all of the subjects as they see fit:

(1) How can the long winter evenings in the farm home be most profitably spent?

(2) What are your ideas as to entertainment for young people in the country?

(3) What would be the best plan for arranging a reading circle in the farm home, so that every member of it who could read could take part?

Rag Mats.

By Megyra.

My personal experience with these articles has not been very extensive, but I have been in their company enough to be able to decide that they are seldom even pretty, they are usually unnecessary, and they are not conducive to the health of the housekeeper. When I was young a girl was considered shiftless and lazy if she did not prepare a dozen or more hooked mats for her future home. Long before she knew where her lot would be cast she would begin making mats and the other home-made furnishings that were formerly considered a part of every girl's marriage portion. In fact I fancy that even in these enlightened days I am looked upon as a very poor housekeeper by my neighbors when they discover I have not a single rug in the house.

I did make one, however. As I had a horror of the usual mis-shapen, unnaturally colored dogs, cats, and other objects that required to be labeled before one could tell what they were supposed to represent, or the flowers and birds in startlingly showy colors, and as I had not a sufficiently artistic soul to see any beauty in them when trodden underfoot, I decided to make a hit-and-miss, crazy affair. I prepared the rags, and as I wanted it fine and close I began to work. I hooked, and I hooked, for days, yes, weeks, before my canvas was filled. I was not proud of the result, but I had a "rug" which I dutifully placed on the floor. I faithfully swept it and shook it, which was necessary, though when this work was added to the work of hooking, it made the thing rather expensive. It wore well, too well, for I never could see any excuse for its existence. It saved the carpet, but what was the carpet for if it had to be covered to save it? I was glad when a young puppy ate holes in it.

Some people have handsome, or rather costly carpets, which they almost completely cover with home-made rugs, which have to be lifted and carried out of doors on sweeping days. They are used to save the carpet, as though a woman's strength is not better worth saving than even the most expensive carpets.

I have been astonished to hear people say, when seeing the floor covered with these highly-colored monstrosities, "What lovely rugs you have!" I congratulated myself, inwardly, that I did not have to live in that house. Mats are addicted also to the bad habit of being easily turned up at the corners, causing the awkward boy to trip or the profane man to swear just at the time he is trying to be very correct.

Rag carpets can seldom lay claim to much beauty, but compared with rugs, they are a genuine comfort to the housekeeper. She can come into the room with her broom, sweep the whole floor surface, and leave without having these heavy rugs to carry out and shake. One wonders how the frail woman can stand it. She does not stand it always, though she never connects that weakness or pain in the side with rugs. It is attributed to cold, and she goes on sweeping and shaking until at last the doctor is called in. If she dies the verdict is often death from overwork, and the husband is blamed for not keeping a servant. I should pronounce it suicide, or perhaps "rugicide." Why does a woman make a rag carpet, then use twice as many rags to make mats to cover it? It would be far more sensible, if the carpet really needs covering, for her to use the rags in making a second carpet to tack over the first.

There is yet another side to the subject, viz., the time and opportunities wasted. These women never have time for reading and mind improvement, their time being all taken up with the making of rugs and other useless things.

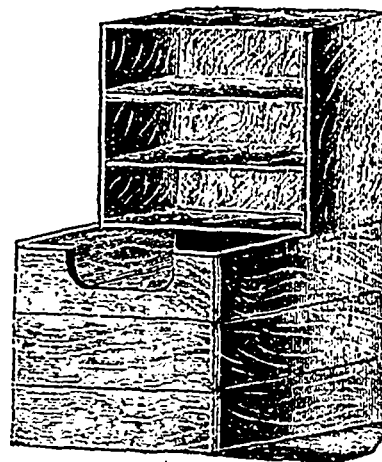
They cannot fully enjoy the company of their husbands and children. They are always too busy or too tired to keep their minds on even a story if one should be read aloud. They can not even do any profitable thinking, for while their hands are busy their minds are running on the pattern for the next rug.

There are women who might spend many happy hours outdoors with a book or studying nature in some of its many phases, but instead, they confine themselves in a close room, over a mat frame, filling canvas with rags. You invariably see their families living almost entirely in the kitchen, and the children seldom have company, all on account of those easily soiled colors on the parlor floor.

So the story goes. Our lives are too short to waste on such things, and we have no right to shorten them with overwork. Let us enjoy all the good things within reach, and if we have no natural taste for intellectual pursuits we can soon gain an acquired liking, but I have noticed that a high grade of intellect is seldom found in the woman who devotes her time to hooked mats even if they are pretty. For I must admit some of them can claim a fair share of beauty. If they are really made for the purpose of beautifying and making comfortable the home, then the maker of them deserves praise for her well-meant, though mistaken, efforts. A rug in front of a bed is pleasanter to the feet than the bare floor, and is more easily kept free from dust than an all-over carpet, but let it be something more easily made and lighter to handle than a hooked mat.

Handy Wood Box.

This wood-box can be made of any size to fit a particular corner or niche, and has the additional advantage of utilizing space which would otherwise be unoccupied. The top can be used to hold the water pail, pans, cups, etc. One shelf may be used for the whole brush family—scrubbing, shoe, stove, etc.; another for skillets, frying pans, etc. A few hooks—or nails inserted



WOOD-BOX.

in spools do almost as well—may be placed upon the sides of the upper part and will be handy for uses which will suggest themselves readily. A curtain should be hung in front of the upper portion, and the box can be painted, papered, or grained to suit the taste.

Modified Milk for Infants.

By Mrs. S. T. Rorer.

Heat two quarts of milk to 100 (Fahr.), add two dissolved junket tablets, allow the milk to stand until

thoroughly congealed, then stir it with an egg-beater; drain and throw away the curd, or use it for something else, saving the whey. To this add one pint of water, six teaspoonfuls of sugar of milk, eight tablespoonfuls or five ounces of cream, and the whites of four eggs, mix together whey, water, cream, and sugar of milk. Take a small quantity of the mixture and put it in a fruit jar, add the whites of the eggs to it, screw on the top of the jar, and shake the mixture until the whole is thoroughly blended, then return it to the mass and put at once in a cool place. This will be given as ordinary milk. A child cannot digest starchy materials until after the first teeth appear.

Fall and Winter Coats and Wraps.

The coats and wraps for fall and winter offer a wide latitude to the woman who seeks for individuality in her appearance. It is a laudable desire not to look exactly like one's neighbor, and this end may be accomplished even with the ready-made coat, that garment with which, if it be well cut and made, our only quarrel is that that there are so many others just like it. Its buttons may be removed and others substituted from among the many handsome, fanciful ones which are such a feature of fashion just now, and the difference in the quality of the buttons will give the coat an individuality which will distinguish it from others to be seen in the shops.—*October Ladies' Home Journal*.

Boiling and Roasting.

