

FARMER'S ADVOCATE

AND HOME MAGAZINE

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THE FARMER'S ADVOCATE —AND— HOME MAGAZINE,

WILLIAM WELD, Editor and Proprietor.

THE FARMER'S ADVOCATE is published on or about the 1st of each month, is handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for dairymen, for farmers, gardeners or stockmen, of any publication in Canada.

Voluntary correspondence containing useful and seasonable information solicited, and if need, will be liberally paid for. No notice taken of anonymous correspondence. We do not return rejected communications.

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Our Monthly Prize Essay.

Our prize of \$5.00 for the best essay on "How Many Successive Crops of Green Fodder can be Raised in one Season," has been awarded to Mr. William Rodden, of Plantagenet Springs, Ont.

A prize of \$5.00 will be given for the best essay on the "Cheapest and Best Method of Fencing, and how can the cost of such be lessened." The essay to be accompanied by a rough sketch of the fence recommended. The time for sending in this essay has been extended to the 15th March.

A prize of \$5.00 will be given for the best essay on *The Causes of the Recent Failure of the Clover Seed Crop*, in different parts of Canada, and the best suggestions for the remedy. The essays must be as brief as possible as to the causes, but must go thoroughly into the remedies. The essay must be sent in before the 15th April next.

By the Way.

Arrange for plenty of early vegetables. Pork salted when frozen will not keep. Mature plans for the spring campaign. How about painting implements, etc? Allow no decaying matter in the cellar. Good time to plan farm improvements. Watch your farm hands and note their treatment of cattle.

Smoking and lighting lanterns in barns should never be permitted.

Skim-milk contains all the elements for growing the muscle and bones of young animals.

Colts and other young stock love the fresh air and sunshine as much as romping boys and girls.

Soapsuds are a valuable fertilizer for small fruits, and in the fruit garden will never be wasted.

Look after the young lambs with special care, as they are dropped in the early and inclement part of the season.

At the late English Fat Stock Show, at Birmingham, three Lincolnshire wethers aggregated 806 pounds, at the age of twenty-one months.

Never allow any one to tickle your horse in the stable. The animal only feels the torment and does not understand the joke.

For every bird that dies millions of insects are spared from death, and millions of insects mean famine. The people of this country will ere long see the advantage of protecting all insect destroying birds.

Keep a lump of rock salt in the feed box of each horse and cow.

Give the pigs a little powdered charcoal. This is essential to their health.

All stalls and stables for live stock should be open to the entrance of light and air. Darkness is too frequently one of the conditions of diseases in the stables.

Mr. George McBroom, of the City of London, has been elected Secretary to the Western Fair Association. The appointment has given satisfaction to the farmers and others of the locality, with whom he has been so long and intimately connected. Mr. McBroom is a thorough business man, and we are convinced will make a most efficient Secretary. We are also pleased to notice that E. R. Robinson, Esq., was elected President of the Association.

Agricultural Interests.

Recently when in Toronto, we had some conversation with Hon. O. Mowat, regarding the agricultural affairs of the Province of Ontario; also interviewed Mr. W. R. Meredith. We gave them some hints that, if acted on, we believe would be of very great benefit to the farmers of Canada. But there exist difficulties in dealing with agricultural affairs independent of party lines that appear almost innumerable; but "where there's a will there's a way." We also spoke to Mr. Ross, the newly appointed Minister of Agriculture. He appears a very canny, cautious gentleman, and is evidently desirous of improving and popularizing the Guelph College. We think it is to be regretted that he has not previously taken some interest in agricultural affairs. We deem it of very great importance that more information regarding the Model Farm should be furnished to him before any important steps are taken. We regret that some, opposed to the farmers' interest, have attempted to make parties believe that this journal has been a party paper, and that Government officials have been using their positions to thrust on the public one or more publications for partisan purposes. We trust that gentlemen in public positions who have either written or asserted that information furnished by the ADVOCATE was incorrect, untrue and unreliable, on being convinced of their error, will have the honor to retract, and the journals that have published such will give us due credit.

Editorial.

Making a Farm Self-Supporting.

The great secret of all successful farming is to make the land produce sufficient for the outlay of capital and labor, and have a balance on hand each year. This is business and farming for profit. Each year of plenty there should be stored up a surplus to meet the demands of a bad year, or where there is a shortage in the crop. There are more farms in this country that are not self-supporting than people are aware of, and gradually every year some part of the farm is being sacrificed when a pinch comes in the way of poor crops. There is no reason why every acre of land should not be self-supporting in every sense of the word, both in regard to manure, capital and profit. That a number of our farms are not self-supporting is owing to the fact that there is nothing in the land to support labor and production. The majority of our farms are not self-sustaining simply because there is not sufficient grain growing substances in the soil to produce a good or paying crop. You can't get *something* out of *nothing*, as a Grecian philosopher put it, and so with soil—it will just make the return to the cultivator what is in it in the shape of plant food—no more. To make farms self-sustaining or profitable, requires a thorough investigation on the question of capital and labor, and next the application of more intelligence and special knowledge in regard to farming as a business. To our own knowledge a great number of farms have not been self-supporting of late, and we consider farmers have lost money; or, in other words, the soil has not been producing sufficient to pay interest for the capital in the business, and pay for labor; and hence the farm could not be said to be self-sustaining. When a farmer finds that his land is not paying interest on capital invested he should take a candid view of the situation, and ask himself the cause, and by thus doing he will arrive at the solution of why farming does not pay or is not self-supporting. The primal cause he will find is poor land and badly cultivated soil. There is no use, gentlemen, going through the mechanical operation of plowing, harrowing and sowing seed on land that has not got the proper elements of plant food to raise a crop. It is very little use of a man buying costly and numerous machines, as he must at the present time, to farm but poor land. The same machinery is only required to raise 50 bushels on poor, undrained and badly kept land. Poor farms improperly cultivated and managed won't pay for the implements and labor, and hence cannot be self-supporting. It is a great fallacy to think any man can farm and that any man can make money out of a farm. The greatest diligence is required at the present time to prosecute farming with any degree of success, unless more intelligence and business is thrown into it. There is no doubt that for the last five years our farmers have been raising wheat extensively, and met with average success, and they thought that this would continue always, but a bad crop, as last year, is found to prostrate them, and we hear the cry that farming does not pay, and that the land is not self-supporting. The remedy

for all these evils is a mixed husbandry, and a wider conception of what constitutes paying farming. Like every other calling the profits are increased according to the business tact and intelligence of the operator. But there is more steady money in farming than any other business. The returns may be slow, but they are sure and certain, and not only should they be self-supporting, but by proper management, a good margin of profit can be had.

Leakages on the Farm.

The strictest economy must be practised to make farming pay. Those who think that it is easy to make money and farm and have a general good time, are mistaken. There wants to be the strictest economy in the most minute detail. There is hardly any business in which so many leakages can occur as on the farm. And we have no doubt that the want of success of a number of our farms is owing to inattention to small matters. There is no greater source of leakage on a farm than the careless way in which machinery and implements are kept. According to the improvements in modern machinery, &c., the outfit for a hundred acres of land cost in the vicinity of \$1,100 at the least, and this for a capital of a hundred acres of land. When this machinery is allowed to lay out doors in fence corners and exposed to all kinds of weather, there is no doubt that taking a given amount of capital, farmers are losing greatly on the mere score of implements and the care of such. Economy in the preservation of the material that is used in production, at the present rate, is a great point in preventing leakages. As a general thing, say an ordinary reaper only lasts, on an average, four years, this, by economy and care, would last three times this period. Plows, harrows, wagons and other implements might come under the same category with regard to economy. With a farm of one hundred acres, we venture to say that no man at the present price of labor and the cost of machinery and implements can make any headway, unless he stays the leakages in the saving of machinery. Taking a maximum yield of grain, and there is not a fortune in farming unless a man is careful and attends to the small things—the leakages. It is all folly to suppose that farming can be conducted only on pure business principles, and that with regard to economy and attending to leakages. But one of the most potent leakages of all on our farms is not active but passive, and that is the presence of so many noxious weeds. Of all the drains on the productiveness of a farm weeds are the most potent. It might appear strange, and almost incredible, if we state that of all the vegetable productions raised in this country in a given area, fifty per cent. of the production of this country is weeds—useless. What do farmers think of this? Is not this a leakage? No reference need be made to the personal habits of a farmer for wastes on a farm; the general economy practised on a farm is sufficient to teach a lesson on leakages. If a farmer keeps a poor lot of stock to eat up his grain and fodder, an adequate return is not made for the consumption; here is leakage. Good stock is a great point, and there is no more expense to keep a good animal than a poor one. Feeding a lot of scrub cows, steers,

sheep, horses, fowls, etc., that will only bring one-half the price of well-bred animals, is a common source of shortage; and there is no wonder a number of farmers get poor, when their class of stock is looked at.

Another fruitful source of leakage, and with a better class of farmers, is the misapplication of capital to the best advantage. Instead of laying out their surplus money to improve their land by drainage, and the purchase of a better class of stock, &c., &c., they put it into a savings bank, and probably only realize 6 or 7 per cent., when by using the same capital on the farm 50 per cent. might be obtained. A farmer should never allow his money to only draw bank interest when there are so many opportunities of investment on the land. The leakages we have mentioned are enough to dry up farmers' profits.

On the Wing.

On the 21st February we called at the Model Farm at Guelph, and when passing through the stable where experiments in feeding are carried on, we found these being prosecuted with unusual vigor. On the experiments in cereals, steamed food and ensilage, comprising nearly fifty steers, a just criticism could not be attempted until their completion. Those with respect to the comparative merits of the three great beefing breeds of the world are, however, always open to review.

Nine steers have been selected whose dams are Shorthorn grades, the sire of each class of three being Shorthorn, Polled Angus and Hereford thoroughbreds; and all the other conditions were as near alike as could be devised. They were summered on the soiling system—green corn and clover—with small quantities of grain; not highly fed, but in a manner easily accessible to the average farmer. They are weighed monthly, and their progress accurately compared, the following table showing the present results:—

ABERDEEN POLL GRADES.	
Average weight.....	1331 lbs.
" age.....	587 days.
Gain per day (since birth).....	2.25 lbs.
HEREFORD GRADES.	
Average weight.....	1218 lbs.
" age.....	575 days.
Gain per day (since birth).....	2.12 lbs.
SHORTHORN GRADES.	
Average weight.....	1406 lbs.
" age.....	724 days.
Gain per day (since birth).....	1.94 lbs.

In instituting comparisons between these and other experiments it must be borne in mind that the animals have not been fed for the show ring. At the Chicago Fat Stock Show, 1882, a number of steers, having an average age of 720 days, weighed 1,475 lbs.; and another batch, age 574 days, weighed 1,410 lbs. respectively, an average gain of 2.05 and 2.45 lbs. per day since birth.

A NEW DEPARTURE IN SHEEP EXPERIMENTS.

The experiments in sheep hitherto conducted are comprised under the following heads:—

1. The effects of different foods in the production of wool and mutton.
2. The weights attained by the various grades in a given time.
3. The weights and values of the fleeces of the grades, thoroughbreds and natives.
4. Microscopic observations of the texture and imbrications of these wools.

This year another experiment has been added—testing the effects and profits of shearing twice a year, and grades have been selected, as shown by the following memoranda:—

July 12—Clipped Shropshire grade wether lamb; weight of fleece, 4 lbs.

July 12—Clipped Shropshire shearing grade wether; weight of fleece, 4 lbs.

Aug. 14—Clipped Cotswold grade ram lamb; weight of fleece, 3½ lbs.

Aug. 14—Clipped Southdown grade wether lamb; weight of fleece, 3½ lbs.

These weights represent the unwashed fleeces. The Shropshire shearing mentioned was shorn on April 1st, weight of fleece, 12 lbs., and the lambs selected were as nearly equal in age and other conditions as could be procured. They are being wintered in a partially open stall with other sheep of the same class and under the same management, but were not shorn last summer. In comparing the sheep and fleeces, it is observed that the Shropshire grade lambs, shorn in July and August, have length of wool 4½ inches, against 5½ inches for Shropshire grade lambs unshorn. It is also observed that the fleeces of the shorn grades have more lustre, fold better, are more uniform, less puffy, and would bring a cent more per pound in the market than those of the unshorn grades; the wool is drier, the animals not perspiring so freely, and the growth of frame and vigor of constitution is equally, if not superiorly, marked. It is thought that there will be little difference in the weights of the fleeces of the shorn and unshorn sheep when the time of shearing arrives.

This experiment ought to dispel the delusion

that our climate is too severe for two clips annually, and that the process is an act of cruelty. It will also be seen that the profits of two clippings will be greater than under the existing system, but for accurate figures the clipping season will have to be awaited.

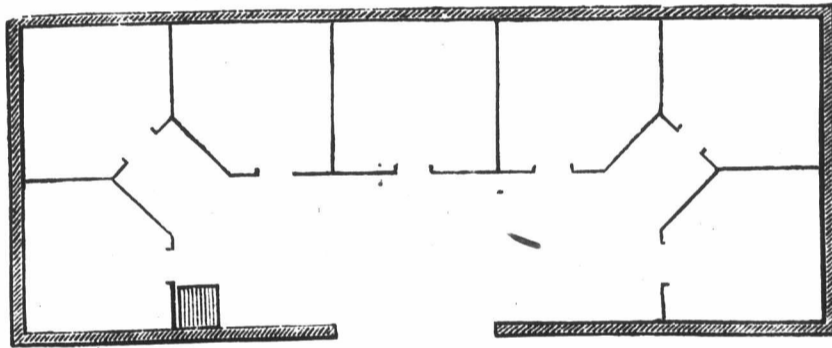
It is not necessary that the sheep should be highly fed in order to secure the best results in the production of wool, whether shorn once or twice per year.

Whilst in Toronto we visited the nursery of Messrs. Leslie & Son. The senior member of the firm informed us that during the past year 100 cords of wood had been cut from their surplus stock of trees in their plantation grounds and utilized as firewood, such as silver poplar, balsam poplar, English larch, European birch, English ash, mountain ash, Norway spruce, Huntington willow, horse chesnut, Scotch elm, tamarack and locust. We were fully convinced, with the appearance of Mr. Leslie's plantations of these different varieties, that forest culture is a profitable investment for the farmers of the older districts of this country.

We made enquiry from Geo. Leslie, Esq., about how the tariff affected the nursery interests, and he informed us, though he had been instrumental in moving for a duty on foreign nursery stock, he had found it was rather an

injury than a benefit to the trade, as it only encouraged the sale of a poor class of trees from the other side to compete with good stock here; and in proof of this we may say our nurseries have not increased, but, if anything, gone behind since 1878. To compete with the American stock a great number of our Canadian nurserymen have reduced the quality of their trees; and whilst on a visit to Bronte lately we saw the effect of this in the new orchard of Mr. Thos. White. They were all nearly affected with black rot, and were more or less of poor quality; and we are certain we express the opinions of the majority of our farmers when we assert that the tariff on fruit trees should be removed. Mr. White probably has old orchards equal to any in this country, but the new stock is what we speak of.

Mr. White is probably the most extensive breeder of specially thoroughbred trotting horses in Canada. He has two farms, one at Milton and one at Bronte. He has a large number of brood mares and colts of different ages, and his horses have a renowned reputation. He has a stable constructed from a plan made by himself, which is very convenient for the purpose required. We give you a ground plan. The stalls are 12 x 12, on the box pattern; one part of the upper flight



GROUND PLAN OF STABLE OF THOMAS WHITE, ESQ., BRONTE, ONT.

is fitted up as a dwelling for his grooms, and the other part is used for hay and grain left. This plan is sufficient to show how to construct one specially required for stallions or racing stock. We have not thought it necessary to show the feed racks, which are placed in the corners of the stalls. The harness, water, etc. are conveniently kept in the large hall or passageway. This stable is erected adjacent to his training course.

Farm Help.

Spring operations will soon commence, and with these a demand for good farm hands. The general rule that is followed in this country is to put off the hiring of men to the last moment, and trust to chances for some one coming along, and then probably some inferior workman has to be taken, or none at all. Men who know their business on a farm will not wait, and are early picked up in the neighborhoods in which they may reside. The trusting to men coming along just at the exact moment you are crowded, is a bad policy. There should always be profitable employment for a man in the early spring months before seeding commences, and it will pay any farmer to secure good farm hands early, and pay them good wages.

Special Contributors.

Our Washington Letter.

Washington, D. C., Feb. 18, 1884.

The existence of pleuro-pneumonia among the cattle of certain districts in the U. S. has stimulated the zeal of those interested in stock-breeding into framing a bill "for the establishment of a Bureau of Animal Industry, to prevent the importation of diseased cattle, and to provide means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals." As this bill is now pending before Congress and will become a law within the next thirty days, a few of its provisions may be found interesting and of benefit to the farmers and stock breeders of Canada.

The chief of this Bureau, which is to be a division of the Department of Agriculture, will be a competent veterinary surgeon, who will investigate and report upon the causes of contagious, infectious, and communicable diseases among domestic animals, and with his corps of assistants collect such information on these subjects as shall be valuable to the agricultural and commercial interests of the country. Two agents are to be appointed, *practical stock raisers*, to examine and report on the best methods of treating, transporting, and caring for animals, and the means to be adopted for the suppression of pleuro-pneumonia and the spread of infectious diseases. The Commissioner of Agriculture is directed to make special investigation as to the existence of pleuro-pneumonia or any contagious or infectious disease, along the dividing lines between the United

States and foreign countries, and along the lines of transportation, and make report to the Secretary of the Treasury, who shall establish regulations to prevent the exportation from any port of the U. S. to any foreign port of live stock infected with infectious disease, especially pleuro pneumonia. It also prohibits any railway company or vessel transporting such diseased cattle from one State to another, and appropriated \$250,000 to carry its provisions into effect.

William Saunders, the Superintendent of the garden and grounds of the Agricultural Department, in a recent report to the commissioner, gives some valuable suggestions on a variety of subjects. In relation to potato rot, he says:—By planting in hills or drills wider apart than usual, a free circulation of air would be admitted on all sides of the plants, which would tend to keep them dry and lessen the tendency of mildew, which leads to rot in the tubers. It is questionable whether any application to the soil in the way of special fertilizing will be of any value; so far all experiments with manures to prevent rot have ended in disappointment; at least they have not led to any definite useful result. This may be expected since the kind of soil in which a plant is growing exercises but little, if any, influence in disease, which is solely dependent on atmospheric influences.

Upon the subject of seed for planting, he remarks:—"Whether it is best for farmers and gardeners to save their own seed or make yearly purchases, depends very much on circumstances, or rather upon the particular kinds of seeds in question and the manner of saving them. Seed raising is a business which requires skill in culture, and great discriminating knowledge, which can only be acquired by observation and practice. It is one of the great arts of seed raising to keep varieties true to their descriptive peculiarities." As an example he specifies the cabbage; and remarks that it is now held that cabbage seed raised near the sea coast is always better than that raised inland. Varieties must always be grown very widely apart for seed, for so far as seed can fly there is danger in crossing with other and inferior kinds. Climate, he says, has also much to do with seed saving. When seeds are grown in a climate unsuited to their maturity, they will perpetuate a weak progeny. For example: The oat plant requires a cool, moist climate for perfect development; hence seeds grown in a warm, dry climate are inferior. It is the best economy to procure seeds from the best localities, for no efforts towards acclimation will prove of any value. He added that the most common mistakes in sowing are those of covering seeds too deeply with soil, and negligence in firming the surface after the seeds are sown; rolling the surface after seeding is one of the most important points in seeding.

LOTUS.

Chatty Letter from the States.

[FROM OUR CHICAGO CORRESPONDENT.]

Prices for meat animals are good for the producer. Surely no one can complain of current prices for good fat cattle, hogs and sheep. Supplies of hogs in marketable condition are small as compared with one year ago. The hogs are being marketed at a much younger age, and have, as a rule, had much less solid feed than in ordinary years. To illustrate:—The 550,000 hogs received at Chicago during January averaged 20 pounds per head less than during the corresponding time last year. Thus it will be seen that the difference in weight estimating a hog to weigh 250 pounds, shows a further decrease, equivalent to 44,000 hogs. In other words, while there were 550,000 hogs received in January, 1884, they did not amount to more than 500,000 of such hogs as were received in January, 1883.

Receipts of cattle are larger than last year, and receipts of sheep at Chicago during January were 103,119 head, being the most ever received in a month before. The growth of the sheep industry in the west is quite marvellous, and the consumption of mutton on the continent is perceptibly on the increase.

Below is a statement of comparative prices at Chicago for the various grades of stock at the present time:—

Description.	1884.	1883.
Steers, av. 1,500 lbs. and up....	\$6.80@7.30	\$5.80@6.25
" 1,350 to 1,500 lbs....	6.00@ 6.90	5.35@ 6.00
" 1,200 to 1,350 lbs....	5.50@ 6.45	5.00@ 5.75
" 950 to 1,150 lbs....	4.90@ 5.85	4.50@ 5.20
Store cattle	3.75@ 5.50	3.00@ 4.70
Packing and shipping hogs....	7.00@ 7.75	6.80@ 7.35
Light hogs	6.50@ 7.00	6.00@ 6.85
Rough packing hogs	6.60@ 7.00	6.10@ 7.75
Good to choice sheep	5.25@ 6.15	5.25@ 6.15
Common to fair sheep	3.50@ 4.75	3.25@ 4.75

It is a remarkable fact that, while the average yield of lard this winter has been very

small in comparison with ordinary years, the advance in prices of provisions during the last three months has shown about 50 per cent. on meats, and only 24 per cent. on lard. This is rather anomalous, but is accounted for by the fact that the consumption of lard has greatly decreased. This is owing, no doubt, to the fuss that was made last summer about the adulteration of lard with cotton seed oil, tallow, etc. None of the charges were substantiated by the board of investigation, but it is evident that the public did not have much faith in the honesty of the investigation. At any rate the people are not using so much lard, and that product, though shorter than any other, has advanced least of any. A great many people buy leaf lard and do their own rendering.

The speculators, or "scalpers," as they are called in the Chicago hog market, are a very numerous class, and have come to be a very great power in the market of late. They come in competition with the packers. For instance, the packers seldom make purchases until they get the reports from the Board of Trade, and the "scalpers" usually go into the market and buy the bulk of the offerings before the packers' buyers receive their orders. Thus the "scalpers" are, in a measure, prepared to dictate terms. The packers have signed an agreement not to buy from them, though this is hard to avoid, because nearly all of the speculators handle their purchases through regular commission houses, and the packers cannot easily tell whether the hogs are being sold directly on country account or not. The huge packing firm of Armour & Co. has decided to go into the hog market and buy and sell the same as the speculators, and thus try to crowd them out. This, however, will be difficult to do, if not impossible.

The dressed meat business grows in volume and popularity. One day recently the two best lots of cattle on the market sold to go to New York. These were 16 head of 1,538 pound steers, which sold at \$7.20, and 21 steers 1,604 pounds, which sold at \$7.30. The former were shipped in the old fashioned way by Isaac Waixel, and the latter were slaughtered by Armour, and sent east in refrigerators. Now the question is: Which lot of beef will be in the best condition when they reach the consumers, a thousand miles away? Armour, Swift and Nelson Morris are also slaughtering and shipping sheep in that way.