In boiling put the meat, if fresh, into cold water, or, if salt, into lukewarm. Simmer it very gently until done. It is a general rule to allow a quarter of an hour to every pound of meat; but in this, as in everything else, judgment must be used according to the bone and shape of the joint, and according to the taste of the eaters. All kinds of meat, fish, flesh and fowl, should be boiled very slowly, and the scum taken off just as boiling commences. If meats are allowed to boil too fast they toughen, all their juices are extracted, and only the fleshy fibre, without sweetness, is left; if they boil too long they are reduced to a jelly, and their nourishing properties are transferred to the water in which they are boiled. Nothing is more difficult than to boil meat exactly as it should be; close attention and good judgment are indispensable.

In roasting meat the gravy may be retained in it by pricking the joint all over with a fork, and rubbing in pepper and salt. Mutton and beef may be underdone, veal and pork must be well cooked. Young meat generally requires more cooking than old; thus lamb and veal must be more done

than mutton and beef. In frosty weather meat will require a little more time for cooking. All joints for roasting will improve by hanging a day or so before cooking.—*Ideal Cook Book*.

Curious Facts.

The largest flower in the world is the *Rafflesia Arnoldi* of Sumatra. Its size is fully three feet in diameter—about the size of a carriage wheel.

Perhaps the only word that is the same in all languages is the "Hello!" in response to the telephone call. Wherever there is a telephone line the word is in use, and means just what it does in English.

It is estimated that the earth receives not more than one-thousandth-millionth part of the total radiation of the sun's rays. If any considerable proportion of this heat were concentrated upon the earth it would not only become uninhabitable, but become speedily consumed.

It is reported that the Graz Hospital, in New Haven, Conn., has in its custody a girl baby, a week and a half old, and weighing three pounds. She is about ten inches long. At birth she was put into a hastily improvised incubator, and has been thriving ever since.

An English officer, who is now engaged in some exploring work in Central Asia, has discovered that there exists in Khotan a regular manufactory of old Asiatic manuscript relics, and so large is the output that he believes that at least ninety-five per cent. of the manuscripts which have reached Europe from Central Asia during recent years are spurious.

Any one who has ever picked up with a bare hand a piece of intensely cold iron knows that the touch burns almost as badly as if the metal were red-hot. Indeed, the action of great heat and extreme cold were so similar that a Hungarian chemist has turned the latter to account to prepare meats for food. He subjects the meats to 60° of frost, and then seals it up in airtight cans. The result is that the meat is practically "cooked by cold."

In Chinese cities streets are never built straight, from superstitious fear that processions of evil spirits might otherwise enter and remain.

It is estimated that the consumption of beer in the entire world amounts to \$1,080,000,000 per annum. This seems to be an almost incredible figure, but it does not appear so strange when it is considered that the beer which is consumed throughout the world in a single year would make a lake three and three-quarters miles long, a mile wide and six feet deep.

Winter Waists and Bodices.

Odd waists and bodices have come to be an accepted and essential part of every woman's wardrobe, so it is well to bestow a little thought upon the general effect, and in selecting material and trimming to have those which match the skirt in color. This applies to the dressy bodice. A shirt-waist in winter is usually made to wear with jacket suits, and should contrast prettily.—*October Ladies' Home Journal*.

"Matildy's Beau."

We oughter have expected it, she's most eighteen, yer see;
But, sakes alive! she's always seemed a baby,
like, ter me;
And so, a feller after her, why, that jest did beat all!
But, t' other Sunday, bless yer soul, he come around ter call,
And when I see him all dressed up as dandy as you please,
But sorter lookin' 's if he had the shivers in his knees,
I kinder realized it then, yer might say, like a blow,
Thinks I, "No use! I'm gittin' old; Matildy's got a beau."

Jest twenty-four short years gone by—it don't seem five, I vow!—
I fust called on Matildy—that's Matildy's mother now;
I recollect I spent an hour a-tyin' my cravat,
And I'd sent up ter town and bought a bang-up shiny hat.
And, my! Oh, my! them new plaid pants;
well, wa'n't I something grand
When I come up the walk with some fresh posies in my hand?
And didn't I feel like a fool when her young brother, Joe,
Sang out, "Gee, Crickets! Looky here!
Here comes Matildy's beau!"

And now another feller comes up my walk,
jest as gay,
And here's Matildy blushin' red in jest her mother's way;
And when she says she's got ter go an errand to the store,
We know he's waitin' round the bend, jest as I've done afore;
Or when they're in the parlor, and I knock,
why, bless yer heart!
I have ter smile ter hear how quick their chairs are shoved apart,
They think us old folks don't catch on a single mite; but sho!
I reckon they forgit I was Matildy's mother's beau.

—*Joe Lincoln, in Push.*

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A man who was too stingy to subscribe for a paper borrowed a Maine story-paper and found that by sending one dollar to a Yankee he could get a cure for drunkenness. Sure enough he did. It was to "take the pledge and keep it." Later on he sent fifty two cent stamps to find out how to raise turnips successfully. He found out—"Just take hold of the tops and pull." Being young he wished to marry, and sent thirty-four one cent stamps to a Chicago firm how to make an impression. When the answer came it read, "Sit down on a pan of dough." That was a little rough, but he was a patient man, and thought he would yet succeed. The next advertisement he answered read: "How to double your money in six months." He was told to convert his money into bills, fold them, and he would see his money doubled. The next time he sent for twelve useful household articles and got a package of needles. He was slow to learn, so he sent a dollar to find out "how to get rich"—"Work like the devil and never spend a cent." That stopped him, but his brother wrote to find out how to write a letter without pen or ink. He was told to use a lead pencil. He paid five dollars to live without work, and was told on a postal card to "fish for suckers, as we do." He takes his home paper now and is happy.

Conundrums.

Wh swearing aloud like an old coat?

Because it is a bad habit.

What soup do cannibals prefer?

The broth of a boy.

Why is a good husband like dough?

Because a woman needs him.

Why are the cats like unskilful surgeons?

Because they mew-till-late.

Why is a steam engine at a fire an anomaly? Because it works and plays at the same time.

Why is a field of grass like a person older than yourself? Because it is past-your-age (pasturage).

Why is the letter *W* like a scandal? Because it makes ill will.

An Evasive Answer.—"John," said a clergyman to his factotum, "I shall be very busy this afternoon, and if any one calls I do not wish to be disturbed."

"All right, sir. Will I tell them you're not in?"

"No, John. That would be a lie."

"An' what'll I say, yer reverence?"

"Oh, just put them off with an evasive answer."

At supper time John was asked if any one had called.

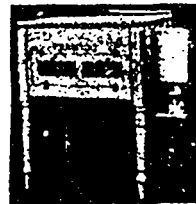
"Yes, there did," he said.

"And what did you tell him?" asked the clergyman.

"I gave him an evasive answer."

"How was that?" queried his reverence

"He asked me was yer reverence in, an' I sez to him, sez I, 'Was your grandmother a hoot owl?'"—*London Answers.*



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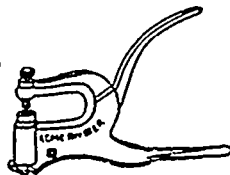


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"Phwot makes yez say that?"

"Phwoy, he's been afther makin' his will an' l'avin' iveryt'ing he's got in dhe worruld to his heirs, not kapin' back for himsilf as much as a quater's wotr' av anyt'ing. T'ink av ut, l'avin' himsilf penniless at his age, in case he should doie!"

How to Tell.

A Chinese laundryman was ironing and talking to himself. Picking up a shirt that had every button in place and every rent or rip carefully mended, he said: "Bachelor; him lan'lady fix him." Picking up another shirt that was buttonless and full of rips, with edges frayed, he said: "Mallied man."

His Mind Easy.

Mrs. Smith repeatedly reminded her husband that she owned the silver, that she owned the furniture, and so on, until poor Smith almost wished he'd married a poor girl. The other night Mrs. Smith awoke to hear strange noises in the lower part of the house, and, vigorously punching her husband in the ribs, called:

"John, get up! There are burglars in the house."

"Eh?" inquired Mr. Smith, sleepily.

"Burglars! Down stairs!" howled Mrs. Smith.

"Burglars?" said Smith, as he turned over. "Well, I don't own anything."—*Life*.

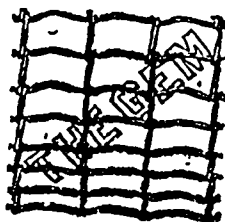
Water for Calves.

In order to determine how much water the herd of thirteen calves at the Kansas Agricultural College would drink, the water given them for a week was weighed and put in a barrel with an attachment for letting it out as fast as needed. In the seven days the thirteen calves drank 868 pounds of water, or an average of eight pounds a day. The weather during this time was warm for the first three days and cooler the last four days. In addition the calves got an average of fourteen pounds of skim-milk besides grain and hay.

The calves drank several times a day, not much at a time but often. I noticed several times that they took one or two swallows. Oftentimes they would take a few mouthfuls of grain, go and get two or three sups of water, then back to their grain again. Even after their ration of milk they would take a few swallows of water.

This experiment shows that calves need water in addition to their milk ration; it also shows that they like it often and not so much at a time. Always see that it is fresh and clean.

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Sheep at the Toronto Fair.

How an American Reporter Described the Exhibit.

The following rather humorous presentation of the sheep exhibit at the Toronto Fair appeared in the last issue of the *American Sheep Breeder*. Though rather long we give it in full:

Behold there is a city which lieth beyond the lake called Ontario, the citizens whereof issued a proclamation to all the world, saying: "Come ye to visit us, and bring with you your wives and children; also the best of your flocks and herds, your servants, and the captains of your hosts; and it shall go well with ye, with your flocks and with your servants, for we will make thy life a pleasant life, and in games of skill they who wax strong, verily they shall be well treated."

Now, there sojourned in the city of Toronto mighty men, men of renown in the game to be played. They came from the north, from the south, from the east, and from the west. They left their wives and families at home, but with them and their flocks came men of skill in the game called Shearing and Showing, and these were renowned workmen, armored in blue jeans, and carried weapons like unto two swords joined together; these they used with marvellous skill. Others employed an unguent, which caused a foam like unto that found upon the seashore, and they came out of their baths white as snow, and these men used an instrument which was heated in flames of fire many times, and, with the patience and art employed, it made the wool of marvellous beauty, the sheen upon which reminded one of the glistening of the sun upon the ice on peaks of the high hills. Again, others of the skilled magicians anointed their flocks with frankincense and myrrh and with oil from the palm and from the olive.

And behold, amongst the numbers who came to this city was the Laird of Altamont, and with him came the mighty Bradbur, clad in raiment of many colors. He was noted for his skill and knowledge of the game, and the Laird arose and said: "I will hence to the City of Syracuse, beyond the great lake, for I feel tired;" and the captain of his flocks whispered in his sleep: "Tanner for ever."

But who is this clad in purple and fine linen, with a smile upon his face, like unto that of a great conqueror? His talk is of the horse and the hound, and he was a mighty hunter in the land of the great queen. Folly Farm is the resting place for the sole of his feet. With him, of modest mien, was Robert, the son of John the Miller, and they were continually lifting up their voices in praise of Ruddington, its manager and its flocks.

Then appeared "The Campbell." "She wass" there, and with him Newton Pippins innumerable. He has found favor in the eyes of many tribunes, and doth wax in wealth, in flocks and herds. In his dreams he has been heard to whisper: "Newton Lord will never die."

And the Hammers were there, with the smell of salt water upon them, clad in armor of the ancient Briton at home beyond the seas. They are skillful with the shears and with the bottle which containeth the milk of the cow, and they were successful in lowering the spears and shields of their opponents.

Beattie and Wright were there, but they possessed their souls with peace and contentment;

The Allen came up from the west, spying out the land. He said, "I will arise and see what these vain boosters are doing, but thy servant will lie low, and then smite them, hip and thigh, when then they are consumed with their own vanity." Verily he departed as one having learned much.

But who are these clad in uncouth garments, the colors of which resemble the sky in May? They are the tribunes who award the prizes, men of wisdom and discretion. But why arrayed like this? Oh, to keep off the oil of the olive and the palm, the frankincense and unsavory spices, for it is only upon the flock that these precious ointments may be used.

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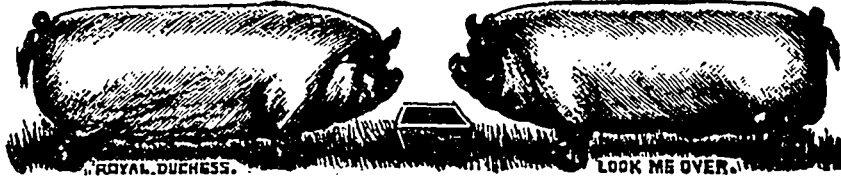
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Then the heralds lifted up their voices and the gates were thrown wide open, and the men from the north, and the south, from the east, and the west arrayed their lines in battle array. And lo, the tribunes approached, and they made obeisance unto the flocks, and stooped and spread out their hands and embraced them, then they opened their raiment and searched as though prospecting for gold, then they fell upon their knees, even as to worshipping them, and I said, "What seek they?" Then the centurion answered and said, "Begorra, it is black wool and blue skies they are after." Then replied I, in a gentle voice (for I was much afraid, after the manner of my kind), because of the rough voice of the centurion, "Thy servant has just arrived from the caravansary of the tribe of Jerseys, and should they not find that for which they seek, beseech them to fetch a compass and sail hence; when thy servant left it was both black and blue and smelt of brimstone."

After searching many moments the tribunes arose, and, after many words, did deliver judgment. Then were the ribbons distributed to the conquerors, and some lifted up their voices in a mighty shout of victory, and others wailed and said, "Lo, we forgive the tribunes, for they have passed us by."