There is a movement on foot looking to the extension of the quarantine time from ninety to one hundred and eighty days. This is based on the claim that the present time is not long enough to thoroughly insure against importing disease in cattle from England. Then, too, there is something of a spirit of retaliation in it, and a desire to work to the interests of the few American breeders who have large fine stock breeding farms. Laying aside all questions of disease, it would be a great drawback to the general fine stock interests of the country, and as a measure of retaliation, would be like one's biting his nose off to spite his face. A few home breeders would be benefited, but it would be at the expense of the many. There is some talk of monopoly in certain kinds of stock now, and if a further embargo was placed upon the importation of fine breeding

stock, there might be true grounds for such talk. Many breeders, of course, are in favor of lengthening the quarantine time, but it is the candid opinion of those who ought to know that the present time is ample, and it is more than likely that the present talk will amount to nothing more.

The western demand for improved breeding stock is very strong, and is growing more active as the spring time approaches. The black Polled breeds continue in high favor, though there is not so much "fever" in the demand, and buyers are inclined to be a little more careful to see what they are buying, before they put down their good money simply because an animal is black and hornless. The red Polled cattle are gaining in favor, chiefly through the efforts of Gen. L. F. Ross, of Iowa City, Iowa. By the way, breeders of Duroc, Jersey Red, Red Berkshire swine, as they have been variously called, have made a compromise on the name of "Duroc Jersey." Now if the breeders of Holstein or Dutch Friesian cattle and Polled-Angus, or Aberdeen-Angus, or Scotch Polled cattle, could strike a compromise and have a uniform name, it would be a good thing. As it is, breeders call the same cattle by the various names, according as the notion strikes them.

It is the opinion of A. B. Allen, the well-known live stock writer, that the horns should be bred off of rams. Why are horns any more useful on sheep than on cattle?

The question of passing national laws for the suppression of contagious stock diseases has been a vexed one. The most ardent supporters of the measure to have a national law were the cattlemen of the far west. The men of the south-west opposed the measure because it looked like a scheme of the northern men to shut the Texas cattle out of market at the only time of the year when they can come, on the ground of Spanish fever. Others claimed that the Bill should not be so sweeping when there was no disease west of the Alleghany mountains, claiming that it was making places for an army of "cranky cow doctors," whose interest, of course, it would be to keep enough to do to draw the regular salary.

Tree Planting.

With reference to our editorial upon this subject, page 4, in January last, we have been asked by several parties what right of ownership has the planter of trees when grown on the public highway; we therefore extract the following from the Act of Parliament:—

By 46 Vict., cap. 26, sec. 4, sub-sec. 4, passed on 1st February, 1883, it is enacted, "That every tree now growing on either side of any highway in this Province shall upon, from and after the passing of this act, be deemed to be the property of the owner of the land adjacent to such highway and nearest to such tree, shrub or sapling."

If you have fruit or vegetables in your cellar, keep close watch of them and remove all that are decayed. Too great care cannot be taken to keep the cellar clean and the air pure. Keep the cellar light and well ventilated by some method. This is all the more necessary if your sleeping rooms are on the ground floor.

The Dairy.

The Annual Meeting of the Western Dairymen's Association.

The annual meeting of this body was held in the City Hall, London, commencing on Wednesday, January 13th, and continuing until the following Friday. There was an unusual large attendance from all parts of the western peninsula.

Mr. Thos. Ballantyne, M.P.P., of Stratford, formally opened the proceedings. Professor L. B. Arnold, of Rochester, N. Y., then read an interesting essay on "The Secretion of Milk." In entering upon his discourse, the talented speaker referred to the importance of this subject, not only to the dairymen, but to the public at large, as affecting their interest and their health. He proposed to speak of the changes evolved in the process of transforming the food taken into the cow's stomach into milk—a most wonderful process indeed. He then proceeded to detail the operation of the digestive organs, comparing the appearance of the chyme in the stomach when properly digested to that of cheese in a liquid state, and stating that the fat and albuminous matter is simply transformed into a soluble state that is readily taken up into the absorbents of the stomach and the blood. It was in this manner that vegetable matter, such as peppermint, etc., was taken into the secretions so quickly, and he had known vegetables to appear in secretions of the kidneys within fifteen minutes after eating. The matter of albuminoids and carbo-hydrates was taken up, and the learned Prof. showed that as the plant developed it was more hard of digestion, and hence green food was more easily digested than dry—the gastric juices having more effect on the former. All flesh forming food contains nitrogen, albumin (protein compounds mean the same thing) and form tissue right for the building up of the system, and must exert an influence in the milk of the cow.

In comparing food he said the proper proportion of the nitrogenous, and carbonaceous, and mineral should be supplied to the animal economy, for milk and meat have the same composition. If the mineral and carbo-hydrates, etc., etc., are not supplied, a waste takes place; one wastes the other, and becomes a disturbing element; and hence the study of the composition of food should be of the greatest importance to dairymen and others. He considered silos a mistake, as ensilage contained only one part of flesh-formers to twelve times as much carbo-hydrates—an improper proportion of these elements; and the consequence was that cows fed on this did not do near as well as if given a proper proportion for flesh and milk producing food, such as clover, wheat, bran, for flesh; or oil cake and cotton seed for fat. If dairymen had a little chemistry on this point—they need not be analysts—it would save them dollars and dollars. Economy should be studied that the cost of milk could be reduced to meet the cost of production. In this the dairyman's prosperity consisted. The process of nutrition and fetal development was explained. Milk was the result of maternity. A lucid explanation was made of the conditions of the udder and milk ducts after conception and parturi-

tion, with the physiology of the blood vessels after the new conditions of maternity. If a cow was not milked the pressure would stop the action of the artery, and what a farmer wants is to keep these arteries in active condition by continual milking. He should try to get as much blood to pass through the udder, by vigorous circulation, as possible. Whether the bag is full or not, employ as great an influence mechanically on the flow of milk as you can; and to this end systematic milking should be done; a drop of fluid left back had an injurious effect. Farmers do not milk regularly, and by allowing a cow to go too long the pressure was such that it impeded the flow of blood to the mammary glands. Milking machines were not recommended, from the fact that they worked on the pneumatic principle of exhausting air from the small tubes in the teats, and thus allowed atmospheric pressure on the udder to force out the milk. No milking machine could supply the place of hand milking; and he gave up all hopes—with the present light he had—of seeing a milking machine a success; hand milking was better than nature on this account in producing a flow of milk. Dairymen, it was contended, paid no attention to the anatomy and physiology of an animal. The summer season was alluded to as being the time when there was not a supply of food, and proper nutrition and water were not had in a hot sun; and as a general rule the nutriment was only sufficient to support life—hence there was a contraction of the udder, and here was where the losses came in in dairying and the secretion of milk. Preparations should be made to supply this in the way of a soiling crop, and food should be raised such as green crops, or ensilage or even hay and meal, and thus a good supply of milk could be obtained. Thus a continual supply of food would keep up a healthy action of the anatomy of the animal, and a permanent enlargement of the mammary glands, to which he had alluded. The divisions and anatomy of the secretive system were again alluded to. These, he said, would be transmitted to posterity. Deformities of teats, &c., were hereditary. The whole circulatory system was explained. The best authorities agreed that the fat was immediately carried to the blood vessels and assumed the shape of cells, and from these again passed into the milk ducts and mammary glands, the latter being composed of an immense number of cavities, or cells. These are surrounded by blood vessels, from which the protein of the milk exudes and is absorbed into the interior of the cells through small tubes. These were the fat globules found in cream. These cells were analogous to rennet cells. We were, however, left in the dark with regard to the development, but the globules in the blood was the only rational theory; but the decomposition took place in the udder, and where the separation was made. The address was of a high order of merit, and was listened to with marked attention throughout.

In answer to a number of questions, Prof. Arnold said:—The cause of the stoppage of milk in the teat is due to a species of inflammation that occurs in the udder just above the teat. The teat is hollow, or generally considered so, and right above it is a diaphragm and a hole larger than the teat. There is also

a series of minute cells or strings connected with the abdomen, so that when the cow draws up her abdomen this bundle of fibres is pulled up, and as the inflammation increases the hole is closed up entirely. I have tried a needle, flattening it, and when the teat is full, working it carefully up through, so as not to injure the structure. This would do for a time, but it might grow up again. Another way is by taking an ivory or silver tube, crowding it through, and having a bulb on the end and a small neck, so it could press on the teat to hold it, and this would gradually enlarge. He thought food could be made more digestible by steaming, cooking, or fermenting. But there would be a sacrifice, and it would be questionable if the result was sufficient for the sacrifice. In steaming food you do the same as in the process of digestion. In cooking you prepare it for digestion, but the aroma flies away and the cow loses something through the loss of this volatile oil. In fermenting there is a bigger loss, for this process makes the nutritious properties become loose from each other and you lose a portion of the heat—just what the animal would have used in raising animal heat, the most digestible part. It was a question to be settled whether the loss could be balanced against the gain, and that was one he would not undertake to decide. He contended that to meet the emergencies of July and August, and dry weather, perhaps nothing as a whole is better than corn fodder where you have a proportion of grass to feed. The best thing I have ever used was a combination of green clover and corn fodder, which is better, and gives more satisfaction. Another good thing is to sow oats and peas, one part of the former to four of the latter, cut early and it can be fed all fall and winter, and is excellent.

Q.—I understand that the less milk there is in the udder the more rapid is the secretion of milk. Would it not pay better, then, to milk the cow three times a day?

A.—In many cases it would.

Mr. Benj. D. Gilbert, of the Utica, N. Y., Herald gave a humorous and instructive address on "Mites of Cheese and Lumps of Butter," in the course of which he alluded to the rapid growth of dairying in Ontario. He gave a number of valuable statistics and condemned "corners" in cheese, and advocated the universal law of supply and demand as a guide. He contended that our dairymen are not able to make all the good butter for which there is a demand. Moreover, this butterine takes the place of a class of butter which never should be made. But it sells readily, because purchasers prefer it to the lower grades of butter. The competition of these imitations causes butter makers to improve their products. The State had failed to stop the sale of the imitations, and he suggested its regulation by the general Government.

Mr. Robert McAdam, of Rome, New York, gave a well prepared essay on the "Demands of the Cheese Trade, and Defects in the Supplies." With regard to the supplies he said that out of an importation of 80,000,000 pounds of cheese and butter last year, the supply from Canada and the United States formed only a limited portion of the supply. He said there

were a great many defects, especially in the fall and spring make. He pointed out the danger of inexperienced makers being permitted to manage factories for the sake of saving a few dollars, but were almost certain to insure losses before the season passed. The standard qualities of cheese are solidity, close texture, fine-flavored, mild, rich, sound, handsome and clean looking. The cause of lack of solidity in fall cheese arises from insufficient breaking of the curd and lack of sufficient cooking, besides not allowing the curd to become sufficiently changed towards acidity before it is salted.

Of the five requisites of a good cheese, flavor, color, richness and shape, the following was offered by Mr. McAdam:—Flavor—this depends upon contingencies which originate with the cows' food and drink, absorption, care of milk, surroundings, etc. The aim of patrons and makers should be to preserve in its natural purity the natural flavor of the milk. Fineness in flavor is one of the most pressing demands of cheese trade. Color—Consumers demand a colored article. London, Liverpool and Glasgow markets call for different shades, and makers should govern themselves accordingly. Seek uniformity; secure the best coloring; use accurate proportions, according to the quality of milk: mix immediately and completely with the milk. Never mix curds of different shades of color or expose to destroying influences. Many cheeses, from insufficient cooking and when remaining in the curd, become mottled, streaked, tallowy-looking, sometimes nearly white. Insufficient heat in the curing-room aggravates these defects. Richness—Cheese lacking this quality are often erroneously suspected of being "skimmed." It arises in some cases from too much stirring and cooking; in others, from over-salting and from the fact that the curds are frequently salted before the necessary change has been sufficiently developed, when the curd assumes the soft mellow feel which accurately indicates the proper time for salting. The amount of salt is easily ascertained. The proper time at which to salt requires vigilance and keen perception. Taste—Mildness is a most desirable quality, to which purity of milk, care in manipulation, aeration of curd in hot weather contribute. Badly kept milk is the fruitful source of tainted, off-flavored, bitterish, sourish, mussy-surfaced cheese. This, combined with careless scalding, liberates part of the butter, making the cheese rancid. Too much or impure rennet has a bad effect on flavor. Shape—The demand is greatest for cheddar-shaped cheese, ten inches deep and fifteen wide. There is considerable demand for the flat shapes, five deep and twelve to fifteen inches wide.

Mr. C. C. Buell, of Illinois, presented a paper on "The Cream-gathering Creameries" of the U. S. The essay altogether dealt with this system in the Western States, such as Illinois, Iowa, Minnesota, Nebraska, Kansas and Missouri. This gentleman was not sure whether the system would operate to equal advantage all over. The difficulties that he found were in the qualities of different specimens of cream presented; and hence a shortage took place to the patrons, and this struck at the difficulties of the system—how to make proper and satisfactory tests. One way that had been adopted

was by changing the unit of standard to the milk measured in a pail. Then samples as churned, according to specific gravity, were sent to the patrons and a record given. Another plan which had been adopted was to test by small tubes by the unit of measure, and each patron's milk or cream was sent to him with the tests marked. This shortage in the testing should not be looked upon any more as a drawback than in any other business. But he was fully of the opinion that the skim milk left on the farm would amply repay for any shortcomings of the system. He did not think there was a bonanza in creamery gathering factories. Associated enterprise was all that could be expected from this or any other system of co-operation. He had quoted 33 and 38 cts. a pound for gathered cream butter in the principal markets of the U. S.; but he supposed it was where a good article was made. He did not believe that the butter value of a system varied any more than from the same results from a herd; and he thought the aggregate of a given number of animals under co-operative cream gathering would equal any herd for the cows connected with this system, from \$35 to \$40 per season.

In discussing Mr. Buell's paper, the importance of retaining skim milk on the farm was referred to. The Rev. W. F. Clarke thought there was no benefit in keeping skim milk on the farm; but subsequent speakers showed chemically it was worth 25 per cent. of the whole. On this point Prof. Brown said for calf-raising, skim milk was estimated at half the value of unskimmed milk. Mr. Curtis, of Syracuse, N. Y., said Prof. Sanborn, of the Wisconsin Agricultural College, found that skim milk was worth 25 cents per 100 pounds when pork sold at \$4 per hundred. Several speakers bore out Prof. Brown's estimate on the value of skim milk, viz., 50 per cent. of unskimmed. Prof. Barnard said this was a most important element to consider in fostering the creamery industry.

Prof. Harris, on "Co-operative Cheesemaking," thought the time was coming when there would be a more general co-operation among the dairymen, but the individual prosperity depends on the success and prosperity of the whole. He scathingly condemned the careless, shiftless habit allowed by many factories where milk was drawn in old rusty cans, and the whey allowed to be drawn back, and the poor cheese resulting from such material, and suggested as the remedy a more thorough firmness, cleanliness and co-operation among the factorymen, and more firmness in refusing impure milk. He denounced the use of impure or swill milk being allowed to be made into cheese or used for human consumption, and he quoted instances to show where disease, such as typhoid fever and scarlet fever, and death, had been produced from the use of impure milk through carelessness in milking. He held that a law should be passed by the Legislature for the suppression of such "swill" milk, and gave as the remedy closer and more thorough co-operation, and more painstaking, energetic effort in the making of cheese. He also spoke of the carelessness of many farmers in regard to their dairies. His address appeared to create a marked impression upon the audience.

Prof. Brown, of the Ontario Agricultural

College, read an essay on "The Influence of Food on Milk and Dairy Products." A card was handed around showing the chemical composition and nutritive ratio of food experimented with on the Model Farm, and also their influence on dairy products. Nearly the whole address consisted of tabulation of Wolff's standard for feeding, with a few experiments made at the Model Farm, on the basis of Wolff. The cards were handed around amongst the audience, and, like a lot of school boys, they were commanded to look at such and such a column headed "Albuminoids," "Carbo-hydrates," &c. Prof. Brown, after explaining the table and showing the care and thoroughness exercised, said the food influenced the quantity of milk, but breed or individual characteristics the quality. The animals used in these tests were ordinary Canadian cows, and the groups were changed from one form of rations to another, as the first column of the table shows. Speaking of oat-fodder ensilage, he said, that used in the experiment was cured in a stone cellar, transformed into a silo. They put down 30 tons in three days and did not touch the cover till 87 days had passed. If the dairying industry was to be prosecuted all the year round, the preservation of green fodder in winter became a question of importance. But in the above experiments it was seen that the ensilage diet produced the lowest quality of butter, while the cost was second highest. Experts advocating ensilage had failed to give the public such information as would show their experiments to be thoroughly satisfactory. No one had ever yet been able to produce untainted fodder by this method, and at the Experimental Farm the milk from ensilage, while yet warm, emitted a peculiar smell, and the butter was pale in color and not the most inviting in taste. The completion of the above series of experiments will be awaited with interest.

The Prof. then showed a bottle of ensilage produced from green oats, to support his theory about ensilage, when a number of experts immediately pronounced the article spoiled, and as having the second or acetic fermentation, and not fit to feed to animals. So much for the Prof.

Mr. T. D. Curtis, of Syracuse, N. Y., gave a well written paper on Thursday night, on "Dairying in the States." He contended that this industry was the same in Ontario as in his country. He said, it is a common fallacy to suppose that all our cheese and butter is made in the factory. By a number of figures Mr. Curtis showed that a large quantity of butter and cheese, especially the former, was made in the private dairy. One of the most essential things for the production of good cheese and butter is the selection of food, habitation and surroundings of the milch cow. It is necessary in summer to provide the animal with good, nourishing food, fresh air and well ventilated stables. In winter she must be housed in a good, comfortable stable, with plenty of fresh air, nutritious food and healthy surroundings. It is a great mistake to turn a cow out into the open air solely for the purpose of saving a little trouble. It will prove a losing plan in the long run, both in the condition of the milk and cows. The most essential food for cows is carbon and nitrogen, but these articles

are not appropriated in their pure state by the animals. The oxygen is consumed in the form of air, while the carbon is consumed in vegetable food. The milch cow also requires a sufficient amount of nitrogenous food for the production of milk, which contains a large amount of nitrogenous food. Mr. Curtis gave a list of articles forming the best ensilage for the food of milch cows, which had been found most essential and nutritious by scientific men. In referring to cheese, he said that it was generally believed that owing to the amount of acid contained, cheese was a digestible food, but the contrary was the case. It had been shown by experiment that the presence of acid in cheese did not make it more digestible than the carbon in pork. The digestibility of cheese depended on the presence of phosphates. He paid a high compliment to the Canadian farmers by saying that for the past few years they had led the Americans in the price and quality of their dairy products, and he hoped they would maintain their good credit. He mentioned the fact that it was owing first to the Canadian farmers that the inferiority and uselessness of sweet curd had been found out.

THE USE OF SALT IN DAIRYING.

Mr. McAdam said another very particular reason was just when the cows were going first to grass. He pointed out the value of uniformity in fine quality—not fine one week and poor the next. He laid peculiar stress upon the value of an amateur learning to make cheese with a maker who always produced a fine article. In reply to Mr. Leitch, he said the proper proportion of salt was about 1 oz to 3 lbs. of curd. In England 1 lb. of salt was used with 56 lbs. of curd. The proper method was to weigh the curd and salt. The finest cheese in Scotland were produced this way. There was no guess work about it.

Friday morning.—The Rev. W. F. Clarke delivered an address on "The Mistakes in Dairy Farming." He recommended a better class of animals, and attributed a great loss in this line to poor animals—scrubs. Twenty-three good cows were worth forty scrubs. Our dairymen should look to supply and demand: and if poor cows were kept, and sold, and thus were encouraged, people would not buy their stock. Cow-poor and poor cow means the same thing. The Hon. Harris Lewis found the worst kind of cows through the country in Herkimer Co., N. Y.; as old accountancy as it was, it was found two out of three average cows did not pay for their board. It was no use keeping cows for the fun of the thing. The proper feeds were here recommended, and 12 lbs. of hay was equal to 150 lbs. of turnips. Bran, clover, etc., were especially recommended for milch cows. This was an illustration of its manurial value:—Clover was equal plowed down to twelve loads of barn yard manure per acre. Clover culture was the cheapest fodder and the best way of recuperating land; extravagance of manure making was commented upon. Lord Kinnard considered manure by being covered brought five or six tons of potatoes more to the acre than when exposed to the atmosphere. An open shed with only two ends was recommended as all that was necessary. This manure shed would be both beneficial in summer and winter. Manure should

only be handled twice: ammonia escapes by exposure, and every time manure is handled it loses this valuable property. Naked fallowing was a great mistake, as the ammonia escapes by the action of the sun. The crumbling of soil exhausted lands, and hence a covering of clover or any other plan would be better than fallowing. Why waste land when two years' clovering would do more good in purging land than continual summer fallowing would do?

Mr. William Weld, of the FARMER'S ADVOCATE, referred to Mr. W. F. Clarke's efforts in the way of trying to advance agriculture, at cheese meetings especially. Mr. Weld's cut was hardly received with much grace by the rev. gentleman. In reviewing the meeting Mr. Weld eulogized the efforts of Prof. Arnold in advancing the cheese interests of this country, and was happy to say that the people of Canada were the first to profit by Mr. Arnold's experience and advanced views, and also by other modern inventions in the way of cheese making.

At this stage several questions were put into the hands of the President, Mr. Richardson, and asked from the audience.

Mr. McAdam, of Rome, N. Y., explained the difference between the Dunlop and Cheddar systems of cheese making. The former rose the temperature to 98° before coagulating or applying the rennet; whilst the Cheddar plan was to coagulate at 84°, and then raise the curd to 96° or 98°. According to the best judges, both in New York, and those in the English market, the Cheddar make had the preference, and our business was to suit the taste of our customers.

A lengthy discussion took place on the deep and shallow setting of milk, some contending for the one, and more for the other.

Prof. Barnard, of Quebec, read a paper on "The Past, Present and Future of Canadian Dairying." Wherein he showed that while the cheese industry had improved and the exports had increased, the butter industry had gone behind. However, he instanced as one of the causes of this state of things, the improvement of Canadian cheese-making, and the profits arising therefrom. Although Canadian butter-making had remained at a standstill, other countries had advanced. Denmark, for instance, shows an increase in exports to the same markets as those of Canada of over 100 per cent. The same was true of other foreign countries. The true reason, however, is in the very poor quality of the butter manufactured in Canada. In the Montreal markets, while the speaker had found from 25 to 30 per cent. of good butter, 50 to 60 per cent. was poor. Montreal butter exporters are unable to get a suitable article for the English market. An improvement had been effected in Quebec by the spread of the creamery system, by circulating information on the subject, by the establishment of dairy schools, and by Government aid. He pointed out the many advantages to be derived from butter dairying, and urged a more thorough and systematic development of the system in all its branches.

Mr. J. B. Harris was recommended to the Dominion Government by the Association, when his mission in Scotland is concluded, (giving instruction in dairying) for the purpose

of gathering information for the benefit of Canadian dairymen.

The following officers were duly elected for the ensuing year:—

President—L. R. Richardson, Strathroy.

First-vice—H. Parker, Woodstock.