Again the heralds called forth another lot of contestants. And I spake and said, "What are these?" "They are Southdowns," replied the guard. Nero, when he was burning Rome, ordered a Southdown chop to be cooked on the embers while he tuned his stringed instrument. They go back in unbroken descent to the ark, and only princes and rulers are allowed to partake of the saddles and cutlets thereof. Then one Jackson, a "canny chiel," put on his armor and cried aloud, "I am ready," for he was cunning of hand, and he had arranged his flock in colors of gala, yet, of old gold, and his skill is recognized to the uttermost parts of the continent. And one Teller, of fair speech, said, "I am not afraid," and he girded up his loins and came out of the encounter with much credit.

And again the heralds announced the appearance of other candidates, and upon their foreheads were to be found these words, "Oxford Downs." These were monsters in size, even approaching the ox in stature. But the warriors themselves were only of medium size, but very earnest in their endeavors, and the battle waxed furiously, and the names of the winners were placed on the rolls, which are carefully preserved in the archives, and they were emblazoned in large letters: Smith Evans, R. J. Jull and J. H. Hine.

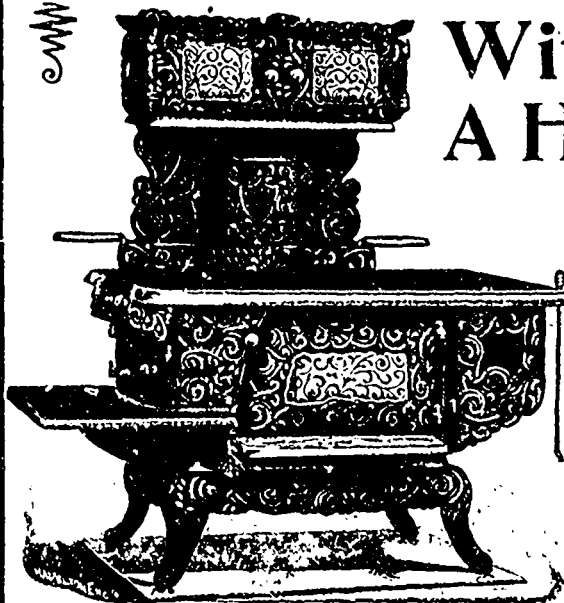
Again the heralds lifted up their voices, and Cotswolds, Lincolns and Leicesters were the cabalistic words. These were of white complexion, fair to the eye and beloved of women, for from their fleeces are woven garments that fill their hearts with gladness, and it has ever been found that it is good for man to make glad the heart of woman, for doth he not thereby get his reward?

Thy servant is not qualified to place upon his tablets the results of the combat within the arena, as he has been called as one without the knowledge, and he would have his paths "paths of peace." Are not the records to be found in the chronicle of the Industrial? and inscribed in letters of red, blue and yellow, will be found the names of Gibson and Walker, the son of "Kit," with whom a "bonnie blue heeded yan" was once held in great favor. Then there was the Patrick of the green flag; his voice is heard from the east to beyond the Mississippi.

The Cotswolds had for champions, Allen and Park and Watson, and in Leicesters the names appear of Gardhouse, renowned of horses and of cattle, of Whitelaw the Scot, whose stature is even like unto those who go down to the races, and with whose names are attached those of "The Darby" and "T' Ledger." Yea, verily, he would be as an Alexander upon a Bucephalus. And the Anak was there whose voice has been lifted up to proclaim, "The land of the Maple Leaf is the home of the Leicester and we fear no foe, not even from the land of brown heath."

The horned rams and the lambs that visited this city time will not permit to describe them; suffice they had horns to burn. The genial McGilliverry and the great Harding will sustain their reputations. But are not

IF THE RANGE "KICKS"—SO WILL THE COOK!



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FOR COAL AND WOOD

The Victorian

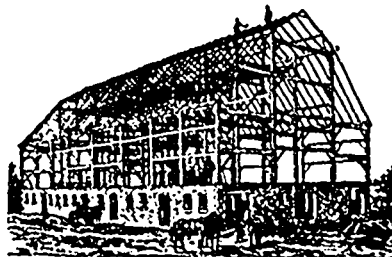
FOR WOOD ONLY

Operate with perfect satisfaction—like a true friend always to be depended upon. Cooking is a veritable pleasure—and they're easy on the coal bin and the wood box. Write for a descriptive Booklet.

The Copp Brothers Co., Hamilton

BRANCHES—TORONTO AND WINNIPEG

Thorold Cement...



Barn of Beswetherick Bros., Hagersville. Size of Floor, 60x120 ft. Put in with Thorold Cement in 1886.

They say: "Our floors are as hard as stone. We clean our stables by driving a team and wagon through the stable on the concrete behind our stock, and load the manure on the wagon. We can truly say it is just perfection for stable floors."

Do you intend renewing your stable floor this fall? If, so, why not consider the question of putting in a Cement Floor? It is cool in summer, can always be kept clean with very little labor and without the soaking which is found so annoying and unhealthy for man and beast in connection with wood floors, is warm in winter, as cheap as a wood floor and will last for all time. It is smooth, but not slippery. Write for prices and full information to

**ESTATE OF JOHN BATTLE
THOROLD, ONT.**

BOYS AND GIRLS!
WE ARE GIVING AWAY

Gold Plated Watch Chains for selling 100 packages (100 POWERS) in 3 cents per package and 20 PENS (100 PENS) in 3 cents per package and 20 PENS (100 PENS) in 3 cents per package. Write for 5 cents. SEND NO MONEY NOW! Send us 20 cents and receive Watch Chains, Gold Plated Chains and address, name of parent.

DOMINION SUPPLY HOUSE, Hamilton, Ont.
MAYNOR TOWN PLACE

The Razor Steel

SECRET TEMPER, CROSS-CUT SAW



WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than any process known. A Saw, to cut fast, "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves.

These saws are elliptic ground thin back, requiring less set than any saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good ask your merchant to let you take them both home and try them, and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less and lose 25 cents per day in labor. Your Saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

MANUFACTURED ONLY BY
SHURLY & DIETRICH
GALT, - - ONT.

the names of all the winners (upon whose brow the wreaths of oak and olive do not unduly press) inscribed in the Chronicles of Toronto, formerly Muddy York? We wis so. SNAP SHOT.

Stock Notes

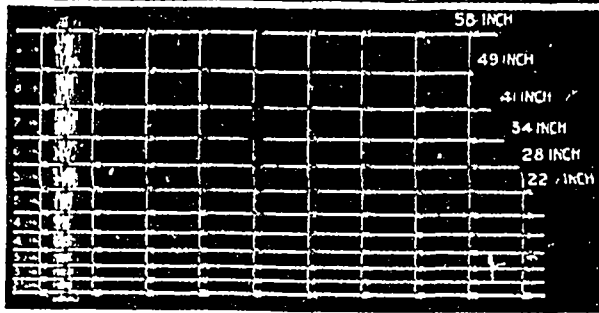
OF VALUE TO HORSEMEN.—Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam applied as per directions, just as you are turning the horse out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, is absolutely a safe remedy, does its work well and at a time when the horse is having a rest. Of course, it can be used with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

A FINE RECORD.—J. Campbell, Fairview Farm, Woodville, Ont., writes: "At Toronto, London, and Ottawa fairs my Shropshires won more firsts than any competing flock and the largest share of the money. Eight times my home-fitted sheep beat English Royal winners. Therefore, taking it all through, I consider my flock never did better. Besides, I have many reports of stock sold this season winning elsewhere. These pleasing notices came from Vermont in the East, to Iowa in the West, with many points between in Ontario and the States. The best part of the story is, that Fairview Shropshires prove satisfactory as breeders."

THOUGH nothing much has been said of it in a public way, the Canadian Pacific Railway has this fall been making extensive purchases of purebred stock for distribution in Manitoba and the West among farmers for the purpose of improving their stock. In one shipment which arrived at Winnipeg a few days ago there were thirty purebred bulls and eighty boars. The bulls, with the exception of one Polled Angus, are all Shorthorns, secured from some of the leading Ontario breeders and prize-winners at several of the Ontario fairs. The boars are of the Berkshire and Yorkshire breeds.

CORRECTION.—Mr. Thomas Good, Richmond, Que., writes re our report of horses at the Ottawa Fair as follows: "Would you please correct your report of the C. C. Exhibition Association prize-list in the Dominion bred draught class. I was the winner of 1st prize in the aged class, and also sweepstakes and gold medal for the best draught stallion any age, on the stallion "The Marquis," (1182), by "Little Jack Elliot," (imp.), one of Macgregor's greatest prize-winning sons, and dam Bell of Richmond (3527), imp., also a prize-winning grand-daughter of Drew's "Prince of Wales," (673), and deservedly so, as he is of grand draught horse conformation, great weight and substance, standing over 17½ hands, yet short legged and true in his action. In his 3-year-old form he was also 1st prize winner and gold medalist, the only times exhibited."

A BIG SHORTHORN SALE.—A great sale of Shorthorns will take place at Kansas City, on Oct. 17th, 18th, 19th and 20th next. Two hundred head are included in the lot, all registered Cruickshank and Cruickshank topped cattle, and are made up by five of Missouri's most successful breeders. Among them are T. W. Ragsdale & Son, of Paris, Mo., who offer forty head, ten bulls and thirty cows and heifers, of which ten are two-year-old heifers by the Cruickshank bull, Crown King, 111418, and John Burris, of Miami, who offers sixty head, consisting of ten bulls and including the pure Duke Bates herd bull, Sangamon Duke of Airdrie, 125174. Among the other offers will be a Secret bull, by Grand Victor 4th, a pure Cruickshank; a yearling Violet heifer, and three Baron Dudding yearling heifers, daughters of the \$1,000 Baron Dudding, recently sold at a public sale, going to Iowa.



The Fence That Fences

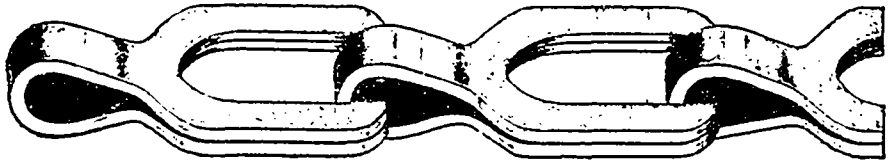
is the fence every fence user is after. For perfect security in the way of a fence, at lowest cost, for a fence that will outlast your lifetime, secure the

AMERICAN FIELD AND HOG FENCE.

Large spring steel wires, heavily galvanized, practically indestructible. Sold by our agents everywhere. If no agent in your town write to

AMERICAN STEEL & WIRE CO., Chicago or New York.

American Cow Ties Will Outlast all others



This is because the form of the link, the exact size and shape of which are shown above, is such that the wear is distributed evenly over its entire end. The tearing surface is thus very large, and the chain will wear for years without becoming worn appreciably.

With other styles of chain the bearing surface is only a very small portion of the extreme end of the link. Grooves are soon formed, and in a comparatively short time the links are worn—or, properly speaking, cut—through.

These facts are well shown on a cow tie recently brought us for repairs. It was an ordinary N 00 three-chain tie. One chain was wire, the other two American. One of the wire links was worn entire through. The others were nearly as bad—a strong pull would have broken almost any of them. With the American chains, on the other hand, the wear was very slight, and hardly noticeable—three times this amount would not have weakened the chains seriously.


American Cow Ties are made in all the standard patterns and sizes. If your hardware dealer does not handle them, kindly let us know, and we will see that you are supplied.

See our Special Cow Tie Catalogue—just published—sent Free on application.

ONEIDA COMMUNITY, Limited, Niagara Falls, Ont

"Good Cheer" Stoves and Ranges.

evenly heated,
perfectly ventilated,
extra large



Steel Plate Ovens
bake and roast
admirably
and save fuel.
Fully guaranteed.

"Good Cheer" RANGE
WITH LARGE STEEL OVEN.

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WOODSTOCK, ONT. LIMITED.

SOLD BY LEADING DEALERS EVERYWHERE.

ALEXANDRA AND MÉLOTTE

CREAM SEPARATORS

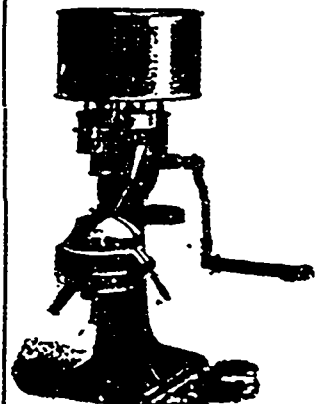
Have met with universal success at the leading Fall Exhibitions, beating all competitors. Several special awards have been given to the "MÉLOTTE" as being the most efficient and easiest running separator on the market. We only ask you to give the "Melotte" a trial.

For full particulars apply to

R. A. LISTER & CO., Limited

570 & 581 St. Paul St., MONTREAL, QUE.

SENT ON FREE TRIAL



SATISFACTION GUARANTEED

Market Review and Forecast

Office of FARMING,
Confederation Life Building,
Toronto, Oct. 9th, 1899.

Payments for goods both at city and country points continue good, and preparations are already being made in some sections for next spring's trade. The threatening war in South Africa is having some effect in tightening the money market. Within the past week the Bank of England rate has advanced to 4½ to 5 per cent. on the open market. This has had some effect at Montreal, where the bank rate has been put up to 5½ to 6 per cent. The volume of trade in most wholesale branches is reported ahead of last year at this time.

Wheat.