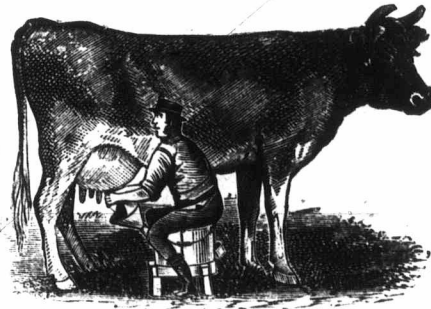
Second-vice—H. S. Losee.

Directors—John Steiner, Hamburg; Adam Speers, Caistorville; E. Coswell, Ingersoll; H. McCartney, Brucefield; Thos. Ballantyne, M. P. P., Stratford; W. Symington, Camlachie; J. H. Masters, Cookstown.

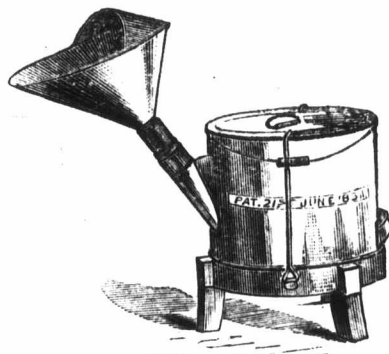
Auditors—John Craig, Woodstock, and John S. Pearce, London.

A Convenient Milking Pail.

At the Western Dairymen's Convention there was exhibited a very useful combined milk pail, strainer and stool. It was pronounced by



many of the dairymen to be the best, most convenient and cleanest milking pail they had yet seen. The accompanying illustrations show the bucket and how it is used. The receiver into which the milk is drawn contains a strainer, which prevents any impurities dropping into the bucket. The receiver and pail are connected by a flexible attachment, so that if the cow moves or kicks the pail need not be



overthrown. The pail is manufactured by the Ontario Milk Bucket Manufacturing Co., Toronto. Dairymen who have used them speak very highly of them.

HANDLING YOUNG HEIFERS.—It is a serious mistake to neglect handling young heifers until after they have dropped their first calf. At this time their bags are apt to be swollen and tender, and the task of accustoming them to be milked is more difficult. For some time before calving heifers will take kindly to having their udders handled. The operation tends to enlarge the bag and the teats, and with good milking stock may make it necessary to draw milk once or twice a day for a week or more before the calf is dropped. Do not begrudge the extra trouble that this makes. It is a sign that the heifer will prove to be a deep milker.

Poultry.

Black Sumatras.

These were first introduced into this country from the Island of Sumatra, about thirty years ago, but have been bred only in limited numbers.

The illustration shows their peculiar characteristics, small heads, pea-combs, pheasant-like tails, broad and sweeping low to the ground in full-plumed cocks. Their plumage is a brilliant black, glossy and beautiful. Stout, active, rather small birds, they are good layers and juicy table poultry, being more like wild game than like common poultry in the latter respect. Although gamey in appearance, they are not ranked as fighters, but are known simply as "Black Sumatras." When first hatched the chicks are nearly white, and this abundance of white is retained till the first molt, after which nearly all will assume the solid black with green lustre. White feathers are retained by some, and red feathers also appear occasionally in some specimens. These are faults to be guarded against. Instead of being provided with a single spur on each leg, as most male fowls are, the Sumatra cocks have two or three, thus combining curiosity with beauty.

Old nails, etc., laid in the drinking fountain will do no harm, but sometimes good, as iron is a tonic for poultry. Old rusty iron may not dissolve in water, but if the rust is fine and mingles with the water, iron is sometimes taken into the system in that way. A solution of copperas, however, is better, as copperas is sulphate of iron.

EARLY PULLETS.—Do not forget that the earlier the pullets are hatched the sooner they will lay in the fall.

ROUP PILLS.—Here you are, and as good as any that are sold. Equal parts of asafetida, hyposulphite of soda and salt, mix well, and give a pill twice a day. Wash the beak and nostrils with a strong solution of copperas, and put a little copperas water in that used for drinking.

Effects of Shocks on Eggs.

It is a common belief among persons who keep poultry that the shocks and tremors to which eggs are subject during transportation on road and railway, affect the germ contained in the egg. M. Daresté, who has been studying this matter, found, a few years ago, that in eggs submitted to incubation directly after a railway journey, the embryo very generally died; but a few day's rest before incubation obviated this. He has lately inquired into the effect of shocks on the fecundated egg germ, with the aid of a tapoteuse, or machine used by chocolate makers to force the paste into the mills; it gives 120 blows a minute. Monstrosities were always the result of the

Keeping the Sexes Separate.

A correspondent writes in the Country Gentleman as follows on this subject:

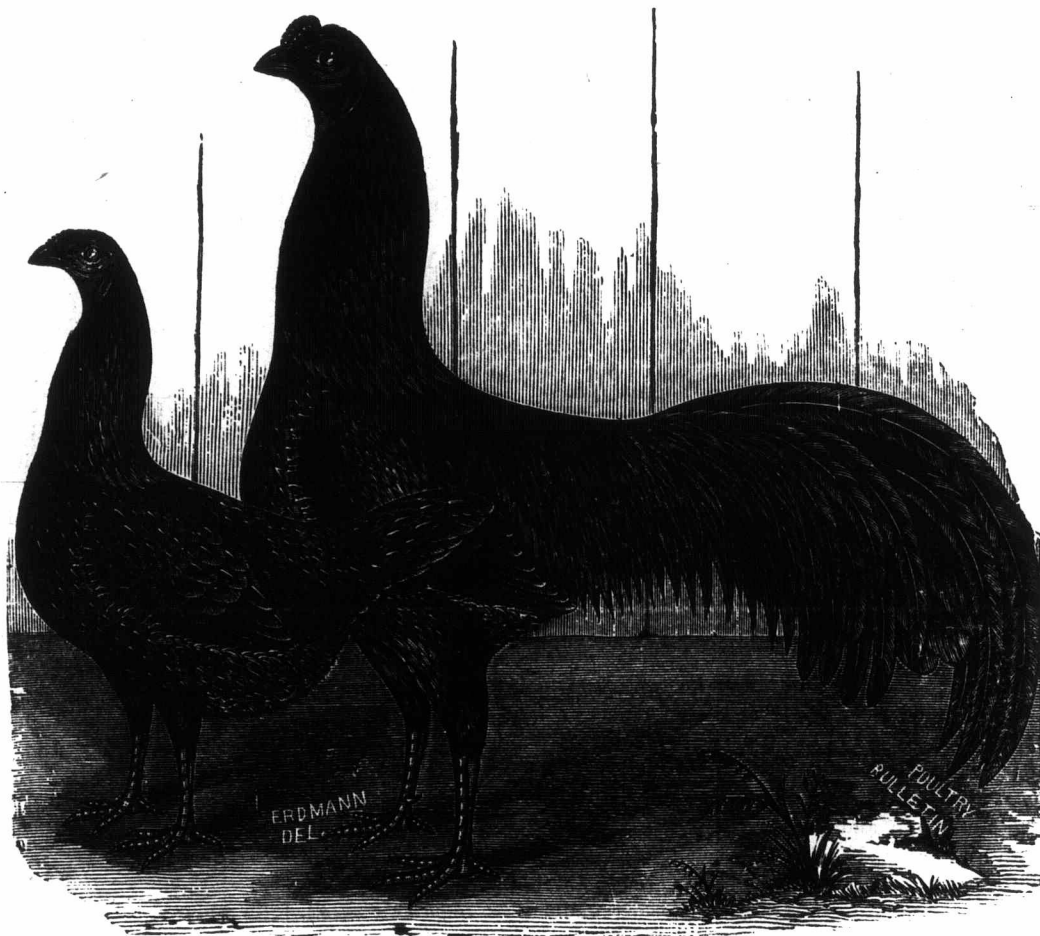
"From my limited experience, I am satisfied that laying hens, kept in confinement to limited quarters, will produce more eggs if no cocks are allowed with them, and that the eggs possess superior keeping qualities. The most prolific layers I ever had were Plymouth Rocks, taken when half grown and confined in a yard with a small house for shelter, and there kept, never having any cocks to run with them. They commenced laying when about five to six months old, and laid all winter and the next summer, producing on many successive days as many eggs as there were hens, and there never was a day when there were not some laid by them. When one does not care to breed chickens, on the score of economy it is better, in my opinion, to keep the layers without any cocks. It saves his keep, which will average the profit of one layer at least. I had formerly supposed it essential to egg production that hens should have the attention of cocks, but from experience, I found that good, well-formed eggs are produced from hens which have never had the attention."

SCALY LEGS.—Scaly legs, or "scab," is the work of a minute parasite, and is easily removed.

Mix a tablespoonful of coal oil with half an ounce of lard, and rub it well into the legs. Do this twice a week for two weeks, and the legs will be clean. The coal oil changes the color to a white for a little while on some fowls, but, if preferred, a tablespoonful of sulphur may be mixed with the lard instead of the coal oil, which will remove the scale without discoloration; but neither remedy should be used in damp weather.

COCHINS AND BRAHMAS.—Hatch them as soon as possible, for they are large fowls, and require the whole season. An early hatched Brahma or Cochin always gives satisfaction.

EXTRA COCKERELS.—Keep them away from the others, for they do nothing but create trouble and annoyance. One cock with the hens is better than two.



BLACK SUMATRAS.

tremors so caused. This cause is the more remarkable that it acts before the evolution of the embryo; whereas the other causes M. Daresté has indicated, as elevation or lowering of temperature, diminution of porosity of the egg shell, the vertical position of the egg, and unequal heating, only modify the embryo during its evolution. The modification impressed on the germ by those shocks did not disappear after rest, as in the case mentioned above, but it is not known why. A few eggs escaped the action.

OLD HENS FOR MOTHERS.—While it is true that young hens lay more eggs per year than old ones, they do not make so good setters nor so careful mothers. There is a great difference in the character of fowls in this respect, and a little watchfulness will soon teach the careful attendant which ones will be best to set.

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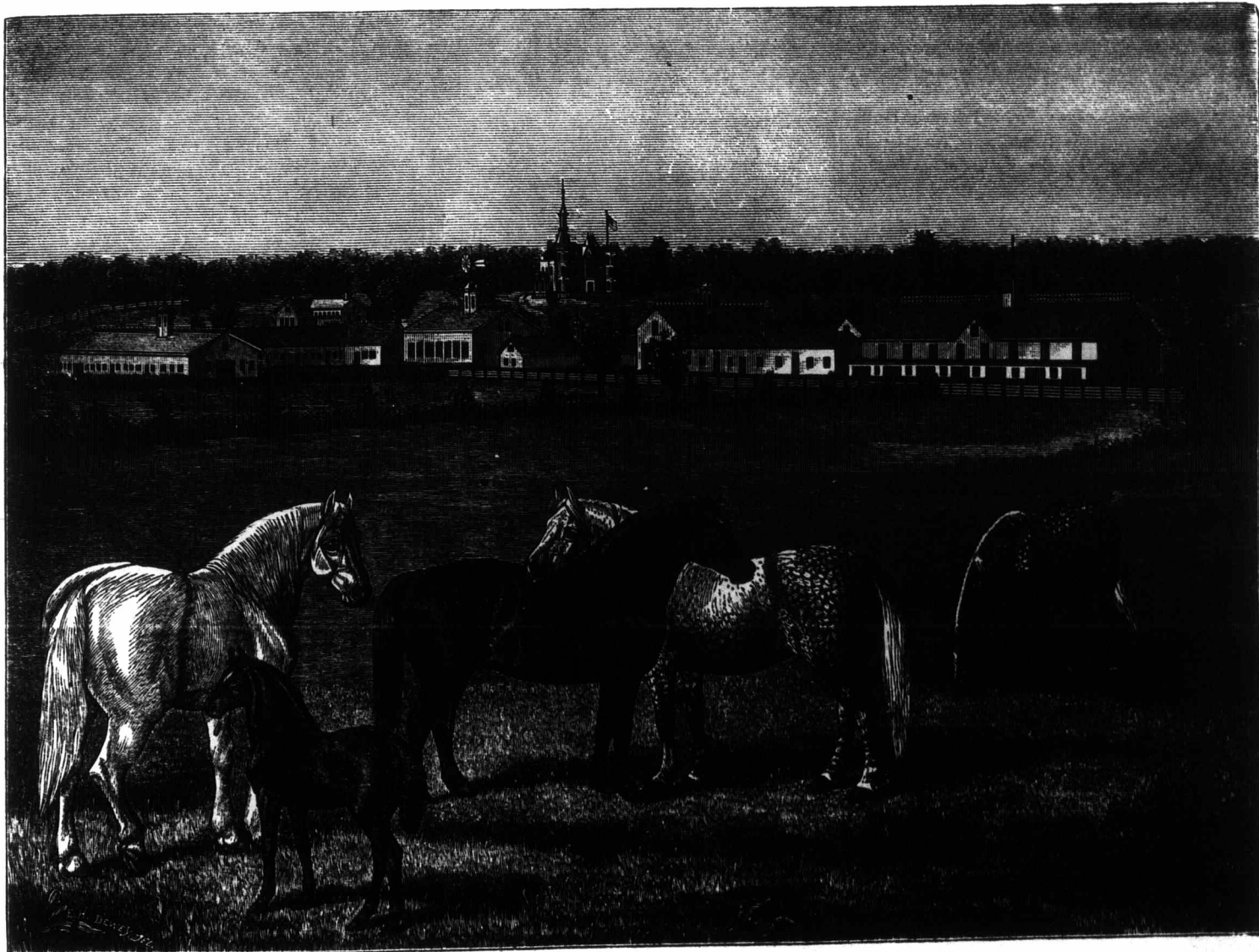
Oaklawn.

This is the name of what we consider the most remarkable farm we ever visited. It is located in the prairie, 32 miles from Chicago. Wayne is the name of the railroad station, and is just opposite to the main entrance to the farm. A fine graded gravelled road, flanked on each side with rows of evergreen and deciduous trees, leads one past the farm buildings to an oak grove, by the side of which stands

passed over it, and we were astonished at the great improvement.

We also find here the largest and best lot of horse stables and barns that we have yet seen; here we find draining done in the best manner; here we find an artificial pond supplied with water by an improved windmill only. Further we find that all this has been made from the farm, and by a farmer, in a few years. How could this have been done? may well be asked. Mr. Dunham, the proprietor, is but a young man, and by his discernment, by taking the opportunity, and by fair

produced fine horses. He imported largely for a number of years, and was able to supply imported stock at good prices, or half-bred Percherons to those who wished cheaper animals. He has hundreds of stallions on his farm at all times to supply the demand, and has an opportunity of knowing wherever there is a good one to be procured. He has his purchasers in France, and a thoroughly organized staff of officers and servants. When we were there the order was given to bring out stallions of different ages. A regiment of grooms immediately marched to the proper stable, and in a



OAKLAWN.

PROPERTY OF M. W. DUNHAM, WAYNE, DU PAGE CO., ILL., U. S.

the finest palatial residence that we ever saw or heard of erected by a farmer, either on this continent or on any other. All the latest improvements of art and skill have been utilized in the construction and furnishing of this mansion. We will not particularize, but the following should suffice: Gentlemen from Chicago informed us that no citizen there had a finer residence. Mr. Simon Beattie, the great stock importer, informed us that there was nothing at all to compare with it in Scotland, unless it was Balmoral Castle, the Queen's residence. We never entered any farm residence in England, France or Canada to be compared with it. It is well worth a journey to see. We at one time thought but little of the prairie country when we first

transactions, this colossal establishment has been erected and maintained. Twenty-five years ago the voice of the public was in favor of pure-blooded stock; the English thorough-bred was then considered the only pure horse. The cry was for more speed, greater endurance. The blood horse was in demand, and farmers were getting a lot of light horses throughout the country—horses that might go their 2-40; the country was getting full of light breeds, and heavy horses were scarce. Mr. Dunham commenced importing Percheron-Normans, and they produced the change required, namely, a good heavy draught horse. The sires that Mr. Dunham imported produced such an immediate effect that the offspring was in good demand and commanded high figures, as the first cross

few moments the driving yard was filled with 20 or 30 horses of one age; a lot of another age was called out, and after the stallions had been shown, the mares and colts were exhibited.

This visit took place at the time of the last Fat Stock Exhibition at Chicago. Mr. Dunham had invited representative men from the different States, Canada and Europe, who were assembled there. A special train was engaged and all were invited to the mansion to partake of a luncheon, which was served in excellent style. Mr. Dunham, through his agency, has now established in France and America a Herd Book, to protect purchasers of the Percheron-Norman horses from fraud. He has also formed a company to breed this class of horses on a great scale, in the West.

PRIZE ESSAY.

Three Crops of Green Fodder Cut in One Season.

BY WILLIAM RODDEN, PLANTAGENET SPRINGS.

SIR,—The best essay I can write about green crops is to give an account of what was done on one of my farms here, about forty miles east of Ottawa city, where our seasons are one or two weeks later in the spring, and close upon ten to twenty days earlier in the fall than about Toronto. The land the experiment was made upon was in fair condition, part of it was clay, part light, and loamy; before the trial a heavy crop of peas and oats came off it. It was plowed, sown with over two bushels of fall rye to the acre, harrowed in with two strokes of the harrow, and rolled before the 20th day of September. When the frost set in, the land was well covered by a thick growth of rye, so good that the lambs were feeding on it until the snow covered it. The following spring the experiments began; the rye came up well and thick, the April frost did not injure it. Cutting the green rye for feed, commenced the tenth of May, when in places it was three and a half to four feet long; it was cut up daily with hay, mixed with a little cracked grain, and fed to cattle and horses; the working horses got also one feed daily of grain; all did well on it.

The field thus sown and being cut from was divided into two parts, one half may be called the first part, the other the second part; the object in doing so was to learn by a change of treatment which of the parts could be made most profitable.

The "first part" was that which was first cut from, before the rye headed out, and it was allowed to grow up again, and, when ripened, a fair crop of second growth of rye was taken off in August. The ground was then manured, plowed, sown with about two and a-half bushels per acre of mixed vetches and oats, excepting a piece that was sown with Aberdeen turnip seed; both were taken off for feed in time, in October and November, to have that part plowed again and sown with fall rye. Thus this "first part" produced a crop of green rye cut in May; a second growth of rye ripened and was taken off in August; a third crop of part mixed green feed and part Aberdeen turnips was taken off in October and early in November.

The "second part" was that from which the green rye was fed off the last week of May, and the first week of June; it was then manured, plowed, and sown with corn steeped the day before, part sown in drills thirty inches apart, with over a bushel of corn per acre, and part sown broadcast, taking about two bushels to the acre. That which was drilled was cultivated between the drills, and moulded; after the corn was well up, the cultivating and moulding up might, with advantage, be repeated before the growth interfered with the work, and it should be done if necessary to keep down growing weeds. It grew rapidly, and that which was drilled grew longer and stronger; the crop off that part was worth fully twenty-five per cent. over that which was sown broadcast. The cutting for green feed began about the middle of August, when the corn was seven to eight feet long; before the middle of September it had grown to ten feet, and parts over twelve feet long. What was not

cut up for green feed was then cut and stood up at the fence to dry, or it could have been put into a silo. According as the corn was cut, the part of the field cleared of it was plowed and sown with early oats and barley, with a few peas in it; this grain was wet and a little land plaster put on it just before sowing; it was harrowed and rolled; it grew up fast and strong; part of it was cut daily for green feed. As soon as there was appearance of frost setting in, what remained was cut, carted into my barn, a

cut could not be properly dried, it was put into the barn in layers with straw, and subsequently cut out as required. In these cases the layers of green crops received a light sprinkling of salt with the straw, the whole became flavored by the green crop and the cattle relished it.

I may, however, say that I found that it was quite a task to see that these frequent and various croppings were properly and promptly attended to. I consider that more than ordinary manuring would be needed to keep up the fertility of the land so cropped, and I came to the conclusion that two good crops taken off in the same season, properly cared for, would be more advantageous, every way considered. When the season opens early, an occasional forcing for the green crops such as I have described, might be advantageous, if on a small field near the buildings, where there would be but a short cartage of manure to it, and of green feed from it, as economy is important in all farming operations.

Your readers will be able to make choice from the three tests herein given, of that which is best suited to their land, to their climate, and to the description of green feed most needed by their live stock.

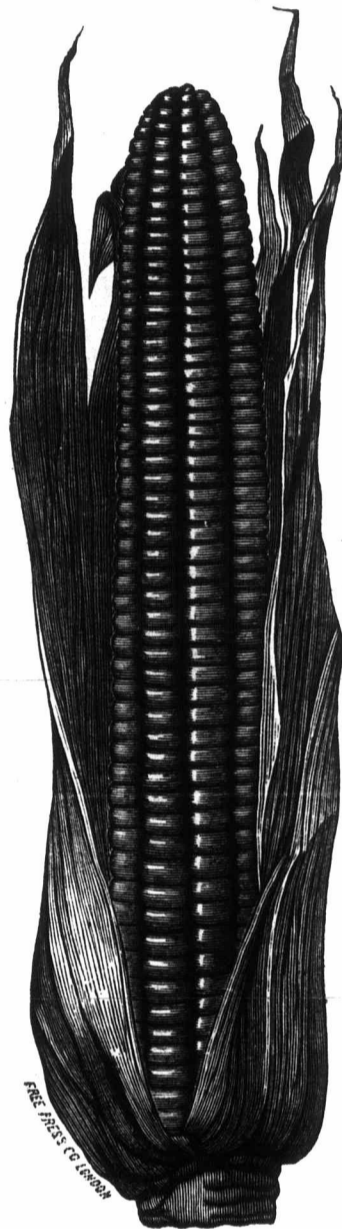
New Variety of Corn.

This new variety of corn, of which we give an engraving, is introduced by Messrs. Pearce, Weld & Co., seed merchants, of this city, and is offered for sale the first time this season. The introducers say of it: "That this is without exception the earliest light rowed yellow field corn grown in Canada, and also the most strictly pedigree variety; is very productive, two ears being generally grown upon each stock and sometimes three. The cob is a good length and has a deep kernel closely set, and when shelled often weighs 64 lbs. per bushel. Upon our grounds last fall this was the only variety that was ripe before the frost."

Farmers Taking Stock.

Every farmer should know just where he stands every year, that he may know in what position he is with the world. Just the same as a merchant takes stock of his goods. Besides ascertaining what advancement he has been making by comparing profits on different branches of the farm, he could, by collecting and comparing his inventory, find out where the greatest profit was, and also any errors that he had made in his calculations. There would probably be no greater benefit derived than by looking over his animals and weeding out all the old and unprofitable stock past their prime. The number of poor old stock kept by the average farmer and their value estimated in proportion to what they eat, would surprise a number of our farmers.

LEACHED ASHES.—It sometimes happens that leached wood ashes produce better results on crops than those that are unleached. This is especially the case in old heaps of leached ashes that have absorbed ammonia and formed saltpetre by being kept protected from light and moisture.



PEARCE'S PROLIFIC.

thin layer of it and of straw spread alternately; both were cut with the hay knife and fed to cattle. Thus this "second part" of the field produced a crop of rye, a crop of corn, and a crop of mixed grain for feeding green, the last of which was taken off in time for fall plowing. I have not an exact estimate of the quantity, but I may say it was very large; a portion must have yielded several tons per acre. Another experiment was made in cutting long red clover for green feed, the season opening early; the clover sown the year before was fit to cut early in June, a second cut was taken off in August; it had received a dressing of plaster after a July shower. In September another light dressing of plaster was given to the third growth which was cut in October; this third

Cheap Paint.