Wheat circles have been somewhat exciting during the week. How susceptible the market is to the least outside influence is seen in the somewhat firmer feeling shown as the prospects of war in the Transvaal increased. Though why a war there would affect the wheat market more than the war between Spain and America did is hard to understand. The visible supply of wheat in sight in Canada and the United States shows an increase of 30,869,000 bushels over this time last year, and the total world's supply in sight an increase of 34,859,000 bushels. It is reported that farmers in the Northwestern States are holding their wheat to a much greater extent than usual. The value of the Manitoba crop this year is estimated at from \$20,000,000 to \$25,000,000. A late report puts the Russian spring and winter wheat crops at about 56,000,000 bushels short and the French crop at 8,000,000 bushels less than that of 1898.

The Chicago market has fluctuated considerably during the week as have also the cable reports, but on the Baltic more active business has transpired than the week previous. The *Fritic Current* reports that a great deal of the new crop is going into consumption and that the winter wheat movement continues restricted in all sections. The market at Montreal has been of a variable nature with quotations at Ontario points a shade lower than last week. A big volume of business is being done in export flour. On this market wheat is somewhat easier at 67c. north and west for red and white, and 71c. for goose north and west. On the Toronto farmers' market red and white bring 69 to 70½c., spring flint 68c. and goose 72c. to 75c. per bush.

Oats and Barley.

The English oat market continues steady. There has been little change at Montreal. Here the market is steady at 26 to 26½c. for white west, with mixed quoted at 25c. west. On the farmers' market here oats bring 31c. to 32c. per bushel.

At Montreal barley is higher and firmer under a good export demand and sales of feed barley have been made west at equal to 45 to 46c., No. 2 48 to 49c., and No. 1 50 to 53c. There is an active demand here for export at 43c. for No. 2 west. Feed barley is quoted at 35 to 36c. west. On the Toronto farmers' market barley brings 47 to 50½c. per bushel.

Peas and Corn.

Peas at Montreal rule about the same, with the market, if anything, a little easier. Peas are reported steady here at 60c. west, and on the farmers' market bring 62c. per bushel.

American corn is quoted here at 40c. on track

Bran and Shorts.

These are a little easier at Montreal and millers are selling more freely. Quotations are \$14 to \$15 for bran, and \$15.50 to \$16.50 for shorts in car lots. City mills here continue to sell bran at \$13, and shorts at \$16 in car lots f.o.b., Toronto.

Eggs and Poultry.

English markets continue firm for both fresh and pickled egg stock. The Montreal market rules firm with prices well maintained at 18c. to 19c. for fresh selections. There have been increased shipments of pickled stock of late to Great Britain. Receipts are dropping off somewhat here and an advance in prices is looked for. Choice new-laid eggs continue steady at 15 to 16c. wholesale. On the Toronto farmers' market new-laid eggs bring 18 to 20c. per dozen.

Though a little early for the dressed poultry trade, a few lots are coming into Montreal. Dry pickled turkeys bring 10c., and chickens 9 to 10c. per lb. There is a good demand here for choice fowl, with turkeys quoted at 9 to 10c., and geese at 5 to 7c. per lb., and chickens at 40 to 60c., and ducks at 60 to 75c. per pair wholesale. On the Toronto farmers' market prices are about 10 per cent. higher than these quotations.

Potatoes.

The supply is equal to the demand at Montreal, and potatoes in good-sized lots bring 40 to 42c. per bag. Cars on the track are quoted here at 40 to 45c., and potatoes out of store bring 55 to 60c. per bag. On the Toronto farmers' market potatoes bring 50 to 60c. per bag.

Apples.

The shipments of apples from Montreal and Halifax last week amounted to 35,646 bbls. which would indicate that the crop is not particularly short. The market in Great Britain continues good for choice, sound fruit, which net shippers fair profits, but a great many of the fall shipments have turned out slack and in poor condition. The Montreal market has been glutted with fall fruit during the week, the bulk of which sells at \$1 to \$1.25 per bbl. with good to choice fall apples bringing \$1.50 to \$2.25. Winter fruit is quoted there at \$2.60 to \$3 and \$3.25 for choice to fancy and \$1.75 to \$2.25 per bbl. for seconds. Better prices are looked for in England as soon as the fall fruit is worked off. On the Toronto fruit market quotations are \$1.50 to \$2.25 for fall fruit.

Hay and Straw.

Higher prices rule in England for hay. At Montreal the market continues firm under a good demand and rather limited supply. There is a large export demand and more business would be done if it were not for the difficulty of securing ocean freight. No. 1 is firm at \$8.50 to \$9.50, No. 2 at \$7.25, and clover at about \$6 per ton. Here cars of baled timothy are quoted at \$8.50 to \$8.75 and clover at \$8.25 for cars on track. On the Toronto farmers' market hay brings \$11 to \$13.00, sheaf straw \$7.50 to \$8.50 and loose straw \$4 to \$5 per ton.

Seeds.

A Toledo report comes to the effect that the clover seed market is being cornered, prices having a range of 75c. to \$1 per 100 lbs. higher than at this time last year. A couple of weeks ago clover seed was selling at Chicago at \$7.50 to \$7.75 per cwt. for October delivery, while a week ago it was selling at \$8. At Montreal clover seed is firmer, out of sympathy with the advance of 60c. in the United States, and is quoted at \$4.75 to \$5.25 per bushel as to quality. On the Toronto farmers' market red clover brings \$4 to \$5; alsike, \$5 to \$7; white clover, \$7 to \$8; and timothy seed, \$1 to \$1.25 per bushel. Timothy seed failed brings \$1.50 to \$1.65 per bushel.

Cheese.

The upward course of the market reported a week ago has received a check, and prices have receded from ¼ to ½c. during the week. The English market has ruled quieter,

with buyers refusing to follow the advance reported on this side; but as stocks are not accumulating, and as a good consumptive demand keeps up they may have to advance a little in order to get the goods. The chief interest now centres in the September and October make. At Montreal there was a little firmer feeling towards the end of the week, with finest westerns quoted at 11¼ to 12c. and finest easterns at 11½c. The total exports from Montreal, New York and Portland show an increase so far of 70,527 boxes, as compared with the same period last year. At the local markets prices have ruled from 11¼ to 11½c, but as factorymen have disposed of the bulk of the first half of Septembers they are not anxious to sell unless they get their price, which seems to be about 12c.

Butter.

The *Trade Bulletin's* cable report of October 5th re Canadian creamery, reads thus:

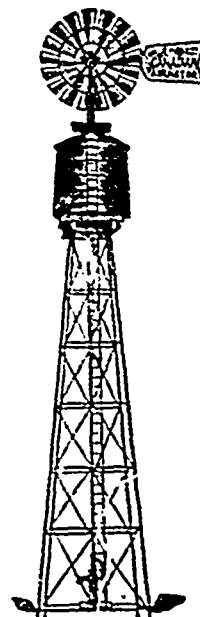
"The market is quiet, but prices have undergone little or no change for finest qualities, as stocks are still light, and holders are not pushing sales. Finest Canadian creamery 112 to 116s.; good to fine, 104 to 110s. Fancy grades, 118s."

At Montreal butter is easier and prices are ¼ to ½c lower than a week ago, but at the decline the market is reported steady. One strong feature in the situation is that there has been no accumulation of stocks. When the decline came a great many buyers dropped out of the market, thinking that a further slump would come, but it has not come, and towards the end of the week a better feeling prevailed. Sales are reported at 23 to 23½c. for choice quality. The fall make is expected to be light in the Western States, and an Elgin, Ill., report says that supplies are hardly equal to the demand. Creamery keeps in good demand here at 21 to 22c. for tubs and 22 to 23c. for prints. There seems to be a good supply of dairy, choice quality bringing 16 to 18c. and inferior grades 11 to 14c. per lb. wholesale. On the Toronto farmers' market pound rolls bring 20 to 25c.

Wool.

The Montreal market is quiet, but firm. Canadian pulled is quoted at 20c. and fleece

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RELIABLE
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the

Canadian Steel
Air Motor

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ment and C.P. Railway.

Pumps, Tanks, Grind-
ers, Hay Tools, Water
Bastin.

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TORONTO.

at 17 to 18c. per lb. Prices continue the same here at 14 to 15c. for fleece, 8 to 8½c. for unwashed and 15 to 16½c. for pulled wool.

Cattle.

Fine quality in all the leading American markets continue strong and sell readily at good prices. Inferior grades continue only fairly steady, the extra supply of these keeping values down. On Toronto cattle market on Friday receipts were light, and for the first time for a couple of weeks the offerings were all cleaned up. The quality of the fat cattle was, with a few exceptions, poor. Trade was good for the best quality of exporters and butchers, while the poorer grades were slow. More than half of the cattle on the market were stockers and feeders.

Export Cattle.—Choice quality sold at \$4.80 to \$5 per cwt., and light ones at \$4.25 to \$4.60 per cwt. The bulk of exporters sold at \$4.40 to \$4.70 per cwt. Heavy export bulls sold at \$4.12½ to \$4.40, and light ones at \$3.40 to \$3.65 per cwt.

Butchers' Cattle.—Choice picked lots of these equal in quality to the best exporters and weighing 1000 to 1100 lbs. each sold at \$4.12½ to \$4.35; good butchers' cattle at \$3.65 to \$4; mediums, mixed cows, heifers and steers, at \$3.40 to \$3.65, and inferior to common at \$2.90 to \$3.37½ per cwt.

Stockers.—The market for Buffalo stockers was weaker and prices were easier at \$3 to \$3.15 per cwt. for the bulk of the best steers, with a few picked lots at \$3.25. Inferior black and white steers with heifers sold at \$2.12½ to \$2.50 and stock bulls at \$2.12½ per cwt.

Feeders.—Choice, high-grade steers in good condition and weighing 1100 to 1200 lbs. each for farmers' purposes sold at \$3.80 to \$4, while rough steers of the same weight for the byres, sold at \$3.60 to \$3.75 per cwt., the bulk going at \$3.60. Light feeders weighing from 800 to 1000 lbs. each sold at \$3.40 to \$3.50 and feeding bulls at \$2.75 to \$3 per cwt.

Calves.—These have been in light supply at Buffalo. On Friday's market here calves sold at \$4 to \$10 each.

Milk Cows.—The cows offered were mostly of inferior quality and sold at \$25 to \$46 each, only two reaching the last figure.

Sheep and Lambs.

The demand for these has fallen off at Buffalo somewhat. All common kinds are dull and weak. Prices at Toronto market on Friday were \$3.25 to \$3.50 for ewes, and \$2.50 to \$2.75 per cwt. for bucks. Butchers' sheep sold at about \$3 per cwt. Prices for good lambs were firm at \$3.75 to \$4 per cwt., but the general run were not of good quality.

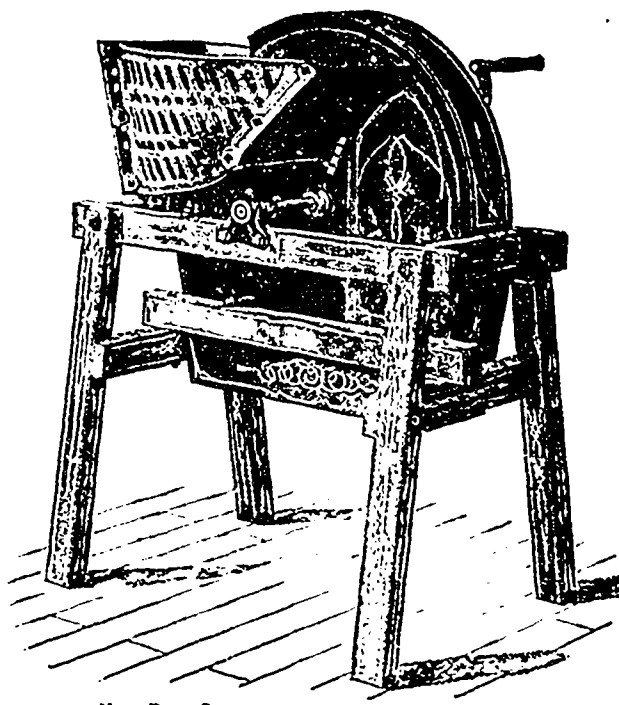
Hogs.

Receipts were large on Friday, and prices easy at \$4.62½ for select bacon hogs of good quality, not less than 160 lbs. nor more than 200 lbs. each, unfed an unwatered, off cars, and \$4.12½ for thick and light fats. The bulk of the hogs sold at \$4.50 for uncultured car loads. Essex and Kent corn-fed hogs sold at \$4.12½ to \$4.25 per cwt. Prices at Montreal are ½c. per lb. lower; the bulk of the offerings during the week sold at 4½c. per lb. The English bacon market is off a little, as the *Trade Bulletin's* London cable of October 5th shows. It reads thus: "The market is dull and prices are weak at a decline of 2s. on the week, and, as stocks have increased, holders are anxious to realize."

Horses.

At Grand's Repository last week horses were somewhat quiet, though good quality was in demand. The Essex coach horses mentioned last week sold at from \$75 to \$120 each. One cob gray mare brought \$125. One pair of delivery horses sold at \$200 a pair, and another pair, of fine quality, at \$150 each.

Elsewhere in this issue appears an advertisement of Mr. L. Rogers, Cooksville, in which he announces a very special offer of Yorkshire pigs. The prices named by Mr. Rogers are for October only. This stock is guaranteed of the finest English strain. Those interested in this breed would do well to address Mr. Rogers at Cooksville.



New Root Cutter (pulper and slicer combined)

THE NOXON CO. (LIMITED)

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HIGH-CLASS FARM IMPLEMENTS

Please write for Price List and Descriptive Catalogue

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27 A Few Desirable Improved Farms For Sale.