At a recent meeting of the Elmia Farmer's Club the following was read:—

In the discussion on paints, I was surprised to note that the cheapest and best paint of all that I have any knowledge of was not mentioned. A real farmers' paint, for it is nothing but sweet skimmed milk and water lime (cement.) The chemical union that takes place between the lime and the caseine of the milk probably produces the film of stone which endures the weather in this country for years. I built a building in 1859 or 1860 for a carriage house, stable and granary, of well-sawed, unplanned lumber, stock boards one foot wide battened with square undressed two-inch battens, put two coats of this paint on the body of the building, and painted the trimmings, planed (the base, cornice, door and window frames, etc.,) with per oxide of iron and oil, a reddish brown, and it was not until last year that I thought it needed another coating of the same, which cost me:—

For brown paint, oil and putting on. . . . \$4 50
For skim milk, water lime and putting on. 3 25

Total. \$ 7 75

The building is fifty-two feet front and twenty-four feet deep, and high gables with sixteen feet side posts.

Salt as a Fertilizer.

The season for using salt as a fertilizer being at hand, a few directions as to the right way to apply it we feel sure will be acceptable to most of our readers. We hear various reports as to the effect of salt, some parties claiming that it does a great deal of good and some claiming that they have not received any benefit. Now this, at the very outset, looks worthy of explanation. Why is it some people using salt state it pays them well and others directly the contrary? We assert, without fear of contradiction, that in the latter case it is in nine cases out of ten because there has been some mistake made as to the time of sowing the salt, but more probably still as to the quantity used. Most people are afraid to use salt.

Below we give a table showing the different kinds of soil, and the different quantities of salt which should be applied to the different kinds of grain to be raised. Mr. John Ransford, secretary of the Canada Salt Association, at Seaford, Ont., who from his position would naturally have data from which to gather information on the point, tells us that in those parts of the country where, owing to the proximity to the wells, salt for land purposes is cheaper, not nearly so much is used as in parts where, owing to the freight charges, salt is considerably dearer. Thus, immediately east of Toronto, in the townships of Markham, Scarborough, Pickering and Whitby, large quantities of land salt are used every year, and we need not say that this district enjoys the reputation of being a first-class farming centre. The secretary of a Farmer's Club wrote as follows, the other day, when ordering salt:—"The application of salt on spring wheat particularly I have found to make from twenty-five bushels upwards per acre, almost a certainty, giving a splendid firm kernel and bringing top price. This is bound to stimulate the growth of spring wheat in this locality." But, as we before

stated, if people want the greatest benefit from the use of salt, they must not be afraid of it. It is no use expecting a good result from using 150 lbs. to 200 lbs. per acre, if 400 lbs. to 600 lbs. are really needed.

Table with columns: CROPS, Pounds per Acre (Light sandy soil, Middling loamy soil, Heavy rich loam or sand, Clay), Best time for application, and REMARKS.

Hay, 10 to 20 pounds per ton, at stacking. Composts, 120 pounds per load, gradually, as the compost is prepared. Horses, cattle, sheep, &c., a small quantity of salt in an accessible part of the field or stables. Salt should never be applied with the seed, or on very cold, wet, undrained land.

PROCURING SEED CORN.—It is certain that good seed corn will be scarce in many localities at planting time. If farmers have not saved a supply that they know to be reliable, they should do so as early as possible. Some seed growers advertise sweet corn at about last year's rates, which is lower than they can long continue to supply good seed. In fact, some of them have their supply already exhausted. In all cases seed corn should be taken from a locality not farther south, nor having a longer season than prevails where it is to be planted.

The Oshawa Farmer's Club.

One of the most important in the Province, at their meeting of the 19th ult., took up the subject of protecting sheep being killed by dogs, and passed the following report:—

- 1st. "That any law or measure, to be effectual, must be Provincial and compulsive.
2nd. "That the owners of all dogs be liable for damage done to any sheep or other domestic animal, by their dog, when known.
3rd. "That every owner or harbinger of any dog or dogs shall pay a license or fee to the municipality in which he or she resides, the sum of two dollars for the first dog, four dollars for second. Also the sum of five dollars for first bitch and ten dollars for second.
4th. "That all dogs be so called when four months old, and subject to the foregoing conditions.
5th. "That any person or persons owning or harboring any dog or dogs after the first day of May in each year, without a collar having owner's name and municipal tag attached, shall be subject to a fine of five dollars and costs on complaint being laid before any Police Magistrate or Justice of the Peace having jurisdiction. The informer shall receive one-half of said fine. And, in default of payment by the person so convicted, he shall be imprisoned in the common jail for a term of not less than ten or more than thirty days.
6th. "That any person shall be justified in destroying any dog or dogs found injuring or destroying any sheep or other domestic animals.
7th. "That any dog or bitch found running at large without a collar and municipality tag bearing owner's name, shall be liable to be destroyed by any person discovering the same.
8th. "That any sheep or other domestic animals killed or injured by any dog or dogs, the amount not being recoverable from the owner of such dog or dogs, the municipality in which such damage is done shall pay out of the dog fund the amount, or such a portion as is recoverable of the owner.
9th. "The clerk of each municipality in this Province shall make out a list of all persons obtaining tags and keep posted up in some conspicuous place in his office for public inspection.
10th. "That when the amount of damage is not recoverable from the owner of any dog or dogs, the municipality in which such damage is done shall pay the assessed value of such sheep, or if any person has acquired sheep since the assessor has finished his work, the proven value."

In addition to this we would suggest that no person be allowed to keep a dog unless they are of assessed value sufficient to cover \$25 of damage that might be done by such animal. The injury done is generally by dogs whose owners are often too poor to keep them, much more pay for any damage. Again, we contend that any dog that rushes out at passing vehicles or animals, on the public highway, should subject the owner to a fine, or the destruction of the cur, and the payment of any damage that might ensue by frightening horses.

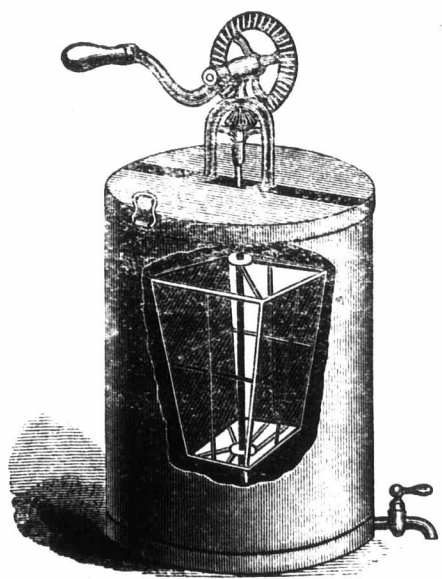
BONE MILLS.—There is nothing so handy as a hand bone mill for grinding shells, small bones, grain, etc., for poultry. Try one and it will be a saving in the end.

The Apiary.

Bee Farming in New South Wales.

The operations in bee culture going on in Parramatta are well deserving of being ranked as bee farming; and as will be seen, the operations are carried on after the most approved system of the German apiarians, which differs only in the form of hive used and a few minor details from the approved system followed in Britain and America. But to get at the history of the company whose operations are illustrated in this issue:

It appears that in December, 1881, a skilled bee master, Wilhelm Abram, arrived in Sydney from Germany, where bee culture is a recognized industry and subsidized by the State, and is under the care of scientific entomologists, for the purpose of teaching the art of bee culture to those desirous of making it their study, and at such an institution Mr. Abram was trained. Before leaving Germany he purchased some of the prize swarms at an exhibition of Italian bees in Germany, and the Italian Bee Company commenced operations with these at Parramatta, in January, 1882. An importation of prize queens from America was made, and the operation of queen rearing was entered on. In the mean time a number of colonies of the common black or English bee afterward had been secured and transferred to frame hives, and as Italian queens were reared, the black queens were removed and

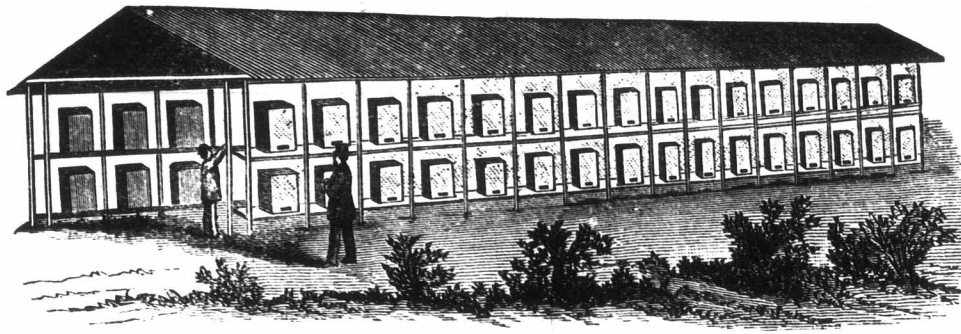


CENTRIFUGAL MACHINE, SHOWING INSIDE.

replaced by Italians, the progeny of which replaced the black bees, as the latter died out. Not much attention was paid to producing honey until the race of Italian bees could be firmly established, and the result was that in the spring of last year there were about 80 colonies of gold-banded Italians actively at work.

The bee master is an adept at his profes-

sion. With a pipe in his mouth, he opens hive after hive, blowing a whiff of smoke upon them, to give the bees something else to think about when they seem any way refractory, a projection from the stem of the pipe allowing this to be done con-



OUTSIDE OF THE BEE HOUSE.

veniently. The hives used are of the German bar-frame kind. They open from the back, and each hive is two stories high, so that ample space can be given to the bees when they are storing honey rapidly. The main house is about 150 feet in length, 10 feet high, 10 feet wide, and two tiers of hives are arranged on each side, as shown in the sketch.

The swarming bag is one of the best things we have seen in bee culture. It is about 6 feet in length and 1 foot in diameter, and formed of alternate lengths of calico and mosquito netting, each length having a ring of cane inside, to hold out the bag as shown in the sketch. When the bees are about to swarm, the bag is fastened on to the front of the hive and the other end fastened to a stake. When the queen emerges she bounds up into the upper end of the bag, and is quickly surrounded by her followers. Thus the swarm is captured with ease, the alternate breadths of mosquito netting and calico making the interior light and enticing for the bees to enter and cluster. They are then shaken into a bar-frame hive.

The queen breeding hives are much smaller than the others, and are arranged at distances of about 20 feet apart alongside the fences. Two or three frames of brood comb are put into each hive, with a queen cell coming to maturity. When the queen bee hatches out of the cell, she makes a flight (the only flight of her life) in order to meet a drone or male bee. She is then fertilized, and becomes the mother and queen of a family, laying eggs at the rate of 2,000 daily when the season is good and stores abundant.

The centrifugal machine is used for extracting honey without destroying the comb. The caps with which the bees seal up each cell of honey are sliced off with a very thin bladed knife of simple form, and the frames are set in the metal basket of the inside of the machine. Then, by turning the handle, the honey is thrown out and runs down the sides of the machine, from which it is drawn by a tap, leaving the comb undamaged and ready to be returned to the hives for the bees to fill over and over again with nectar. In this way absolutely pure honey is got without any other substance whatever, and without injuring the bees or annoying them. The queen cage is drawn to scale, as is the queen or mother bee seen inside.

Extracted Honey vs. Strained Honey.

BY WILL ELLIS, ST. DAVIDS, ONT.

1st,—What is strained honey?

2nd,—What is extracted honey?

Very few people understand the difference between extracted and strained honey. Strained honey is and was from the box hive, straw hive or log gum. In the fall of the year, after the bees had finished their summer's work in the field, the bees were placed over a pan of burning coals and sulphur and killed therewith, that is those that had not

collected stores sufficient to feed them through winter until following spring; those containing sufficient honey to keep them over winter were allowed to live. The honey was cut from the hives in which the bees were killed and placed in a coarse bag, made from linen, hung by the stove and allowed to strain out white clover, basswood, buckwheat and fall flower honey together.

Extracted honey can only be taken from the movable comb hive by the use of the extractor. The extractor is a large, round tin, 20 inches in diameter by 28 or 30 inches high. Inside of this is a square, tined, wire reel. At the com-



THE BEE MASTER, WITH FRAME OF HONEY.

ment of the honey season the apiarist removes the honey board or cloth from the tops of the frames, and places (if he uses a double story hive) on an upper story, which is exactly like the one containing the bees. In this upper story are placed ten frames containing comb foundation or combs; after being filled and sealed or capped, are taken from the hive and, with knife made specially for the purpose,

the cappings are out off, the frame is hung in the reel of the extractor, which, by the aid of a crank, is turned at a speed sufficient to sling, by centrifugal force, the honey from the cells, which is drawn from the extractor by a honey gate at the bottom.

In my locality honey granulates, or candies, as some call it, as soon as the weather becomes cool.

Granulation is a fine test as to purity of honey. I expect all of mine to granulate. I cannot and do not wish to stop it, as a jar of honey placed on the reservoir or in a can of warm water, can be brought back to its fluid state without injuring its flavor in the least; care should be taken not to allow it to boil. If I were purchasing honey after cold weather I should always buy that which was granulated, unless your grocer kept it in a position sufficiently warm to prevent granulation. In many places extracted honey is bought in preference to comb honey. The only difference is, the one is in the comb and the other has been thrown therefrom.

WHY NOT KEEP BEES?—There is scarcely a family in the country that cannot add to its income by careful management of a few swarms of bees. The work is light, and much of it may be done by women and others not able to perform heavy labor. There are not nearly so many mysteries connected with bee-keeping as were once supposed.

A CORRECTION.—The words *artificial comb* were used in the Ontario Bee-keeper's supply advertisement in our January number. The name should have been *comb foundation*. As the word is liable to give the uninitiated a wrong impression, we would like those who read this advertisement to note the correction. The card now appears as it should be, with a cut representing the famous "Given" comb foundation.

Prof. Kedzie, of Michigan, states that yellows in peaches can be cured by digging a shallow trench around the tree and filling it with boiling water. A heavy dose of potash will have the same effect. Filling the trench with ashes and pouring on boiling water is said to work a cure, also. All these remedies are based upon the supposition that a root fungus causes the disease.

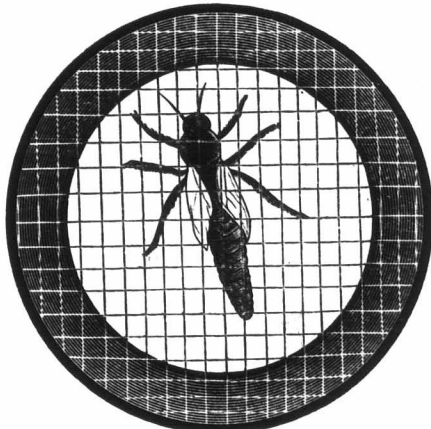
Charles M. Hovey thinks too large a proportion of white clover for a lawn objectionable. He prefers the Rhode Island bent grass, with Kentucky blue grass. Lawns are frequently injured by too much manuring and by excessive watering in the spring. Lawns should be top-dressed in spring with wood ashes and ground bone, since farm yard manure is offensive and often brings in weeds and rank growth.

Garden and Orchard.

Old Orchards, Natural Fruit, &c.

BY HORTUS.

Scattered over the country are numerous old



THE QUEEN CAGE.

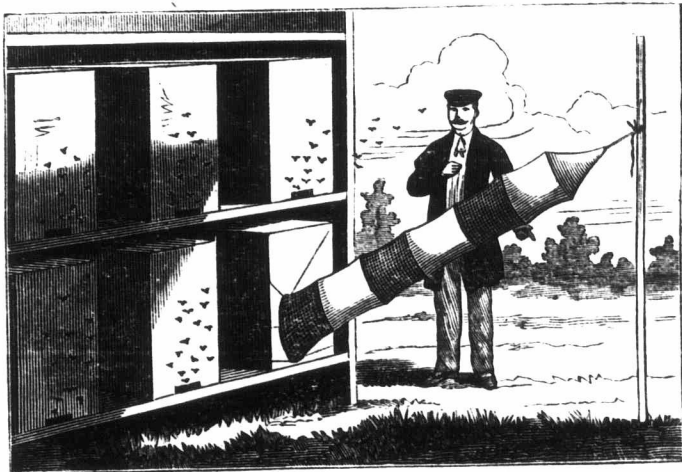
orchards, planted in the early times by the first settlers, principally from seedlings raised by themselves. Of later days these orchards have

had a sample of the fruit from each of them we would find fully as many valuable varieties of apples, possessing every qualification of first-class standard fruit, as there are known by name, recommended and cultivated for sale. We are sure also that we would find many far superior. Of course our whole list of cultivated varieties has originated in this way, and many will say "there are far too many varieties now, and it is difficult to say which are the best." We grant that, and this, too, "that a bird in the hand is worth two in the bush;" and why bother with seedlings when we have now good enough? But that would never do; all progress would stop, and the old varieties would all die out, as many of them are doing now, and we would get back to where we started from at first, *i. e.*, natural fruit. We say, then, there are lots of fine seedlings through the country, their existence only known to the planter and his children, which would prove of great benefit if they were cultivated and disseminated through it.

Then to the reader we say, "if you have any one particular apple you know to be a seedling, set about at once to propagate from it." If the tree is very old and decaying, see that it be attended to and brought back to fresh vigor and health. Give it a good pruning, saw off all the decaying branches, leave some of the young shoots in the best positions to go on growing and remove the old branch back to it. Save some scions for grafting in April on some young trees; give the apple a name. If you have any of the fruit now, send a few specimens of it to some well-posted fruit man. Don't neglect it or put it off, as the tree may die or an accident may happen to it, and what might be exceedingly valuable will be lost for ever.

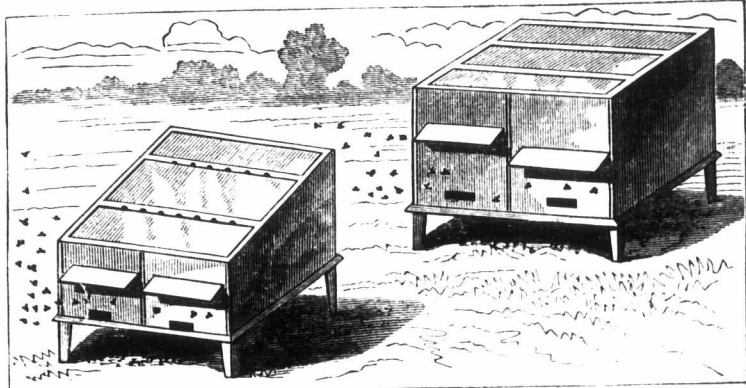
Fruit judges at our exhibitions and township shows are frequently shown specimens which the sensible farmer has taken notice of. The qualities of the apple are discussed, it is tasted, eaten, praised and digested and there is an end of it; the apple and the farmer and the judge go into oblivion. Therefore the part of introducing new and valuable fruit lies with the farmer, and this would be a relaxation of the heavier labors of the farm and a nice hobby to follow up. Not only see if you have any real good seedlings, but see if your neighbor has. Get scions of it and graft it; a little cultivation will soon improve it. It will get better in every respect, and it will well repay you for all your trouble.

We would here suggest this as a subject for Farmers' Clubs at their meetings, "To hold a discussion on any seedling fruit they may have—apples, pears, plums, or any kind of fruit; also the exchange of seeds, scions and cuttings with each other, of desirable trees or plants; also the relating of their experience as to pruning, cultivating their orchards or the marketing of their fruit."



SWARMING BAG, A GREAT IMPROVEMENT.

been added to by planting grafted trees from nurseries, and many of the old seedling trees have been grafted into with scions of well-known varieties. There still is, however, many of the old trees, vigorous and healthy, which bear good fruit, and it is to these varieties the writer wishes to draw attention.



QUEEN BREEDING HIVES.

We know that the majority of them are only of medium quality, only fit for cider and drying, but when we remember how many thousand trees there are of them growing through the country, we are sure that if we

Ornamenting School Grounds.

The American Cultivator says:—It is a notable fact that the embellishment of school grounds is sadly neglected, and especially in the country, where any attempt at refinement is seldom practised. This lack of attractiveness about schoolhouses is, no doubt, a breeder of disgust for the country, and contempt for the school.

As the traveller rides by many schoolhouses the question, "What possible attraction to children can exist here?" invariably thrusts itself upon his mind. A schoolhouse with a neat exterior and interior, furnished with good blinds, attractive curtains, easy seats, pictured walls and a neat, polished stove, is a much greater inducement to studiousness and good deportment than compulsion at home and discipline by the teacher. We have always observed that in bleak, cheerless schoolhouses pupils are more refractory, less cleanly, and less ambitious than in those of an opposite character. Nor is this contrast between opposites of surroundings a slight one. It is apparent to all who observe. A "hard school" is almost invariably the concomitant of a poor schoolhouse and grounds.

A school ground need not be costly to be attractive, and even if it were, the extra expense would be a direct economy. The school has a remarkable influence upon all the young people in the district. The pleasantest, happiest, most profitable school we ever saw was in a community where the people prided themselves upon the beauty and neatness of the schoolhouse; this was coupled with high-priced teachers. The Michigan Horticultural Society seeks to relieve this common cheerlessness of school premises. The society has made arrangements with a leading seed company whereby all teachers of school who apply may get flower seed without cost. Many schools have availed themselves of the offer; children have taken to the work of preparing the ground, planting and weeding with a wonderful zeal.

In nearly all cases it becomes a matter of pride as to which district will make the prettiest school grounds. Much of the rudeness of school children is absorbed in the new interest which is awakened in tender and beautiful things. This adornment is the "introduction of a factor that threads into every study and displaces nothing." Like all new enterprises, this has had difficulties, but its success has certainly been great. We know of no labor of horticulture which promises more good to humanity than this.

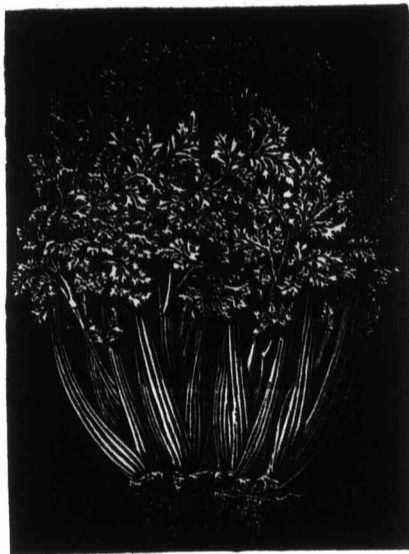
New Celery—White Plume.

Mr. Peter Henderson, in his description of this variety, says it will open an entirely new phase in celery culture. It "sported" in the vicinity of Newark, N.J., some three years ago from what is known as the half dwarf variety, showing a variegation of creamy white, mainly confined, however, to the centre stalk and leaves of the plant, looking as if nature was meeting art half way; for as we know in all other celeries this whitening of the centre so as to make it fit to eat, is only obtained by the slow and troublesome process of "banking" or earthing up, while in the "White Plume" celery no work is necessary other than hoeing

or plowing sufficient earth [to the rows, so as to straighten it.

Another advantage in this new variety is, that not only the stalks are white and fit for use, but the leaves also, giving it somewhat the appearance of a bunch of white feathers, and hence the name given to it of "White Plume." This ornamental feature will be of great value, as it is well known that celery at our best hotels is nearly as much valued for an ornament for the table as for use, and in this we have the rare combination of the qualities.