R. H. TOMLINSON

To the Farmers

of this Canada of ours:

WE heartily thank you for the liberal and increased patronage which has made the past year a record breaker in our business.

The Dominion Report of Mineral Production for 1898 shows that the farmers and stockmen of Canada used during the year

More Queenston Cement

than the combined output of all other Canadian manufacturers of Natural Rock Cement. Ask for prices, or for estimate of cost of any kind of concrete work.

OUR SYSTEM OF VENTILATION

is being adopted by the leading agriculturists of Canada and the United States. Fully covered by letters patent, but to our patrons we make no charge.

Write for pamphlet containing full information.

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Balance of year free to
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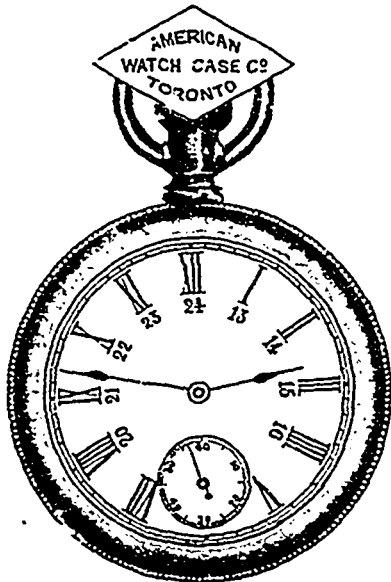
Farming

May Each Win a Watch

Of the several valuable premiums we are offering readers of FARMING for the little exertion needed to secure one or more new subscriptions, none are proving more acceptable than the two watches included in the lists. Perhaps in seven cases out of ten the choice of a premium is a watch. What is satisfactory to us as publishers is the assurance that these watches are everything that the description suggests. The watch offered for fifteen new yearly subscriptions is an excellent time-piece, guaranteed exactly as described or money refunded. Why not own one of these watches for yourself as a result of wisely employing your spare time?

Valuable Premium for 15 New Subscriptions

A Watch Free for 4 New Subscriptions



GENTLEMAN'S WATCH

in solid silver case, open face, stem wind, fitted with Waltham movement, which is a guarantee that the watch is a good time-keeper, and will give satisfactory wear.

—This watch will be given free to any subscriber sending us fifteen new yearly subscriptions to FARMING sent post-paid at our expense. Regular price of the watch is \$8.50.

Any subscriber to FARMING (not in arrears) can have this watch on payment of \$5.75, sent postpaid to his address.

COOK BOOK FREE

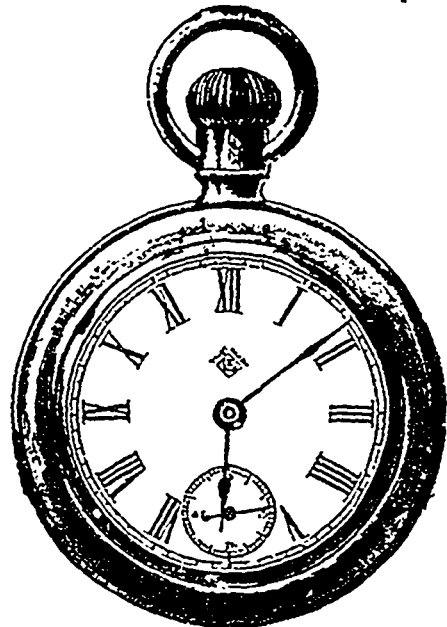
Only three new subscriptions are needed to secure a copy of the Ideal Cook Book, a most valuable book for every house-keeper. The section entitled the "Doctor" is itself worth the price of the book. Size of page 5 in. x 8 in. Bound in handsome oilcloth cover. The Ideal Cook Book cannot be had in the book stores. Published price \$1.00. Copy of the Ideal Cook Book will be sent to present subscribers (not in arrears) on receipt of 50c.

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Any present subscriber who will send us one new subscription will receive free of any further cost a copy of our new edition of "Life of Christ for the Young," by Geo. L. Weed, a book of 400 pages with 75 full-page half-tone illustrations. This book is recommended by religious leaders, and is bound in cloth, tastily embossed. Regular price \$1.00. Present subscribers to FARMING (not in arrears) may have a copy of this book, postpaid, on receipt of 50c.

October is a splendid month to get at work on canvassing for a paper like FARMING. The long evenings have arrived, and the pleasure of good reading is appreciated. You find this in FARMING—something for the whole family—something useful as well as entertaining. Everyone who tills the soil will be a better farmer after a year's reading of FARMING. It is a valuable paper, every week, for the small sum of \$1.00.

Address all letters and make cheques, drafts or money orders payable to



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nickel finished case, open face, stem wind and set. We do not say this is a full nickel watch, but it will hold its color for a year or more, whilst we can thoroughly recommend it as an accurate time-keeper. It is the watch in use among a large number of the conductors of the Toronto Street Railway, where an accurate time-keeper is a necessity.

—This watch sent postpaid to any subscriber sending four new yearly subscriptions to FARMING.

It will be sent to any present subscriber (not in arrears) on receipt of \$1.50.

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Any subscriber renewing his own subscription and sending \$1.00 extra will receive, carefully packed for mail, a good 4-in. reading glass that is sold regularly at \$2.50. This glass is especially valuable for examining seeds, insect pests, etc. Any subscriber sending us one new subscription may receive the glass for 75c.; and by sending three new subscriptions will receive the glass free.

BIBLE FREE

Any subscriber adding only 75c. to his subscription may have a copy of the Oxford Workers' Bible that is sold regularly at \$2.50 sent postpaid to his address. This volume is printed in very large, clear, new Minion, size 5 in. x 7½ in., and bound in Levant Morocco, linen-lined, with round corner and red undergold letters.

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Easy to Manipulate

Where the mowing has to be done on rough or stony land one wants a Mower that can be easily handled. The Levers and Foot Lift on the

Massey-Harris Line of Mowers

are so convenient to the driver's seat that any range of adjustment can be readily obtained with but slight pressure.

A boy can drive and handle these machines, the Levers are so easily manipulated.

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Toronto, Canada

FARMERS !

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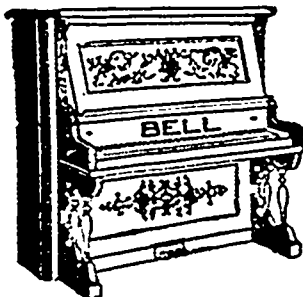
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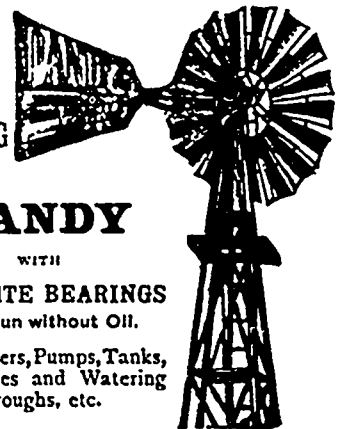
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