There is only one drawback to this valuable new celery. Its natural tendency to white prevents it keeping late into winter, and it usually would not be safe to keep it later than the middle or end of January in such sections of the country where it has to be preserved by putting it away in the trenches. But as the greatest quantity of celery is usually used in early winter and during the holidays, for this purpose no other variety is at all so valuable as "White Plume;" and when it is known that



NEW CELERY—WHITE PLUME.

at least three fourths of the labor is saved in growing it, it may well be believed what a boon it will be to all cultivators of this vegetable. To the greater number of amateurs heretofore, the great labor entailed in growing celery has prevented the attempt, but when it is known that it can be now grown as easily as cabbage or lettuce, there is but little doubt that the area of celery culture will be greatly extended.

FRUIT GROWING PROFITABLE.—Many farmers in all parts of the country were only saved from loss on their last year's work by their sales of fruit. The small fruits have of late years been surer beggers than apples; but when the conditions of high manuring and mulching in dry weather are observed, apple growing is also profitable, and all the more so because the fruit requires some attention to insure success.

If your land is too heavy or rich to grow radishes well, says A. M. Purdy, mix sand liberally with the soil in one part of the garden, and you may raise fine radishes. If your garden is too heavy or wet, draw on plenty of coal ashes or clear sand, mixing well with surface soil.

Stock.

B. A. Shorthorn Association.

The second general annual meeting of the above association was held at the Albion Hotel, Toronto. There were about fifty members present; John Dryden, M. P. P., occupied the chair.

The report of the executive committee referred with pleasure to the growth of the association and its improved standing. Volume two of the Herd Book, which was that day placed in the hands of members, contains the pedigrees of 1,042 bulls and 987 females, and this book has been got up more promptly than any other volume of a similar nature. The entries were closed on the 1st July, and on the 20th Feb. the book is in the hands of the breeders. While for the 25th volume of the American Herd Book, a much smaller volume, \$5 is charged to members and \$7 to non-members, the B. A. H. B. is given free to members, and to non-members for \$2.

The financial report showed a balance on hand at the beginning of the year of \$544.48, and the receipts from the sale of the Herd Book and other sources amounted to \$1,912.95, making a total of \$2,456.53. The expenditure was \$2,154.15, leaving a balance of \$302.19. The 2nd volume of the Herd Book cost less than volume one by \$200, so that the position of the association is quite as good as it was a year ago, and the future is full of promise, as the membership is rapidly increasing, and now numbers 214, including the bulk of the leading breeders of the Province.

Mr. John Dryden, M. P. P., was re-elected President, and the following gentlemen vice-presidents for their respective Provinces:—R. Gibson, Delaware, Ont.; J. S. Williams, Knowlton, Que.; Prof. Lawson, Halifax, N. S.; Acton Burrows, Winnipeg, Man.; Jas. Steele, New Westminster, B. C., and J. L. Inches, Fredericton, N. B.

Mr. J. C. Snell, was re-elected Secretary of the executive committee, and Mr. R. L. Denison, Recording Secretary and Editor of the Herd Book. The office of the Secretary is at 64 King St. East, Toronto.

DANGER FROM PIGS EATING CORNSTALKS.—When pigs are allowed to run in barnyards in winter they will chew cornstalks lying loose in the yard. We have sometimes found serious results from this practice. Cattle eating this innutritious refuse are frequently attacked by a blind frenzy which may result fatally. Why this should be so has not been satisfactorily explained, but the fact should guard against the possible danger.

BREAST COLLARS.—Objection is being made to driving horses with breast collars, especially with heavy loads, as being apt to contract the shoulders. Breast collars are not often used for heavy work. Their neater appearance gives them the preference for single road harness, but even here hame collars are better. The solid collar presses evenly against the shoulder bones and allows less chafing of the skin.

Sheep for Wool.

There appears, in a work on "Woollens and Worsteds," by W. Bright M'Laren (Cassell & Co.) an interesting reference to the causes affecting the length and quality of wool.

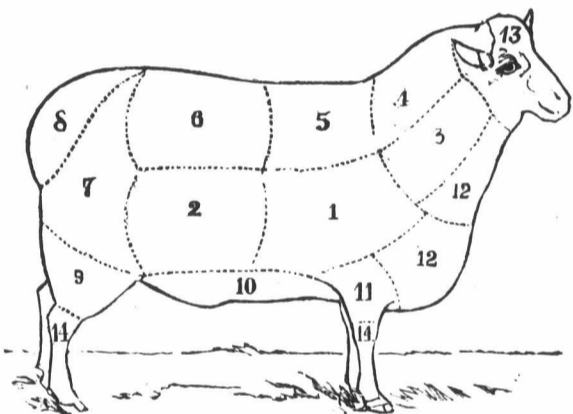
The three causes which affect the length and quality of wool are the breed of the sheep, the climate, and the soil. The present breeds have been obtained in some instances by careful selections of those sheep which had a tendency to produce such wools as the grower desired and as the climate favoured; until now some sheep will only grow short wool if left in their native district. In other instances, probably the most numerous, Nature has decided for herself what length and quality of wool the sheep must produce in each country; no matter what efforts the farmer may make to the contrary, he can only permanently rear short-woolled sheep where Nature favours short wool, and long-woolled sheep where she favours length. For instance, Southdown sheep grown on the light soil and in the warm climate of the south of England produce short fine wool. If they were taken to the heavy soil and wet climate of Lincolnshire, they would gradually grow long and strong wool, which in time would become bright. The Australian sheep were originally imported from England, though they have been crossed with Merino sheep. They now grow short fine wool, much finer than anything produced in this country. The farmers there, wishing to increase their weight of wool, crossed the breed with Lincoln and Leicester rams. One writer has said that "sheep carried from a cold to a warm climate soon undergo a very remarkable change in the appearance of their fleeces. From being very fine and thick, it becomes thin and coarse, until at length it degenerates into hair."

This statement has been endorsed by others; but, as has been shown from the example of Australia, it is by no means correct. It seems, however, approximately correct of East Indian sheep, which grow short strong wool, in some cases like hair, and most of it cross-bred and kempy. It is highly probable, however, that this is due to bad breeding and defective nourishment, and that if Merino sheep were taken to India they could be reared with success.

TRUENESS OF BREEDING.

The property for which wool is perhaps most valued is trueness of breeding. In a true-bred sheep each staple of wool, that is, each lock into which a group of fibres naturally forms itself, will be of equal growth throughout. The fibre will be the same thickness as nearly as possible the whole length, or will be finer at the point than at the root. There will be no shaggy rough wool in it. But if the sheep be cross-bred, or ill kept and exposed to storms, the fibres will be rough at the points, and coarser there than at the roots; the reason of this being that as the wool gets longer, or as it is more exposed to bad weather and hard treatment, Nature makes it stronger to resist what it has to encounter, while the part which is next the skin remains fine to give greater warmth. Such wool, even when combed and spun into yarn, never lies smoothly and evenly

as true-bred wool, and is consequently not of as much value. There is another sort of wool which farmers do not seem to understand, and writers on the subject often ignore, but which is often more or less on all cross-bred sheep, and on sheep which are too much exposed and fed in hilly districts. This is known as "kemp," or dead hairs. These kemps vary in length and coarseness according to the breed of sheep. In white Highland they are about two inches long and very thick; in cross-bred Australian they are very short. In the former they cover the under side of the fleece; in the latter they are so few as not to be of any importance. They are, however, all alike in this, that they are a brilliant shining white (except on sheep with grey wool, when they may be black), and they will not dye the same color as the rest of the wool. They consequently depreciate the value of the wool very greatly, making it only suitable for low goods. They seem to be fibres of wool, which, owing to the coarseness of the breeding of the sheep, or owing to its exposure to rough weather, have been killed, so far as power to grow long is concerned; but they grow in thickness and hardness till they become solid, glazed, and



horny, and thus are unable to receive the substance of the dye. They never alter in the process of carding, combing, or spinning, nor do they unite with the rest of the wool to form the thread, but lie on the surface, only held down by other fibres of wool which may be wrapped round over them. It should be the object of every breeder of sheep to diminish, if possible, these very kempy varieties of wool.

DIFFERENT QUALITIES OF WOOL.

To give an idea of how the qualities of wool vary, the above diagram has been prepared, showing approximately where each quality is to be found on an ordinary English sheep; but it must be observed, that a wool-sorter accustomed to strong, coarse, English fleeces, would be at a loss how to proceed if placed before a pile of Southdowns, or fine Botany wool, because the latter being throughout so much finer, either have not the same range of qualities, or they are much more difficult to separate.

No. 1 is the shoulder, where the wool is long and fine; it grows the closest and is most even. No. 2 is rather stronger, but otherwise equally good; the best and soundest wool grows on these two parts. No. 3, on the neck, is shorter than No. 1, but even finer; where sheep are liable to have grey wool it is sure to be found here,

and also on No. 4, which, with No. 5, grows wool of inferior quality and faulty character. No. 6, which covers the loin and back, is coarser and shorter, while on No. 7 the wool is long, strong, and hangs in large staples. On Cross-bred sheep this part becomes very coarse, and is much the same as No. 8, which is the coarsest part of the wool, and is known as breech, or britch, and even when very strong, as "cow-tail." When like this it most resembles horse hair, though it is most brittle, and not so smooth and bright. No. 9 is also strong, and much the same as No. 7. No. 10 is short, dirty, and increases in fineness as the front legs are approached; it is known as "brokes." No. 11 is also short and fine, while No. 12, the front of the throat, is short and worn with rubbing. The places where kemps, or dead hairs, are most found are in Nos. 12 and 8, though in the latter they are much longer and stronger than in the former. No. 13 is the head, on which the wool is very short indeed, rough, and coarse. On the legs, No. 14, is still worse, and of very little value. It will be seen that the quality of the wool varies in the same way as the quality of the mutton. The shoulder of mutton is finer in "grain" and more delicate

than the leg, and so is the wool; there is more wear and tear, too, for the sheep in its haunches than its shoulders, for the weight is chiefly there when it lies down; consequently the wool is longer and stronger to resist. If the wool about the neck were as long as at the tail, the sheep could not get through hedges and briars, and it would also be weighed down while eating; therefore Nature provides that the wool shall be short and fine—just enough to keep the animal warm. The wool on the back becomes rough and thin, being most exposed to the rain, and because it naturally divides down the ridge of the back, falling over to each side.

VALUE OF PASTURE.—An experiment made by Dr. Lawes, of England, showed that an acre of rich pasture in Leicestershire produced 500 pounds of increase in the weight of fattening oxen in six months' grazing. It required 3,500 pounds of clover hay, 1,600 pounds of corn or oil cake, and 10,000 pounds of Swedes to produce the same increase. This fodder was considered equal in value to 3½ tons English hay. Neither soil nor climate in this country are favorable for the maintenance of such pastures here.

One of the strong points in preparing horses for spring work is in having their shoulders in a good, sound condition. With this to start with and soft and well-fitting collars there need be but little fear of any difficulty in keeping them all right, no matter how hard the labor the horses have to endure. By keeping the collars well cleared of any dirt which may accumulate upon them from the sweating of the horse, and by bathing them daily with cold water, there need be but little fear of bad shoulders.

SIR,—I am well pleased with the *ADVOCATE*. I would not be without it for five dollars. My boys are as keen to get it as they are for a day's hut. J. L. W. W. Roundthwaite, P. O.

Correspondence.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave one end open and postage will be only 1c. per ½ ounce.

We do not hold ourselves responsible for the views of correspondents.

SIR,—I presume your correspondent, W., page 47, wanted to burn plaster to use as lime or plaster of Paris, but if your answer applied to land plaster, is it not a mistake? Hundreds of tons of land plaster are ground in Port Hope, and I never heard of its being burned. Your answer to J. McL., same page, is also rather indefinite. Down here we say, timothy for horses, or muscle, but clover for fat.

T. W. R.
Bewdley, Feb. 15.

[This correspondent calls in question our answer to W., page 47, in ADVOCATE of Feb. We may say that plaster and gypsum are not the same, strictly and scientifically speaking. Gypsum, when calcined, forms Plaster of Paris. If our correspondent W., page 47, had asked us how sulphate of lime (Gypsum) was calcined, we would have informed him that kilns are used for burning the stone, similar to those for making quicklime from common limestone. If our correspondent W. R. is a chemist he will know that $\text{CaSO}_4 + 2\text{H}_2\text{O}$ is gypsum, or sulphate of lime, and after calcining or burning, plaster (Paris) assumes the form CaSO_4 ; that is, the water ($2\text{H}_2\text{O}$) is eliminated. Hence our answer was strictly correct, that plaster is already calcined. With regard to our answer to J. McL., we always thought that such eminent men as Wolff in his tables on feed, Bousingault, Johnston, E. Lawes and other chemists, were sufficient authority in warranting us in stating that 100 lbs. of timothy were equivalent to 200 lbs. of clover, &c. But probably all these are wrong and our correspondent W. R. right. He might formulate some tables on the relative values of feed, and send them to this office for our guidance.]

SIR,—As your valuable paper is in reality everything the farmer may desire in posting him up in his line of business, in giving the knowledge and experience of others most capable of instructing and furnishing information as may reasonably be requested, I beg to receive further information relative to the best and most economical mode of manufacturing bones into the most convenient fertilizing material. In the summer of 1882, I put about a ton of bones—got at slaughter house yards—into hard wood ashes, and wet them down as I supposed sufficient for dissolving them, but last spring and summer the bones came out quite dry, as well as the ashes, the bones hardly any dissolved, notwithstanding I had run off a couple of barrels of hard wood ashes and poured the lye over the top of them, without it showing any more effect in dissolving them than if it had not been put on. I used the ashes on corn, &c., and think they proved more valuable than they would have done if they had not been so treated. I continued to have the bones and manure gathered from the slaughter houses, and I, last fall, put the wet manure and bones together in one heap in a corner of the barnyard, inclosed on the sides to keep them compact and from spreading, thinking they may heat there and dissolve; the result is yet to be seen. I likewise had a hoghead of bones, in the fall of 1882, packed into hard wood ashes, but in the spring came out as the others. I presume they may not have been made wet enough. I put them back with more ashes, and this past summer have had the chamber lye emptied over them, but have not yet examined them. I filled another hoghead with bones mixed in with stable manure, and considerable hen manure, and a good coating of hen manure on top, wet down with hot water, expecting to find out results in the spring. I had about two tons of bones taken to the woods where I am having a piece cleared up, and intend to burn them in a log heap, and then run them through a bark mill which I have, thinking it may be as good a way as any, as I have noticed, I think, in the FARMER'S ADVOCATE, that by burning bones there is but little loss of anything necessary for fertilizing. I have not yet tried sulphuric acid, but it appears to me that it is rather expensive, may be more so than is necessary. Any information upon the above subject through your paper will be thankfully received, I presume by many of your subscribers as well as by myself.

Midland.
[Dissolving bones with ashes and water, as our correspondent mentions, is not very satisfactory and expeditious, as we suppose our correspondent has found out. The only way to get the desired chemical combination and to reduce bones to an available shape as plant food, is to dissolve them with an acid (and an acid that will make the proper chemical combination.) If you did reduce bones by lye, you would gain nothing, for the action of the potash would destroy or neutralize some of the plant food elements of the bones, because a proper chemical combination would not take place. Agricultural papers

that have been recommending reducing bones with ashes have made a great mistake. It is not reducing them that is wanted, but converting them into profitable plant food, and this is best done by uniting an acid with the phosphate. Taking an equal quantity of standard sulphuric acid and water and putting on the bones sufficient to cover, will reduce them, and after this an absorbent should be added to get the proper consistency of dryness. Dry swamp muck would do well, or even your hen manure in a dry state. Your bones should have been reduced by the action of ashes, say three parts of unleached ashes and one of bone, in two months, but you would require to keep the mass moist and stirred occasionally. We should like to hear the results of our correspondent's experiments.]

SIR,—Will you please direct me how to ascertain the live weight of fat cattle by measurement. SUBSCRIBER.
Bethany, 16th Feb., 1884.

[Take the girth behind the shoulder and square this number, or multiply by itself (7 times 7 are 49, for instance), and multiply this again by the length from this point to the tail, and multiply this product by 6.66, or say 6½, and the result will be as near as can be the live weight of the animal. The correctness of the rule may vary a little, according to the condition of the animal. For a very fat one there would be a shortage; and in one not extra fat the result of the rule would be slightly in excess.]

SIR,—I have a root patch originally pure lake sand, that grows a good crop of carrots if they can on y be started, but I find it difficult to get them thick enough. Last year I sowed two or three times the usual amount of seed, and still the rows were not half full. I have planted carrots four times with similar results. Turnips come on the same ground thick. Could you suggest anything to dress it with that would be likely to assist the starting process? Would salt or ashes be of use? Any information on the point will be thankfully received by

Garrison Road.
[We can see no principle or element in your soil that would retard the germination of carrot seed any more than any other vegetable, as turnips seed, for instance, which you say germinated. The probable cause of your carrot plants not coming thick enough in the rows was defective seeds; there was a great quantity of such sold the last two years. It was too old. Try a reliable seedsman and get fresh seed. If your soil is lake sand—silica, you should supply plenty of barn-yard manure and lime. Ashes would supply potash and a large percentage of lime, but salt would be thrown away, unless your land is rich in organic matter which is not available, and which needs a dissolvent and mineral element. In the absence of any of these, salt, ashes, lime &c., or in combination with barn-yard manure, we would recommend 200 lbs. of superphosphate of lime to the acre, applied in the drills of your carrots or turnips. With superphosphates we would recommend the same quantity of nitrate of soda per acre. This quantity of manure would contain about 40 lbs. of active nitrogen. Apply ashes and lime separately; don't mix with barn-yard manure.]

SIR,—I have bought a farm that has not had any fall ploughing done. 1. After the ploughing is done would I be right in sowing the grain right on the ploughing and harrow it right in, or break it first with a cultivator? 2. Could you tell me which is the best kind of seed to sow for feed, as I shall not have any hay this year? By answering this you would oblige

W. W.
Exeter, Ont.
[1. Sowing on the ploughed land is as good a plan as you can adopt, and it will save you labor. 2. Hungarian grass and fodder corn will meet your wants, along with roots and straw.]

SIR,—I would wish to ask you a question or two in regard to a valuable black horse, four years old last spring, which I am owner of. He has had a cough this last eight months, a sort of a loose cough, not like heaves, but the disease seems to be in the throat. Some advise me to blister the throat. Would you please state how to operate on the throat with a blister, and what to feed? Would any kind of medicine do good? By answering the above you would greatly oblige

E. S.
P. E. Island.
[It would be well to apply a mild blister all around the throat, from a little below the ears right around under the jaws; this might be repeated every couple of weeks. It would be well to give him every night in a warm bran mash a powder, made as follows:—Nitrate potash, one drachm; sulphur, one drachm; powdered digitalis, half a drachm. This you might give for a couple of weeks, then leave off for a week and commence again. Do not give him dusty hay; it would be well to damp his feed with lime water. Do not give him more than a pail full of water to drink at once.]

SIR,—Your ever-welcome paper for this month is, as usual, replete with information; it is, in fact, full of good things. One thought, especially, has often struck me when reading it, and that is, that rarely is there a number received that does not give information in one line or other that is not worth ten times the subscription price to some of its readers; but, nevertheless, occasionally an article is inserted that is misleading. Such a one is that on the "Hardiness of Apple Trees," by D. Nicol. There is a great deal of very useful matter in it, but when the writer tells your readers that "as far north as the Ottawa River none but the hardiest kinds of crabs can be grown" he makes an unwise, because untrue, statement; and when he says that "twenty-five miles north of Lake Ontario the Northern Spy cannot exist," I feel sure he has not seen much of our Quebec orchards. Last season I saw trees of Northern Spy in Huntingdon Co., Province of Quebec, loaded with the finest possible fruit. In one case the trees were about fifteen years planted, and looked as healthy and vigorous as the transcendent crab.

Where I live, sir, on the north shore of the Ottawa, in latitude 45.40, some very fine apples are grown. Among others, St. Lawrence, Fameuse, Red Astrachan, Peach, Duchess of Oldenburg and Wealthy Tetofski, and trees seven or eight years planted, of several other sorts, give promise of proving hardy, viz.:—Goldern Russet, Wall-bridge, Twenty Ounce, etc., and scattered throughout the county are some seedlings of great promise; and then we hope, from among the new Russian sorts, to find some that shall be equal to the best grown in Ontario. And I must not omit to say that quite a few miles north of me, where the mercury falls as low as thirty-five degrees below zero every winter, some sorts of grafted apples are doing very well.

My reason for writing you on this subject, Mr. Editor, is this:—Some of your many readers may be situated as I am, pretty far north, and may, from reading such a statement as I have adverted to, be deterred from attempting to grow apples. In this county, and I believe, in those adjoining, great harm has been done by apple tree pedlars selling sorts that were not suited to the climate, so that many farmers entertained the idea that apples could not be grown here. We are getting over that now, however.

I know that your desire is to benefit your readers in all parts of the country, and as many in the northern districts who contemplate planting might be discouraged by Mr. Nicol's statements, I feel that it would not be well to let them pass unchallenged, at all events, till every reliable source of information is exhausted. If J. L. would drive a piece of board about six inches wide and four feet long into the ground, on the south side of his apple trees, it might prevent the bark splitting near the ground, by keeping the hot sun off them when the sap is beginning to rise in early spring. R. H. Grenville, P. Q.

SIR,—What would be the best breed of ram to use with ewes got by Southdown ram and Cotswold ewes? Yours,
A SUBSCRIBER.
Creek Bank, Ont.

[This would entirely depend upon what class of sheep you intend to raise, and for what purpose, for wool or mutton, for medium wool or combing wool. Crossing, again, with a Southdown ram, with your by-bred ewes, would bring them nearer the Down type; and again, crossing on a Cotswold ram would tend to increase the size of your sheep and the coarseness of your wool. An experiment with his flock with both would be of eminent advantage to our subscriber in the way of a breeding test.]

SIR,—I intend to clear and ditch a cedar and black ash swamp this coming summer. What way would you advise me to ditch it? It has about two feet and a half of black muck; the bottom is quicksand. Should I open drain it? If so, what depth and width at the top and bottom? By answering the above you will oblige

Garatraxa
A NEW SUBSCRIBER.
[Dig an open drain where the best fall can be had and where it will be likely to carry off the most water. If the black muck is deep, as you say, you should go below this at least a foot and a half from the top. Your drain at least should be four feet for that depth, but use your own judgment. A good coat of lime would be of immense benefit to your swamp—sixty bushels to the acre—as it would tend to dissolve the organic matter, black muck, and make it available. Seeding down after draining would be a good plan.]

SIR,—Please in your next ADVOCATE I want to know the following questions:—I bought a cow two weeks ago at the fair; she is young and hearty, but when she lies down she seems to press something out of her womb; it is not her calf bed; when she gets up it goes back. Can you tell what is the cause? She is heavy with calf. Will she calve all right?—Yours truly,
A SUBSCRIBER.
Walkerton, Jan. 10, 1884.

[The muscle that holds the vagina in its proper place has become relaxed, allowing part of the vagina to protrude. Give your cow a mild dose of purgative medicine, allow her plenty of exercise, feed her sparingly on laxative food until after she calves, put her in a stall at nights where the hind part will be raised about six inches higher than the fore part. If it comes out very much press it back gently with the hand after dressing it with some astringent, such as alum water. It does not generally interfere with her calving.]

The Household.

Some of the Fine Arts of Society.

SPEAKING WELL OF OTHERS.

If the fine accomplishment of speaking well of others were taught in every household, it would become almost a paradisiacal land. But, alas! the opposite accomplishment prevails. How many heart-burnings, quarrels and estrangements in families have arisen from this disposition of speaking evil of each other! Each of us has his faults. "There is none that doeth good; no, not one," and in the actions of the best of persons there will be occasional errors which others will perceive and, if they are evil-minded, will publish; and before they have passed through half a dozen mouths, they are so changed that they are hardly recognizable.

The art of speaking well of others can be easily acquired, and it is a good rule to make in a household, that the one who criticises others unkindly in the family circle, or among friends, shall pay a small fine to be used for some good object. The common and unchristian practice of talking about our relatives' and neighbors' faults is really taught in the household by parents and friends, and the children catch the habit only too quickly.

THE ART OF SOCIABILITY.

Learn to be sociable wherever you go, and to speak your lightest words in tones that are sweet, and with a spirit that is genial. Think how much pleasure you can give to others by a kindly word, or a cheerful conversation, and reflect how much sunshine such sociability throws back into your own soul!

Who does not feel more cheerful and contented for receiving a polite bow, and a pleasant "good morning," with a hearty shake of the hand? Who does not make himself happier by these slight expressions of good will. Silence, or stiff, unbending reserve, is selfish and churlish. The generous and polite man has a pleasant recognition and cheerful words for every one he meets, and he scatters sunbeams on his pathway through life, lights the path of others with smiles, and makes the world bright to those who are apt to find it cold and forlorn, while what he gives is but a tithe of what he receives, as his own heart is kept fresh and warm by the cheerfulness he expends upon others. Life would not be half as cheerless and lonely if sociability were cultivated as a fine art.

THE ART OF LIVING PEACEABLY.

The art of living in peace in the family is greatly promoted by the constant exchanges of the little courtesies of life, which are never unacceptable and never unimportant. Shall husbands and wives be less mindful of injuring the feelings of each other than those of strangers? Should there be less effort to maintain suavity of manner, gentleness of deportment, and courtesy of expression in the family circle than is extended to visitors?

It is the neglect of these little courtesies in home life which fills the saloons and billiard rooms with young men. There all is bright, gay and pleasing to the senses; and soon they are drawn into dissipation, and only look upon their homes as boarding places, where the physical necessities of eating and sleeping are procured. In early life brothers and sisters

should be taught to be kind, obliging and attentive to each other, to perform little offices for each other, and learn the suavities of deportment which are so essential to the happiness of their own lives, and of those with whom they are connected. Brothers and sisters thus taught can rarely fail to make pleasant homes of their own, where words of bickering or strife are never heard. Sweet smiles and kindly actions are the small coins of life, and in their aggregate consist the happiness and well-being of the whole family. Where such households become the rule, then peace and prosperity reign. "Better is a dinner of herbs where love is, than a stalled ox and hatred therewith."

Colds and Neuralgia.

Of the danger of wet, cold, or damp feet I have often spoken; I may merely mention here that those who suffer from occasional attacks of catarrh, neuralgia, toothache, or rheumatism, cannot attend too much to the comfort of their feet and lower extremities. The stockings they wear should be warm, but not too thick, the boots should be soft and of medium thickness in soles. Feet-warmers either in bed or in a railway carriage should be dispensed with as much as possible.

Pains about the head arise from many different causes, and therefore no one remedy is applicable to all. Let those, then, who suffer from cerebral pains remember that the distress they have to bear is but the symptom of some disorder of the general system. Over-fatigue will often cause congestion of the head, and in delicate women this is often accompanied by a feeling as of a ball at the lower part of the neck, a kind of choking sensation. This kind of pain in the head is caused by temporary weakness of the heart.

Pain in a nerve or group of nerves is known by the general term neuralgia, wherever it may be, whether in the head—usually one-half only is affected—the side of the face, the jaw, or nerves of the leg. The pain of neuralgia often amounts to positive torture and unfortunately may continue for many weeks, or even months, and it may go away for a time and return again as bad or worse than ever. The agony banishes sleep, and the want of rest weakens the body, and I might almost say, demoralizes the mind, for a patient suffering from pain of this kind will take almost anything to obtain relief. This terribly painful disorder is generally brought on from exposure to wet or cold, or both, at a time when the body is weak from over-fatigue, or when the general health is a long way below par, more especially if worry or anxiety of mind is super-added, with want of rest and sleeplessness. This being the case, the medical man tries all he can to brace up and tone his patient. He recommends the salt water bath, cold, tepid, or warm; the Turkish bath, moderate and regular exercise, the careful regulation of diet, food of the most strengthening yet most easily digested kind, the wearing of warm flannels next the skin, the giving up of tea, coffee, and perhaps tobacco.

But let me caution the reader, as he values his health, and life itself, to take care how he tampers with sleeping draughts, and also to remember that present relief from neuralgic pains does not mean the cure of the disease; to effect that, his health must be raised above par. —[Cassell's Magazine.]

Healthfulness of Milk.

If any one wishes to grow fleshy, a pint of milk on retiring at night will soon cover the scrawniest bones. Although we see a good many fleshy persons now-a-days, there are a great many lean and lank ones, who sigh for the fashionable measure of plumpness, and who would be vastly improved in health and appearance could their flesh be rounded with good, solid flesh. Nothing is more coveted by a thin woman than a full figure, and nothing will so rise the ire and provoke the scandal of the "clipper-build" as the consciousness of plumpness in a rival. In case of fever and summer complaint, milk is now given with excellent results. The idea that milk is feverish has exploded, and it is now the physician's great reliance in bringing through typhoid patients, or those in too low a state to be nourished by solid food. It is a mistake to scrimp the milk-pitcher. Take more milk and buy less meat.

Things to Try.

Try popcorn for nausea.
Try cranberries for malaria.
Try a sun-bath for rheumatism.
Try ginger-ale for stomach cramps.
Try clam broth for a weak stomach.
Try cranberry poultice for erysipelas.
Try a wet towel to the back of the neck when sleepless.
Try swallowing saliva when troubled with sour stomach.
Try eating fresh radishes and yellow turnips for gravel.
Try eating onions and horseradish to relieve dropsical swellings.
Try buttermilk for removal of freckles, tan, and butternut stains.
Try taking your cod-liver oil in tomato cat sup, if you want to make it palatable.
Try hard cider—a wine glass three times a day—for ague and rheumatism.
Try taking a nap in the afternoon if you are going to be out late in the evening.
Try breathing the fumes of turpentine or carbolic acid to remove whooping cough.
Try a cloth wrung out from cold water put about the neck at night for sore throat.
Try snuffing powdered borax up the nostrils for catarrhal "cold in the head."
Try walking with your hands behind you if you find yourself becoming bent forward.
Try a silk handkerchief over the face when obliged to go against a cold piercing wind.
Try planting sunflowers in your garden if compelled to live in a malarial district.

We Love the Absent Best.

Oh, the absent are the dearest
To a mother's loving heart;
And the depth of our affection
Is not known until we part.
We may view our sleeping darlings,
With a watchful pride and care;
And may breathe an earnest blessing
O'er each dusky head and fair;
But if there remains a pillow
Too uncrumpled, and too white!
And the chair a-near the bedside
Hold no garments for the night—
If we miss the shoes and stockings,
A torn jacket, or a dress—
If we miss a "Good-night, mother!"
And a dear one's warm caress—

Then our hearts yearn with affection
For the rover from our nest,
And we feel of all our darlings
That we love the absent best.
Ah, the absent are the dearest—
Mother's heart will answer yes!
The dear lips by far the sweetest
Are the lips we cannot kiss!

Family Circle.

THE MISSING WITNESS.

"I'm afraid it's a bad case," I said to myself as I laid down my brief after reading it over for the third or fourth time, and leaned back in my chair to reconsider it for about the twentieth time. "A bad case, and I am sorry for it."

I was a barrister, young both in years and in professional standing, and it was the first brief of any importance I had ever held. My client was an Italian sailor named Luigi Bernini, and the crime of which he was accused was robbery; the plunder being the life-long savings of a woman upwards of eighty years of age, which the poor creature kept hidden in the thatch of her little cabin.

The witnesses were the old woman herself, who had been stunned by a severe blow from the perpetrator of the theft; and the neighbor who deposed to having met the prisoner in the immediate vicinity of the cabin.

When Bernini was arrested some days later, a curious foreign coin, identified as part of the stolen hoard, was found in his pocket. This, however, he accounted for by saying that he had picked it up on the road. The weak point in the chain of evidence was a scarcely perceptible hesitation on the part of one of the witnesses. She had at first declared positively that the prisoner was the man whom she saw going towards old Joan's cabin, and had afterwards adhered to this statement, with what appeared to be dogged obstinacy, rather than real conviction.

The prisoner himself positively denied having been in the neighbourhood at all on the day of the murder, but unfortunately he could not speak with certainty as to his whereabouts. He had been lately dismissed from hospital, scarcely convalescent, after a bad fever; his own ship had left the port, and he had been rejected by the captains to whom he had offered his services, as not being sufficiently robust for a sailor's work. He had a little money left, and he therefore took to wandering aimlessly about the country, intending, as soon as the *Columbia* returned, to ship aboard of her again. His mind had been weakened and confused by his illness, and although he knew that for several days preceding and following that of the murder, he had been in a part of the country fully twenty miles distant, he could not possibly say where he had been, or to whom he had spoken on the day in question. Many inquiries have been made, and many persons interviewed who remembered "the poor foreign chap," but no accurate information as to dates forthcoming. As the testimony of a person who had extended her hospitality to him, "either on a Tuesday or a Thursday, she couldn't rightly say which," would not, unfortunately, carry much weight in a court of justice, I had to trust for a defence to the cross-examination of the witnesses, whose character for veracity I hoped, by judicious management of the usual forensic weapons, to compel them to annihilate with their own lips. I much regretted his want of evidence, as I was strongly prepossessed in favour of the prisoner; something frank and honest in his face making it difficult for me to be alive him guilty of the cowardly crime of which he was accused. Besides, it was, as I have said, my first important case, and self-interest and professional instinct alike prompted me to desire its successful issue. But of this I had little hope.

I laid aside my brief at length, and went up to the drawing-room, where I was greeted by my cousin and hostess with a somewhat petulant reproof for having lingered so long over those musty papers.

Alice and I had been children together—a big girl and a little boy—we had grown from play-fellows into friends, and since her marriage, her house in Carrigarran had been my resting-place in assize times. I was at no loss to understand the cause of her vexation at my tardy appearance. She was somewhat of a match-maker, and having no one but myself on whom to exercise her talents, she had devoted them exclusively to my service. She had already decided on a suitable wife for me, and was now exerting herself to the utmost to bring about the marriage. The chosen young lady was present, and I knew that Alice was much annoyed with me for devoting the evening to my brief instead of to Dora Lyne. The latter was the daughter of a solicitor in good practice, and was herself very pretty, bright-looking girl, who would, I was compelled to admit, be a most desirable wife for a young unknown barrister.

I was thoroughly fond of Alice, and she was my chosen confidante whenever I needed one, but I could not tell even her that the true reason which prevented Dora Lyne's brown eyes and sweet voice making their due impression on me, was the remembrance of a face seen but during a three hours' railway journey, a face with dark grey eyes, and quiet thoughtful expression; and of a voice heard at somewhat rare intervals in the same space of time, whose full, low-pitched tones still vibrated in my imagination. Alice would have been too good-natured to laugh at me, but I felt sure that, had she known the state of the case, she would have entertained, and probably expressed, fears that over-study had affected my brain—an opinion that would probably have been shared by all persons whose characteristic was common sense.

Miss Lyne, perceiving that Alice was vexed with me, and wishing, I think, to show that she did not share the feeling, called me over to look at some prints and photographs which she was examining, and we were soon deep in a discussion of their merits.

"No," said Alice; "I forgot it. You will find it in that volume of the 'Stones of Venice' on my table, Richard. It is really a beautiful sketch. I wonder how it came to be forgotten in the book."

I brought the book to Dora Lyne, who turned over the leaves until she found the drawing, which she put into my hands. The moment I saw it I uttered an exclamation of surprise which brought my cousin at once to my side.

It was a spirited water-color sketch of a man's head—a dark, foreign-looking face surmounted by a red cap.

It was, however, neither the skill of the artist nor the picturesque beauty of the model that attracted my attention; it was the fact that in the somewhat peculiar features of the latter I recognized those of my client, Luigi Bernini.

"What an odd coincidence!" said Alice when I had explained; "I wonder who could have taken the sketch—some one who knows how to handle a brush," she added, looking critically at it. "See, here are the initials and a date, but they are so faint that I cannot make them out."

"Let me try," said Dora; "I have good sight." She took the sketch over to the lamp, and scrutinized it closely. "W. M. D. but I cannot make out the date. Stay, I have it. May 10th, 18—"

"May 10—why, that was the very day of the robbery," I said. Then the full significance of this date flashed suddenly upon me, and I absolutely turned giddy. "The alibi!" I gasped—"if we could find the man who did this sketch, we might succeed in proving the alibi." Dora Lyne grasped my meaning with ready quickness.

"Morrison's Library, that book came from, was it not, Alice? They ought to be able to tell you there who had it on, or immediately after, the 10th of May."

"And the person, whoever she or he is, will have to be hunted up," I said, "and there's not much time. This is Monday, and the trial is fixed for Wednesday. I suppose Morrison's is closed by this, Alice?"

"Indeed, it is," she answered. "You would find no one there now but a caretaker. You must just wait patiently until to-morrow, Richard."

I had perforce to wait; as to the patience with which I did so, the less said the better.

The following morning found me at Morrison's Library. On explaining my business, I was referred to the clerk in charge of the library department, from whom I totally failed to obtain the required information. The young man who usually attended to that part of the business was away; if I could call next week—

I intimated with what appeared to me, at the time, most praiseworthy self-control, that next week would not do, giving a partial explanation of the circumstances. But the clerk, although apparently willing to help me, professed himself quite unable to do so.

"You see, sir," he said, "if you wanted to know what book any subscriber had out at a given time I could probably tell you, but as for ascertaining the whereabouts of a special book—it's an impossibility. If you like to look over our entries for you self you are welcome to do so."

I accepted this offer, and spent a good part of the day turning over the blotted pages wherein were inscribed the names and course of reading of the subscribers to Morrison's. And an unprofitable morning's work it was. The record was so all appearance imperfectly kept, and I failed to trace the second volume of the "Stones of Venice" through a longer period than three weeks, during which it had twice changed hands.

Some hours more were spent in hunting up the persons in whose possession it had been for that time, neither of whom could give any information concerning the sketch. An application to Bernini himself was equally fruitless. He remembered that a lady and gentleman whom he had met during his wanderings had asked him to sit to them, but he did not know who they were, nor could he even make it clear where the incident had occurred.

I returned home at dinner-time, tired and baffled, to report my failure to Alice and her husband, from whom I received much sympathy but no suggestion of any practical value. I had given up hope, and was endeavoring to dismiss the subject from my thoughts, when late in the evening the hall door-bell sounded, and a message came up that a person wanted to speak to Mr. LeStrange. Going down, I found waiting for me a bright-looking lad, one of the shop assistants at Morrison's, who had been for a short time aiding in my investigation of the entries.

"I think I have what you want, sir," he said as I entered the room. "It was in my mind all day that I had given out that book to some one. I couldn't think who, and a chance word that I heard this evening brought it all back to me like a flash. It was to Mrs. French, of Redcourt, that I gave it, and it must have been on the 3rd or 4th of May. Here is the lady's name and address, sir," and he handed me a slip of paper on which was written "Mrs. French, Redcourt, Kilmarran." It was in Kilmarran or its neighborhood that, according to Bernini's own statement, he had spent the day of the robbery.

Thanking and dismissing the lad, I returned to the drawing-room with my prize. The next step was to communicate with Mrs. French. Kilmarran was fully fifteen miles from Carrigarran, and the trial was to begin the following morning.

"Hand me over that railway guide, Dick," said Alice's husband. "I thought so—no train before ten. There's nothing for it but for me to drive to Kilmarran the first thing in the morning—the mare can easily do it in two hours—and if I find that any one there can give evidence worth having, I'll bring them back with me, and have them in court before the case for the defence opens."

The trial began next morning, proceeding at an unusually rapid rate. It seemed to me that the learned counsel for the prosecution had never before put forth his wisdom and legal knowledge in so condensed a form. The cross-examination of the witnesses was of course in my hands, and I did my best to make it as tedious as possible, totally failing however in my attempts to confuse them, or cause them to contradict themselves. My only hope now lay in the unknown witness, and of him there were no tidings. The case for the prosecution closed and the court adjourned for lunch; I was standing in the bar room, thinking over my speech for the defence, and mentally re-arranging my sentences after the manner of the most prosy member of the circuit, when a note was handed to me: "All right—the witness is in the Sheriff's room."

Going into the Sheriff's room, I found my cousin, accompanied by a strange lady and gentleman.

"This is the prisoner's counsel," said the former as I entered. "Allow me to introduce. Mr. LeStrange—Miss Darcy, Mr. French." I turned to the lady as her name was pronounced, and, I am afraid, forgot to bow, in my surprise and delight in recognizing in the tall, fair-haired girl before me, my dream of the last six months; my unknown love, another glimpse of whom had been my chief desire ever since I lost sight of her as she stood on the platform of the little road-side station where she had alighted.

"It was Miss Darcy who did that sketch," said my cousin, "and she remembers all about it."

"Yes," said the girl, "the sketch was taken at Kilmarran on the 10th of May. I remember all the circumstances perfectly, and should have no difficulty in identifying the original."

Having by a few hurried questions convinced myself of the value of Miss Darcy's testimony, I took her and her brother-in-law into court, placing them where they had a full view of the prisoner. Miss Darcy looked attentively at the latter for a minute or two, and then said decidedly—

"Yes, that is the man."

I opened the case for the defence in a few words as possible, and then called up my witness—Winfred Darcy. She gave her evidence very well, in grave concise language, without irrelevance or circumlocution. She stated that she lived at Redcourt with her sister, Mrs. French, and that on the 10th of May she and her cousin had spent the greater part of the day sketching by the river-side Kilmarran. At about two o'clock a gust of wind had carried her hat into the stream, whence it was recovered by the prisoner, who happened to pass by at the moment. Interested by something in his appearance, they tried to enter into conversation with him, but without much success, his English being very imperfect. They, however, managed to make him understand that they wished to employ him as a model, and he sat to them patiently for more than an hour, at the end of which he went away, with many expressions of gratitude for the money they gave him. Miss Darcy would have been certain as to the date, even if it had not been affixed to the drawing (which was produced in court), as her cousin had arrived at Kilmarran on the 9th of May, and left on the 11th.

Cross-examination failed to cast any doubt on the accuracy of Miss Darcy's evidence, while her veracity was of course above suspicion.

The jury professed themselves satisfied with the evidence, and declining to hear counsel for the defence, returned a verdict of "Not Guilty." The prisoner was seized upon by some of his compatriots who were serving on the mixed jury, and carried off in triumph, somewhat dazed in the change in his prospects.

Some months afterwards, a man dying from the effects of a hurt received in a drunken brawl, acknowledged himself guilty of the crime of which Bernini had been accused. He was also an Italian, and bore sufficient resemblance to his countryman in height and complexion, to account in some degree for the mistakes of the witnesses.

As for me, I date the beginning both of my professional success and of my life's happiness from the day of Bernini's trial.

Sambo's Shot.

An English gentleman, familiar with gun and rod, happened to be the guest of the late Recorder Hackett, at the South Side Club, Long Island, of which his honor was President. The Recorder himself was as certain to bring down his victim at thirty yards as he was to "send up" his victim for thirty years, provided the criminal was sufficiently naughty.

One fine morning while pacing the piazza, the noble Briton saw approaching an old negro, having in one hand a rickety, flint-lock shotgun, and in the other some twenty odd woodcock. Accosting the African the gentleman said—

"Ah, my good fellow, that's a fine string of birds you have."

"Yes, sah, dem's good birds, and no mistake."

"Pray, my man, did you shoot them hereabouts?"

"Yes, sah, shot 'em all round here."

"Ah, 'pon my word, that's v-e-r-y extraordinary. And did you?" (pointing to the old gun) "shoot them with that singular instrument?"

"Yes, sah, every one of 'em."

"And may I ask if you shot them on the wing?"

"De what?"

"On the wing?"

"Yes, sah—shoot 'em on de wing, shoot 'em on de head, shoot 'em on de tail—shoot 'em anywhere."

The English party turned away in disgust, and went to make certain inquiries of the Recorder.

Minnie May's Department.

MY DEAR NIECES,—Our homes *must* be made comfortable to live in. Why not also have them beautiful to look at? Is it not their houses instead of their homes to which many women devote most of their attention? They are, in the accepted sense, good housekeepers, but despite all their efforts, they are often poor home-makers. Every home is the expression of its mistress, and shows her knowledge, or want of it; her judgment, or want of it; her taste, or want of it. It matters not what the furnishings may be to begin with, the mistress will in time impress her personality upon them all. It is *she* that makes the home, and the home is what she makes it. She can either fill it with home feeling or render it cheerless and unattractive, whether it be a mansion or a cottage. Many believe because sunshine fades the carpets it must be excluded from their lives; because the enjoyment of books, music, art and nature takes time and money, they must, with many cares and modest income, forego all pleasure; but these are false conclusions, for those very cares require the pleasures of a happy, cheerful home to render them beautiful and attractive.

Beautiful surroundings need by no means be costly in order to be charming to a cultured eye.

The recently revived interest in art and all things artistic, has led to marvellous improvements in our every day surroundings. Engravings and photographs upon the wall, pretty little shelves or consoles hung here and there,

with a gay bit of china, a piece of bright embroidery or hand painting arranged upon them, will alter the entire character of an austere-looking apartment.

We are sure you will agree with us that nothing makes a home look more cheerful than to see the windows stocked with blooming plants and vines, whether viewed from within or from the street. Flowers are none the less beautiful on account of their being as "familiar as household words," none the less acceptable because they are numerous; consequently, they deserve our patronage, love and attention.

Every one who has a house or window should grow flowers. A house may become a home, and a window a garden; the softening and refining influence of flowers will do the work. The silent appeal of flowers hallows the place and makes it sacred to those who live in their presence.

A very attractive style of window decoration can be made by placing a group of plants on a table at the window, commencing with the low-growing ones on the outer edge near the window, and the taller plants on the inside. After they are arranged to your liking, take some green moss from the woods, make it damp, but not so wet as to drip, and fill up among the pots. This looks well, and tends to keep a constant supply of moisture about the plants.

Home includes the surroundings as well as the inside of the house, therefore make them attractive, especially during the summer. Cultivate the city and suburban plots as a recreation to relieve the tedium of business, and add, at little cost, to the grace and elegance of home. Small as your garden may be, you need never, except in the depth of winter, be without at least a few flowers, provided you bestow on your plants ordinary attention. If proper regard be paid to the contrast of colors in arranging a flower-bed, those who cannot afford to use so many bedding plants, may do much with annuals, which will be as bright and beautiful as the others, although not as permanent. Many people choose bright colored flowers to the almost entire neglect of sweet smelling ones, such as mignonette, stock, clove carnations, violets, etc., which would add a charm on the summer evenings to any lover of a garden.

A pretty rustic summer-house adds greatly to the appearance of large grounds, also rustic seats placed here and there under the trees and in quiet corners, presenting an air of comfort to the surroundings. Unsightly bare walls are transformed into a wealth of beauty by



training over them climbing rose, honeysuckle or woodbine.

The accompanying cut will give our readers an idea of an inexpensive but comfortable home, which is made attractive by a little taste and taste in laying out the grounds; some trees and plenty of beautiful grass, with here and there a bright patch of flowers.

MINNIE MAY.

Answers to Inquirers.

GERTRUDE.—Eliza Cook, the poetess, was born about the year 1817. Her father was a tradesman of Southwark. When quite young she contributed to several magazines and periodicals. Her first volume of poems appeared in 1840 and was warmly received by the public, who regarded her as a writer of versatility and originality. Her "New Echoes" appeared in 1864, and Diamond Dust, a selection of her happiest thoughts, in 1865. Her poems reprinted in a collected form have passed through numerous editions.

M. K. T.—1. It is not good taste to wear silver and gold jewels together. 2. Yes, flowers may be accepted from any acquaintance who may be on visiting terms with the lady's family. 3. Red tablecloths, when used at all, are only for tea or luncheon, but they are going out of style at all meals. 4. Girls are not legally of age until twenty-one.

A READER.—1. Round shoulders may be cured by suspending two ropes with ring

handles from a doorway, and swinging by the arms three minutes at a time, three times a day. 2. Your request will be inserted under queries

SNOW-DROP.—1. Common mucilage will adhere to tin and glass if the grease be removed. To remove the grease, wipe the tin or glass with a rag dipped in a solution of soda and potash. Gum arabic dissolved in water and a few cloves added will make an excellent mucilage. 2. No, an English person when speaking to another who is English, should avoid foreign words or phrases, except when they happen to express an idea or sentiment more neatly than English words could do, and even then such foreign words should only be used when the person spoken to may be conversant with them. To use such expressions as *bon jour*, *comment vous portez vous*, etc., is simply absurd, and only worthy of school boys or girls airing their first lessons.

LILY AND BESS.—Would you kindly advise two school girls who are of the age that is often called "sweet sixteen." Two gentlemen asked to be introduced to the "sweet sixteeners" on the way home from school. Were they right in refusing? ANS.—Yes, quite right. School girls should avoid making acquaintances on the way to or from school, and should also avoid walking with gentlemen, even if old friends. Gentlemen who are true friends will not intrude or force their company on girls going to or coming from school, knowing that parents and teachers always object to such companionship. There is plenty of time

for society after the school days are over, and there is plenty to be done during school days without wasting time and thoughts on young men. Lily and Bess are good sensible girls.

A. L. W.—Goethe was the greatest of German writers, a poet, dramatist and novelist. He was born at Frankfort-on-the-Main in 1749. His most famous production is Faust, a dramatic poem. He died in 1832.

PUSS.—Would it be proper for a lady who may be visiting a friend to ask a gentleman to call on her? ANS.—In some cases it would, but she must first ask her friend's permission. Young ladies should not ask gentlemen with whom they are but slightly acquainted to call on them, either at their own or their friend's houses, and especially not the latter. Young ladies, when visiting, should consult their hostess on all their actions, and be guided by her just as though she were their own mother. We are aware that many mothers do not guide their daughters nowadays, or rather the daughters will not be guided by them, but we hope that all our girls and boys will make themselves conspicuous by the deference which they will show to their parents. Well-bred girls are proud of being well guided and protected.

D. S.—Your request will be inserted under queries.

A NEW SUBSCRIBER.—1. Certainly it is not in good taste for a young lady who is engaged to go driving and receive the attentions of other

gentlemen, for after pledging herself, she is not just to her betrothed, and unless the others know of her engagement, they may be misled by her acceptance. 2. When a gentleman proposes to a lady and receives no answer, we do not see how he could look upon it as an engagement, unless he believes in the old saying that "silence gives consent." But we think it very unladylike not to have made some reply, though she was not prepared to decide at once. 3. When entering a house or room, the lady should always precede the gentleman; but on entering a hall or any public place, the gentleman should open the door for the lady to enter; she should then wait for him to lead the way.

LOTTIE.—Many thanks for your kind letter. We are glad to know you take so much pleasure in reading our paper and will always be pleased to hear from you.

Queries.

A READER will thank any subscriber who can send her the words of the song entitled,—"I Seek for Thee in every Flower."

D. S. will be greatly obliged if any of our readers will inform her where she can obtain the poem beginning with the following lines:

"In an old New England kitchen,
Where a warm wood fire burnt bright,
Sat good old Farmer Ketchum,
And his wife one winter's night."

Recipes.

SCALLOPED POTATOES.—Slice cold boiled potatoes very thin, rather more than half fill a baking-dish with them; sprinkle with pepper and salt, and put three ounces of butter in small pieces amongst them; pour half a pint of milk over them; fill up the dish with breadcrumbs, with one ounce of butter, a little more milk and seasoning; bake until thoroughly heated and brown.

POTATO SANDWICHES.—These may be made from any kind of cold fresh meat, but preferably of beef. Fry slices of beef, rather thinly cut, in butter; they must be gently done, and not too dry. Cover one side of each slice with well mashed potatoes, free from lumps, a quarter of an inch in thickness, egg and breadcrumbs over; then proceed in the same way with the other side. With a sharp knife thin them into pieces of equal size and shape,

square or three-cornered. Fry them in hot fat, a light brown color and serve.

APPLE CUSTARD TARTLET.—Peel, core and quarter some good baking apples to fill a quart basin, and stew them with very little water till quite soft, being careful not to let them burn. Add a flavoring of lemon or cinnamon, sugar to taste, a good slice of fresh butter, and an ounce of flour. Beat the flour. Beat the flour and butter till smooth, and stir the mixture over the fire for a few minutes to cook it. When the apple pulp is cool, add, one at a time, two well beaten eggs. Line large tartlet tins with pastry, spread the apple custard on them; garnish with pastry leaves or twists; bake in a good oven. Serve hot or cold.

The Diamond Pheasant.

This beautiful bird was first introduced into Europe by Lady Amherst, and hence it was called *Thaumalea Amherstia*, but it is generally known by the name of diamond pheasant. It is thought by many to surpass the golden pheasant in beauty.

The crest is black upon the brow; the rest is red. The collar about the neck consists of silver colored feathers edged with a darker color. The feathers of the upper part of the back and the upper wing coverts are of a bright golden green, and appear like scales on account of their dark border. The under part is golden yellow shading into a darker yellow.

The upper tail coverts have black bands and spots upon a pale red ground; the underside is pure white. The wings are brownish gray edged with lighter gray.—The eye is golden yellow, the bill bright yellow, the foot dark yellow. The length of the bird is one hundred and twenty-five centimeters, the length of the wings twenty-two, and of the tail ninety centimeters.

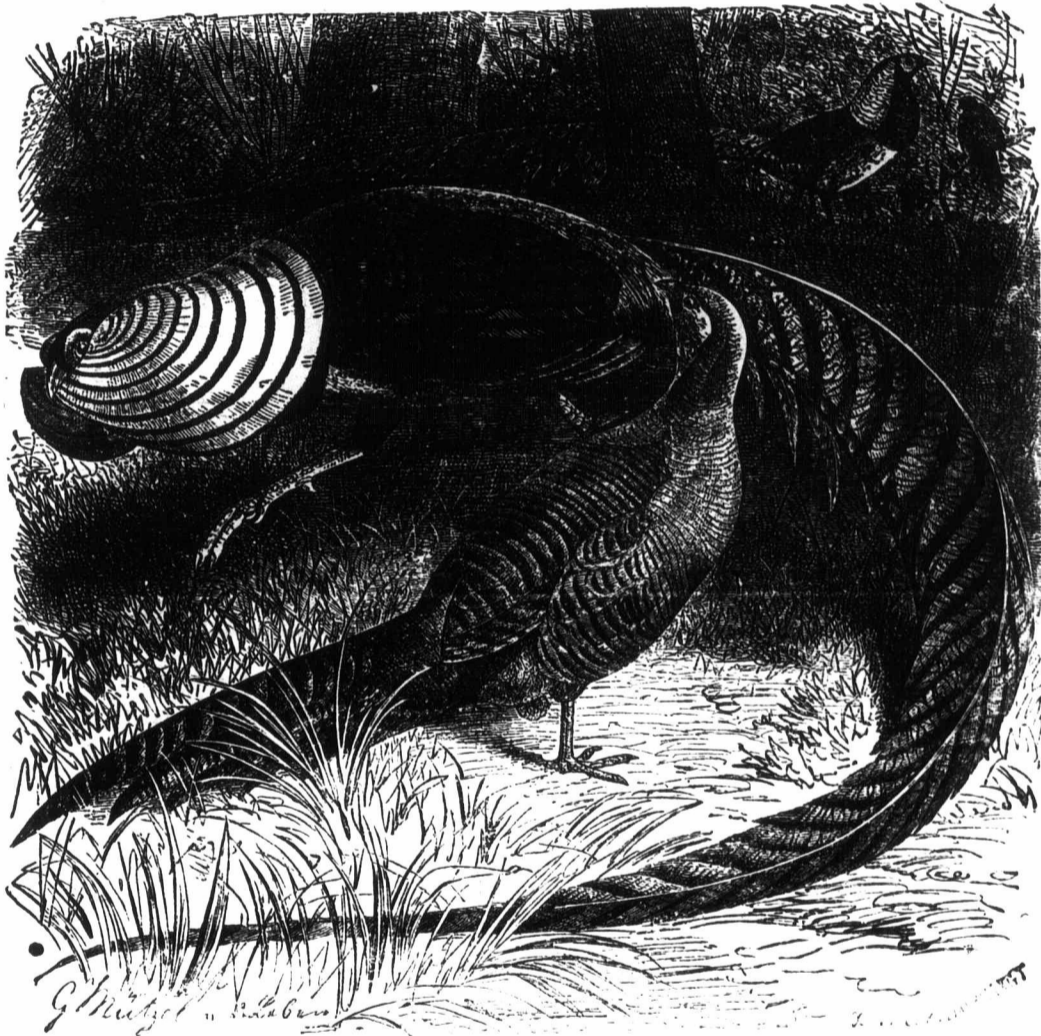
The home of the diamond pheasant is in Asia. It is most frequently found in the provinces of Yunan and Kuyscho, and in eastern Thibet. It lives in the mountains about two or three thousand meters above the sea. Its motions are very graceful and it is more agile and intelligent than other pheasants.

It goes through the thickest branches with astonishing ease. Its voice, which is seldom heard, is a peculiar hiss. These birds are very easily tamed, and soon become accustomed to their attendant, distinguishing him with unerring certainty from strangers.

It has been generally thought that as these birds come from the warm countries of Asia, a house must be provided for them which is exposed to the rays of the sun, and all moisture avoided, but this is a mistaken idea. The dried sand which is generally placed upon the floor of their houses is not suitable for them. The floor should be partly of turf, and they should have access to a place thickly planted with bushes. Their food should be a mixture of animal and vegetable material.

APPLES AND TAPIOCA.—Soak over night two tablespoonfuls of tapioca, then stew it gently in the same water till it is clear. It must not be over thick. Peel, core and quarter six large apples and stew them in the oven, or steam them till they are slightly softened. Put the apples in a pie-dish, sprinkle sugar over them, sweeten and flavor the tapioca; pour it over the fruit, and bake gently till tender. Sago may be used instead of the tapioca.

KISSES.—Beat the whites of four eggs to a stiff froth, then sift in gradually half pound of powdered sugar, add a little flavoring; when it is well beaten drop it by the spoonful on to a stout white paper, not near enough to touch each other. Bake in a moderate oven until a light brown.



THE DIAMOND PHEASANT.

They pair toward the end of April. The hen begins to lay about the first of May. She selects a well concealed place, and like other pheasants scrapes together a loose nest. She lays from eight to twelve small symmetrical eggs, which are rust color. The hen will seldom brood in a narrow inclosure, consequently the eggs are often placed under domestic hens. After twenty-three days of brooding the beautiful little chickens are hatched. For the first few days they need great care, and must be kept perfectly warm and dry, but after three or four weeks they require but little attention.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—Here is March upon us with its noted strong winds and stronger sun. Next month will be April, then May and June—half the year gone and nothing done yet; but I will not go quite so fast, for such a large number of nephews and nieces (larger than I had ever before) have started to work hard for the prizes, and I might discourage them if I ran away from them at this rate. Of course, such a great number of letters gives me a deal of work each month, but not unmixed with pleasure, for it gives me much delight to read the comments and attend to the wants of each. Some one asks why his name was not published last month amongst those who sent correct answers. Probably your letter did not reach us by the 25th, or you forgot to sign your name, for all names are published even if they send but one correct answer. And W. G. asks if the names are placed according to merit? No, they are not, so you are kept quite in the dark, though when you see the answers every month you must know if you were right or wrong in each puzzle. What I would say to one I would say to nearly all. Just continue as you have been doing, which is admirable. Willie G. asks for an account of the life of St. Patrick, whose birthday is celebrated on the 17th of this month. "St. Patrick, the apostle and patron saint of Ireland, is supposed to have been born somewhere about the end of the fourth century. There is some uncertainty as to the date of his birth; the year is variously assigned to the years 377 and 387, of which the latter, if not even a later date, says Chambers, is more probable. Of the place, it is only known for certain from his own statements that his father had a small farm near Bannevan, a small village of Tabernia, in Scotland. His father, he himself tells, was a deacon, named Calpurnius; his mother, according to some authorities, was a sister to St. Martin of Tours. St. Patrick's original name was Succat, Patricus being the Roman appellation by which he was known. In his sixteenth year, while at his father's farm, he was seized by a band of pirates, and, with several others, was carried to Ireland and sold to a petty chief, in whose service he remained six years. At the end of this time he succeeded in effecting his escape, and probably, after a second captivity, made his way to France, where he became a monk. He afterwards went to Rome, from whence he was sent by the Pope

to preach to the people of Ireland. His mission was eminently successful; according to the accounts of some biographers he founded 365 churches and baptized 12,000 persons. He died at a place called Saul, near Downpatrick, and his relics were preserved down to the period of the Reformation."

UNCLE TOM.

Puzzles.

- 1—TRANSPOSITION.
Ree oyu rmka s'hanteor isn,
Bdi hyt snccieonc kolo ihtwni.
SARAH M. BRETT.
- 2—BURIED JEWELS.
(1.) O, pa, look, Tom is coming up the road with Jessie!
(2.) That pear looks as if it was not ripe.
(3.) I told you to rub yourself with that liment three times a day.
(4.) That nag ate a great lot of hay this morning.
(5.) Are you writing to pa, Zennie?
(6.) Look, Fred, I am on Dobbin's back!
(7.) Don't dip into the sugar, Nettie.
(8.) The French call the sea *le mer*. Alderney is one of the Channel Isles.
(9.) If thou can'st not guess these thou must blame thy stupidity.
HARRY A. WOODWORTH.

3—ILLUSTRATED REBUS.



4—CHARADE.

In my first is something always sweet;
In my second a part of your body you'll meet.
These two words, if properly combined,
Will bring a lover to your mind.

CHRISTENA HADCOCK.

5—HOUR GLASS PUZZLE.

1, a territory in North America; 2, a Canadian city; 3, raw; 4, a verb; 5, a consonant; 6, an animal; 7, a hamper; 8, a culinary herb; 9, a country in South Africa.

A. J. TAYLOR.



[This is the first puzzle of this kind I have given you. It is quite simple; instead of a square or diamond puzzle, make it the form of an hour glass, as above.—UNCLE TOM.]

6—When whole you'll see I'm pretty round,
Behead, you'll find me near the ground,
Behead again and if you wish
You may call me now a kind of fish.
A. J. TAYLOR.

7—NUMERICAL (EIGHTEEN LETTERS).

My 5, 6, 7, a part of the body.
My 17, 2, 5, 7, 18, 10, is a river in Canada.
My 6, 4, 7, 3 is a city in Italy.
My 15, 11, 9, 6, 14, 17 is a useful vegetable.

My 4, 16, 15, 1 is not to be doubted.
My 12, 3, 8 is a river in Scotland.
Whole, I am the name of a very valuable Canadian journal.

JOHN STANTON.

8—TRANSPOSITION.

I lwli otn lglwlyin edfonf,
Orn eb noso nedfodef;
A'shtw isams li'l tsvire to nedm,
Nda ebra twah a'tnc eb edendm.
JACOB M. MOYER.

9—HIDDEN AUTHORS.

- (1.) Sister Nellie came home last night.
- (2.) The little child picked up by Ronald was badly injured.
- (3.) There is the old man's cot that I told you about.
- (4.) The sun was sending rays of sunshine through the open window.
- (5.) The man said he would come.
- (6.) Did you get into the camp, Bella?

MARY B. CURRIE.

10—DROP VOWEL PUZZLE.

H—h—b—st—s—h—s—g—ds—p—n
th—p—r—sh—ll—h—v—s—m—ch—g—n
nd—t—n—t—m—s—m—r—

MAGGIE F. ELLIOTT.

11—BEHEADINGS.

- (1.) Behead a valuable stone and leave a title; curtail and leave a member of the body.
- (2.) Behead to defraud and leave warmth; behead again and leave to corrode; transpose and leave a beverage.

CARRIE E. HENDRIE.

12—DIAMOND PUZZLE.

1, a vowel; 2, a girl's name; 3, a weapon; 4, a country; 5, a sea in Europe; 6, a deed; 7, a vowel.

ELLIS AUGUSTINE.

Answers to February Puzzles.

- 1—Aden, Fundy, Siam, Donegal.
- 2—O, there are looks and tones that dart
An instant sunshine to the heart,
As if the soul that moment caught
Some treasure it through life had sought.
- 3—One day in May James and Charles went for a walk in the country. After a Long walk they came to a wood, where they found a spring of Clearwater. Not long after they saw a Great Bear cross the path before them, and as they stood shaking with Fear they saw a Red Indian following him. It had been Fairweather in the morning, but before noon there came up a bank of very Black clouds, so they started for home, but it was a very Rainy afternoon, and when they bid each other Farewell they were a great deal Wetter than if they had stayed at home.
- 5—
B
B A T
B A R O N
B A R O N E T
T O N E D
N E D
T
- 6—Feast, feat, fate, ate.
- 7—"For freedom's battle once begun,
Bequeathed from bleeding sire to son,
Though baffled oft, is ever won."
- 8—Don, Tyne, Boyne, Trent, Tweed, Po.
- 9—
E A S T
A R E A
S E L L
T A L E
- 10—Canterbury.
- 11—Don't swallow intoxicating drink.

Names of those who have sent Correct Answers to February Puzzles.

Spurgeon Dawson, Zena E Robertson, Henry Reeve, Jessie M. Fox, Robt. J Risk, John Stanton, Mary Marshall, Mary Paterson, Arthur Fisher, Maggie F. Elliott, Jessie Riselay,

Maud Denne, Annie B. S. Scott, Elmon M. Moyer, R. th J. Yourex, J. Douglas Ramsay, Jas M. Jackson, Katie Miller, Ella McEwen, Wilson Sissons, Amelia A. Haldane, M. C. S., Hannah Gingrich, Minnie E. Weldon, Annie S. Forbes, Bec a Lowry, Mark Dearing, Linda Clemens, Mary B. Currie, Bob Webster. W. D. Ross, William B. Ball, Peter Lamb, Jacob M. Moyer, Dan. E. Boblin, Ellis Augustine A. J. Taylor, Louisa Berg, Eva E. Kelly, Ida Clemens, Bella Richardson Minnie Winter, Jas. Bott, Maggie R. Stockton Lucy Turnbull, Elias A. Brulacher. W. S. Howell, Addie E. Davidson. Charles H. Foster. Amelia E. Walker Sarah Miller, Amelia L. Summer. Wm. Bowman Addie Watson C. Gertie Hick, Clara Cowan John C. Elliott J. W. Forbes, Arthur H. Mabee, Eva J. E. Henderson. Sarah M. Brett, Jas Watson, Alice Dowler. Mary McArthur, Esther Louisa Ryan Neil McEwen, Christena Hadcock, Asa Andrew, Maggie E. Stenhouse. Daniel Wills, Lottie A. Boss, Fred. D. Boss. Jennie Millman, Jennie Carruthers, Robt Kennedv, Phillip Harding, Agnes M. Frood. Emily Vansickle, Byron G. Bowerman, May Newton, A. J. Phoenix, Ellen D. Tupper, Geo. Pardo, Robt. Kerr, B. M. Oxley, Tiny Ducker T. F. Thompson. Gordon C Douglas, M. Billie Playter Phillip Boulton, Will. Thirlwall, Aggie Wilson, Nellie Taylor, Carrie E. Hendrie, Carrie Christner, Tina B. Clark, Harry A. Woodworth Cal Craig, May Corydon, Eugenie Archibald, Wm. Carney, Lottie Farr, Thos. Armstrong, Annie B. Craig, Nellie Coake, Lillie Lane.

Kate.

There's something in the name of Kate
Which many will condemn;
But listen now while I relate
The traits of some of them.

There's deli-Kate, a modest name,
And worthy of your love;
She's nice and beautiful in frame,
As gentle as a dove.

Communi-Kate's intelligent,
As we may well suppose;
Her fruitful mind is ever bent
On telling what she knows.

There's intri-Kate, she's so obscure,
'Tis hard to find her out;
For she is often very sure
To put your wits to rout.

Prevari-Kate's a stubborn maid,
She's su e to have her way;
The cavilling, contrary jade
Objects to all you say.

There's alter-Kate, a perfect pest,
Much given to dispute;
Her prattling tongue can never rest,
You cannot her refute.

There's dislo-Kate, in quite a fret,
Who fails to gain her point,
Her case is quite unfortunate,
And sorely out of joint.

Equivo-Kate no one will woo;
The thing would be absurd,
She is so faithless and untrue,
You cannot take her word.

There's vindi-Kate, she's good and true,
And strives with all her might
Her duty faithfully to do,
And battles for the right.

There's rusti-Kate, a country-lass,
Quite fond of rural scenes;
She likes to ramble through the grass
And through the evergreens.

Of all the maidens you can find,
There's none like edu-Kate;
Because she elevates the mind
And aims at something great.

**Our Spring
PREMIUM LIST
FOR 1884.**

Below will be found a few useful prizes for sending one or more new subscribers to the FARMER'S ADVOCATE:

For One New Name with \$1.00
YOUR CHOICE OF

Hobarto Spring Wheat.—This is a new variety, introduced by a sea captain from the Isles in the South Seas. It has done remarkably well in this country. Has a very fine kernel, large and plump bald head, with white chaff

Mar's Spring Wheat.—The introducer of this wheat speaks very highly of it, and the grain we have on hand is a magnificent sample.

French Imperial Spring Wheat.—A new spring wheat, introduced by a leading American seed firm, who state that "it is specially noted for its plump, hard kernels, which weigh 62 to 64 lbs. to the bushel. The grain is graded 'Extra heavy No. 1, hard.' This wheat is very popular in the North-west where tried, and is said to be best adapted to soils of a medium fertility, as very rich soils tend to make too much straw. Fields are reported of 40 bushels per acre." One packet per mail.

Seed Corn—Pearce's Early Prolific—This is claimed to be a very prolific and valuable variety. See page 74 of this issue.

Downing's Ever-bearing Mulberry.—One plant. Something new.

Vegetable Seeds:

- Egyptian Beet,
- Prince of Wales' Celery,
- Early Jersey Wakefield Cabbage,
- P. W. & Co.'s Improved Early Drumhead Cabbage,
- Danver's New Table Carrot,
- Long Green Cucumber,
- Hanson Lettuce,
- Hollow Crown Parsnip,
- Cuban Queen Water Melon,
- Danver's Yellow Onion,
- French Breakfast Radish,
- Acme Tomato.

Flower Seeds:

- Aster, Balsam, Candytuft, Cockscomb,
- Mignonette, Pansy, Petunia, Phlox Drummondii, Portulacca, Verbena, Zinnia, 10 Week Stocks.

For One New Name with \$1.00:
STRAWBERRY PLANTS.

James Vick.—This lately introduced variety turned out most remarkably well in 1883, and has become one of the most popular and successful of the new claimants. Three plants.

Jersey Queen.—This strawberry plant stands exceedingly high in public favor for its fine flavor, but has not done as well as the James Vick as far as yield and hardiness is concerned. Needs more care and better cultivation, but still is a very choice variety especially for amateurs. Three plants.

Daniel Boone.—This we consider to be the most promising of any of the new varieties. It grows well on both sand and clay loam. If you can try but one new variety let that be the Daniel Boone. Three plants.

The Farmer's Hand Book for 1884, containing Calendar, Moon's changes, Diary of Farm Accounts, of Produce, Live Stock, Dairy and Farm labor, with Breeding Register and a most useful collection of Tables, Recipes, with memoranda pages, &c., for the farmers, not found in any other single book. A few yet for sale. Price, 25c., or one new subscriber.

NEW ADVERTISEMENTS.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can in the nature of things be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

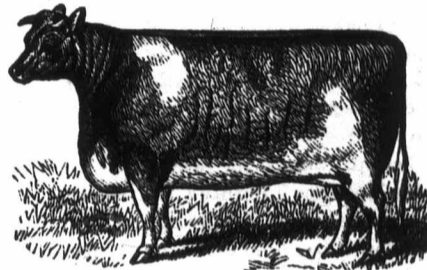
ADVERTISING RATES:

Will be furnished on application, and manufacturers, seedsmen, stock breeders and others will find this journal an unrivalled advertising medium.

The FARMER'S ADVOCATE has the largest circulation among the best people in Canada. Its advertisements are reliable and are read.

Grand's Repository,

47, 49, 51 and 53 Adelaide St., Toronto.



Great Special Auction Sale, March 11, 12, 13, and 14, of Thoroughbred Cattle and 200 Horses, of all Descriptions and Classes.

We have received instructions from Mr. John Carrol, of St. Catharines, to sell, without reserve, his herd of **THOROUGHBRED JERSEY CATTLE.** Cows, Heifers and Bulls; Brood Mares, Stallions and Colts. We have also received instructions from Dr. Morton, of Brantford, to sell his herd of

THOROUGHBRED AYRESHIRE.

Catalogue on application. As entries are rapidly arriving from our most prominent farmers and breeders, this will undoubtedly be the most important sale of cattle ever held in Canada. Entries should be made at once to appear on Catalogue, which will be published in a few days. **GRAND & WALSH,** The Great Annual Spring Sale of 500 Horses, April 15th, 16th, 17th, 18th and 19th. Entry Book now open. 219-a

BY AUCTION

Credit Sale of Durham Cattle,
MARCH 20th, 1884.

About 25 head of Shorthorn Cattle, more than half of them imported. A number of young Bulls, some of them imported, also one imported Clydesdale Stallion, rising three years.

Sale to commence at one o'clock, on the 20th of March, 1884, at my Farm, one mile east of the town of St. Marys, on the Grand Trunk Railway. Catalogues will be issued shortly, and will be sent on application. 8 months' credit, on satisfactory notes 7 per cent. discount for cash. Parties wishing to be met at station must send card to proprietors.

LANG & THOMPSON, Props.,

218-b Drawer D, St. Marys, P.O., Ont

AMBER SUGAR CANE MACHINERY

NEW PARAGON SCHOOL DESKS.

M. BEATTY & SONS, WELLAND, ONT. EARLY AMBER CANE SEED imported from the States. Pure and reliable. Send for catalogue and prices. 219-h

HENRY SLIGHT,
NURSERYMAN, TORONTO.
BEST FRUIT TREES, GRAPE VINES,
ROSES, RUSSIAN MULBERRY, &c.
219-b

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., March 1, 1884.

Another month of pretty steady cold weather, more especially the last week of February, which was as cold as any weather this winter.

Business on the whole is quiet, and cannot be called particularly favorable, and in no one line of goods is there any activity. Money is scarce and remittances by country dealers are not as good as they should be; still there is no fear of any crisis as buyers are very cautious and buying only in small quantities. Provisions are quiet, and stocks of cheese, hay, products, etc., are very light.

WHEAT.

"Quiet and steady" appears to be Berghm's stereotyped phrase for qualifying the condition of the English wheat markets. The Mark Lane Express, Feb. 11th, says:—"The wheat crop as a whole remains in excellent form, and its appearance, up to date, leaves nothing to be desired excepting a spell of colder weather. Higher quotations for wheat in the United States have not influenced the market in the slightest degree. The piping on that side of the Atlantic has been distinct and vigorous, but the dancing here has not yet begun."

In central Europe the weather has been remarkably mild. Stocks of wheat in Germany and Austria are reported to be good, but of rye there is considerable deficiency. The stocks of wheat in France are heavy, notwithstanding that the importations have been half a million quarters less than a year ago.

The wheat harvest in Australia is barely over, but low prices in England do not prevent increased shipments from the country. Telegrams state that Melbourne, Adelaide, Sydney and Queensland together forwarded, during January, to Great Britain, 53,000 quarters of wheat, besides 800 of flour. In January last year the corresponding shipments to Great Britain were—wheat, 5,000 quarters, and flour nil.

Trading in wheat is of purely local nature and confined to the wants of millers.

FLOUR.

The flour trade of Canada has been very unsatisfactory the past six or nine months, and to make matter worse, the Americans are cutting prices very much under what Canadian millers can afford to grind at with the price of wheat. The leading mills in St. Louis and Chicago now have their agents in some two or three points in Canada. From what we can learn the railway people are helping these millers to make Canada a slaughter market for their medium flours by giving very low rates of freight. How long this will last will depend entirely on the length of time that dull export demand continues, coupled with low prices.

PEAS.

A good demand for seed peas is now passing, and the duty being removed will cause a considerable demand from the States. Parties will do well not to hold too high, for they are not worth anywhere near the money for export to England they were this time last year.

CLOVER SEED.

This article keeps very quiet, and no doubt has disappointed a good many who had seed

SEEDS | SEEDS
For 1884.

Keith's Gardener's Assistant and Illustrated and Descriptive Catalogue for 1884

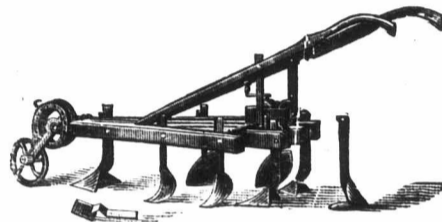
Now ready and will be mailed to any address free on application. Special attention given to all kinds of Seed Grain. Having grown a number of varieties on my Seed Farm and fitted up my warehouse with mills and machinery especially adapted to the re-cleaning of Seeds and Seed Grains, can safely recommend them.

GEORGE KEITH,

Seed Grower and Importer,

124 KING STREET EAST, TORONTO.

Seed Farm - "Fern Hill," Scarboro'. 219-a

BETTSCHE'S ADJUSTABLE
CORN and ROOT CULTIVATOR

The easiest regulated and most effectual general purpose scuffler in the market. Does not clog. Agents wanted. Rights for sale. Territory offered. Send for circular to G. BETTSCHEN, Patentee and Proprietor, New Dundee, Ont. 219-c

BOON to FARMERS Circulars free of new and most productive varieties known of Seed Grain. Testimonies of 110 bushels per acre of Boyd's Egyptian Oats. Samples of 2 ounces 20 cents. JAMES BOYD, JR. Cedar Grove, Ont. 219-a

THREE SHORTHORN BULLS

1 to 3 years old, and

4 TWO-YEAR OLD HEIFERS FOR SALE.

JOHN D. PETTIT, Paris, Ontario. 218-c

SARGENT'S
LOAD-LIFTING
MACHINE.

(PATENTED IN 1881)

Just What Has Been Wanted for a Century.

Will save you from one to three hands every day you haul in grain or hay. It elevates the whole load, with the rack, to any desired height in a moment, thus saving all the heavy work of pitching in a high mow or stack. Can house at least a quarter more in a day. Old farmers say it is the most valuable invention yet patented.

Any Parties Desiring to Secure this Patent will do well in applying to the Patentee.

Wm. Sargent,

BERKELEY P. O., Patentee.

HO! FOR MANITOBA

—AND THE—
NORTH-WEST.

PURCHASE YOUR TICKETS VIA THE
ONTARIO & QUEBEC RAILWAY

Operating the Toronto, Grey & Bruce and Credit Valley Railways. They offer a choice of routes by Rail or Lake.

RATES THE LOWEST.

TIME THE QUICKEST.

For maps, guides, and full particulars, apply to any agent of the Company, or to D. W. R. CALLAWAY, Toronto City Passenger Agent.

D. McNICOLL,
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W. WHYTE,
Gen. Supt.

GRAPE VINES,
OSAGE HEDGE PLANTS,
RUSSIAN MULBERRY PLANTS,
SMALL FRUITS

And general Nursery stock. All first-class and prices reasonable. Wholesale and Retail price list free to applicants.

E. D. SMITH,

219-a

Winona.

SEED POTATOES!

New Invincible,

The best potatoes ever grown; now first offered in Canada; I paid \$20 per bushel for seed last spring: it yielded with me three times as much as any other, and over 800 bushels per acre with original seed; quality unequalled; \$4 per bushel; peck, \$1.50. White Star, Belle Conqueror, Early Telephone, Rose's New Seedling, \$1.25 per bush; peck, 50 cts. Mayflower, \$5 per bush. Seed grain. Send for circular.

ROBT. BELL, Jr.,

HENSALL, Ont

To Farmers, Division Court Clerks, Township Clerks and Treasurers.

A British Fire Insurance Company, making a specialty of farm insurance, and offering as great inducements as mutual companies, is desirous of securing County and Township Agents throughout Ontario. Liberal arrangements will be made with those willing to work energetically.

Address, stating territory desired,

P. O. Box 1991, Montreal.

Extra Large Apple Trees

7 TO 8 YEARS OLD, TRANSPLANTED.

All the leading varieties. Price, 40c. each; \$4 per doz.; \$25 per 100.
GEO. LESLIE & SON,
Toronto Nurseries.

PIANOS

Special Inducements Now Offered

STEINWAY,

CHICKERING,

HAINES.

Large Assortment of SECOND-HAND PIANOS of reliable makers offered on Liberal Terms of payment

ESTEY & Co.'s

ORGANS

A. & S. NORDHEIMER

15 King Street East,

TORONTO, ONTARIO.

Branches—Montreal, Ottawa, Hamilton and London.

for sale; but for those who have to buy the price is quite high enough. We do not look for much change in prices, but, if any, they will tend to lower values.

CHEESE

Has been a good deal of surprise to many, and in fact to all, for had they known they would not have parted with their goods so freely.

CATTLE

The trade in cattle in the States is active and prices well up for the quality of beef offered. The stock reports from the ranches in Montana say the cattle have done remarkably well this winter, and the losses so far are very light indeed, in some cases not 2 per cent.

THE HORSE MARKET.

Montreal, February 29.—Quite a number of American buyers are in the city, and a good business has been done in horseflesh during the past few days. The supply is fair and next week it is expected to show some improvement, as advices of several lots on the way to this city have just been received. Mr. Maguire, of the College Street Market, reports the following sales:—1 bay horse, 4 years old, 1,300 lbs., \$200; 1 bay mare, \$165; 1 bay horse, \$145; 1 bay mare, \$160; 1 bay horse, \$140; 5 horses for \$600; 1 bay horse, \$85; 2 brown horses, \$235; 4 horses, \$500; 2 bay horses \$250; 1 bay horse, \$200; 1 bay horse, \$160; 1 bay horse, \$145; 1 bay mare, \$130; 2 chestnut horses, \$235; 1 bay mare, \$135. Mr. Maguire has 33 horses in stables and a carload now due. Five fine draught horses were sold at the Montreal Horse Exchange, averaging \$207.50 each.

AMERICAN PORK CAN ENTER GREECE.

The department of State at Washington has received a telegram from Mr. Eugene Schuyler, United States Minister to Greece, saying that the prohibition of the importation of pork from this country into Greece has been abolished.

The apple crop of Missouri, in a good year, is sometimes immense. Last fall, 40,671 barrels were shipped from Platte county, for an average price of \$2 per barrel, or \$81,342. The orchards of Buchanan county probably yielded fruit to the value of \$200,000, or more; Andrew county about the same value, Holt county not less than \$150,000, and Nodaway county quite as much. It is believed that full returns would show an aggregate of several millions for last year's crop.

THE FARMERS' MARKET.

Toronto, March 1.

The street market to-day was quiet, receipts being light owing to the very cold weather. About 300 bushels of wheat offered, and sold at \$1 to \$1.10 for fall, \$1.10 to \$1.11 for spring, and \$1c for goose. Barley steady, with sales of 200 bushels at 63c to 65c. Oats sold at 37c to 38c for 200 bushels, and 100 bushels at 75c and 76c. Rye nominal at 60c. Hay quiet and steady, with sales of 25 loads at \$6.50 to \$9 for clover, and at \$10 to \$13 for timothy. Six loads of straw sold at \$6.50 to \$8 a ton. Hogs firmer, at \$3.40 to \$3.75. Quarters of beef at \$5.50 to \$6.50 for forequarters, and \$6.50 to \$8.50 for hindquarters. Carcasses of mutton at 6c to 8c, and lamb at 8c to 9c. Poultry firm; turkeys, 14c to 15c per lb.; geese, 9c to 11c; chickens, 60c to 85c; ducks, 55c to \$1.

PROVISIONS, ETC.

The local market remains quiet, and prices unchanged. In Liverpool the only change was an advance of 3d in lard. The Chicago market was steady, closing prices in some cases being a shade higher than yesterday. Butter—The market is quiet and prices steady, especially for choice qualities, which are scarce, and job at 19c to 20c. Medium and inferior lots are plentiful and easy at 16c to 17c and 12c to 14c respectively.

(See Markets, page 90.)

We offer over 150 sorts of choice PLANTS, VINES, TREES, ETC SMALL FRUITS A SPECIALTY.

OUR MOTTO:—"Square dealing and the best stock in the market." New catalogue free. Send for one. Address A. G. HULL, 219-a Central Fruit Gardens, St. Catharines, Ont. See my extraordinary \$1.00 offers.

COMBINED

Milk Bucket & Stool

(DOMINION PATENT.)

This Milk Bucket and Stool is invaluable to Farmers and all persons connected with the selling, buying, or handling of Milk.

BY ITS USE

The Milk is kept pure and clean. It saves every drop of Milk. It is convenient for Milking, and does away with the old-fashioned stool.

Every Canadian farmer should have them and use them.

Manufactured by the

"Ontario Milk Bucket Mfg. Co." 159 Queen Street East, TORONTO.

Sold in every County of Ontario by Special Agents.

SPRING PLANTING!

Gold Medal Nursery Stock

100,000 Apple Trees, Grape Vines, Pear, Plum and Cherry Trees, Small Fruits, Ornamental Trees, for Lawn, Street Planting and Shelter; Flowering Shrubs, Roses, Dahlias, &c., &c. BEST NEW AND OLD VARIETIES.

Descriptive Priced Catalogue (illustrated) free to all applicants.

We advise EARLY placing of orders, as the supply of Nursery Stock throughout the continent will not meet the demand the ensuing season.

GEO. LESLIE & SON, Toronto, Nurseries, LESLIE P. O., Ont. ESTABLISHED OVER 40 YEARS.

Our FAMILY KNITTING MACHINE



Under Shirts, Drawers, Scarfs, Children's Wear, Hosiery, Caps, Gloves, Mits, &c. All sizes can be made on Our Family Machine.

Our Book of Instructions will teach you all. It is so simple six undershirts can be made in one day, giving a profit of 75 cents each. Blind girls can knit and finish one dozen pairs of socks per day, and \$2, \$3 and \$4 per day can be easily made on our "Great Family Canadian Ribbing Machine."

Send for descriptive Catalogue and Testimonials from the blind. CREELMAN BROS., Georgetown, Ont.

Ayrshire Cattle FOR SALE.

Several very fine young animals, male and female, worthy of purchase by those who desire to improve their dairy herds. They are bred from some of the best animals imported from Scotland, and from prize takers. Apply to the undersigned, proprietor of the celebrated Plantaganet Springs, and Centennial prize Ayrshire Stock Farm, at Plantaganet, Ontario.

WILLIAM RODDIN.

POULTRY HATCHER

NO LAMP. NO SMELL. NO RISK. THE SIMPLEST, BEST AND CHEAPEST. Can be managed by a girl 12 years old. Machine for 75 Eggs \$15.00 Hatcher and Reamer \$25.00

Apply to FRED ALLEN, Maker, Woodbine Ave., NORWAY AGENTS—FLETCHER & HENDERSON, 219-b 424 Yonge St., Toronto.

STEEL HARROWS

Send for free circular, giving description and price. AGENTS WANTED.

JOHN DOW, GANANOQUE, ONT.

TESTIMONIALS.

A few simple Testimonials that Speak for Themselves.

Ottawa, September 3rd, 1883. A. NORMAN, Esq.—Dear Sir,—I have experienced considerable benefit from your appliances. I feel stronger and better every day. Yours truly, R. E. HALIBURTON.

Peterborough, October 15, 1883. A. NORMAN, Esq.—Dear Sir,—Soon after I commenced to use your Electric Appliances, they opened my bowels, cured my cough and cold, relieved my head, and considerably relieved my catarrh in consequence. The discharges from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach is less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good. Yours truly, J. GREEN.

Gurney & Ware's Standard Scales



Have taken first Prize at 22 Provincial Exhibitions; first Prize at Provincial Exhibition London, 1881. Prizes taken in England and Provinces of Quebec and Nova Scotia. Hay, Cattle, Coal, Stock, Mill, Grain, Dairy, Railroad & Grocer Scales. None genuine without name on. All makes of scales promptly repaired.

Lend for catalogue to 201-1 eom GURNEY & WARE, Hamilton, Ont.

BUSINESS TRAINING

DAYS' BUSINESS COLLEGE

All who require business training are requested to make special inquiries as to the high reputation of the Principal of this College has established, and still maintains by the thoroughness of his work, and to take notice that Mr. J. E. Day is not associated with any college wherein the name of any principal or teacher has the slightest resemblance, either in spelling or sound, to that of Day. Mr. J. E. Day spells his name D-A-Y—good standard Saxon—and not O-D-A-E, or O-D-E-A, or O-D-A-Y, or O-D-E-E.

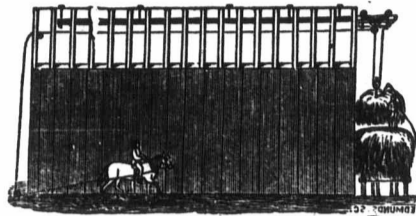
For terms address JAMES E. DAY, ACCOUNTANT.

College Rooms—Opposite Royal Opera House site, Toronto.

HAVE YOU A FRIEND WHO WANTS TO GET INTO a good paying business, or would you prefer to go in and win yourself. Agents and farmers will find this an easy way to make money. Write for particulars, enclosing 3c. stamp; don't delay. Address, JAMES LAUT, 281 Yonge Street, Toronto, Ont.

BUCHANAN'S

IMPROVED



DOUBLE-ACTING

Pitching Machine!

For Unloading Hay and all Kinds of Loose Grain.

This Machine can be used in sheds, on stacks or in barns. It can be used to unload on either side of barn floor without being turned around on the track, thus saving the trouble and annoyance in climbing up to the top of the barn to make the change. This is a feature that no other Carrier possesses, and any person who has had the trouble of climbing to the top of the barn to make the change will appreciate this feature. Cur Ball Pulley does away with the objection of bundles getting twisted and preventing the Carrier from starting when the load is drawn up, which trouble is sure to arise with all bale pulleys. I hold a patent for the Dominion on the Ball Pulley, and anyone infringing on the same will be prosecuted. Farmers are cautioned against buying any machines with a Ball Pulley attached, or they will be held liable for damages.

M. T. BUCHANAN,
Manufacturer,
INGERSOLL.

AGENTS WANTED.
SEND FOR CIRCULAR.

Feed the Land and it will Feed You.
LAMB'S SUPERPHOSPHATE OF LIME
“ **FINE BONE DUST.**

SEND FOR CIRCULAR AND PRICE LIST.

DEPARTMENT OF AGRICULTURE AND ARTS, ONTARIO,

PETER R LAMB & CO., Toronto.

Toronto, Jan. 21st, 1882.

GENTLEMEN,—Having requested Prof. Panton, of the Ontario School of Agriculture, to estimate the commercial value of a specimen of your Superphosphate of Lime, based on an analysis made by Prof. Heys, I have the satisfaction of informing you that Prof. Panton reports that he substantially agrees with Prof. Heys' estimation of the commercial value of your superphosphate.

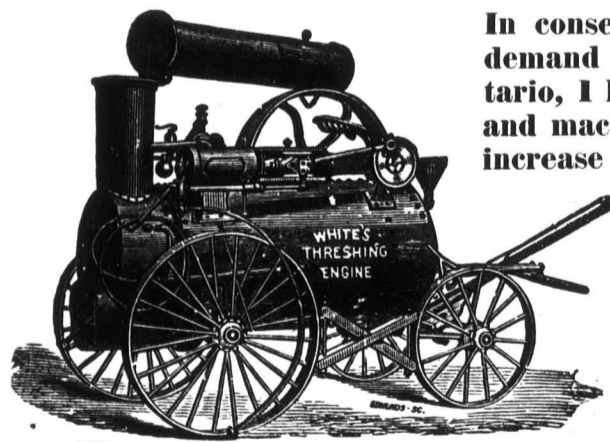
S. C. WOOD, Treas. of Ont.

PETER R. LAMB & CO.
Manufacturers,

Established 1834.

219-c

TORONTO, ONT.



In consequence of the increased demand for my ENGINES in Ontario, I have added to my shops and machinery, and shall largely increase the production of engines for 1884.

Farmers and Threshers please give this Engine a trial. It is licensed by all Insurance Co.'s, and has proved itself to be the most durable.

The Engine for the Northwest is made to burn either coal, wood or straw.

George White,
Forest City Machine Works,
LONDON, ONTARIO, CANADA.

IMPORTANT TO ALL OWNERS OF A



EMPIRE—The only original Thorley Food manufactured in Canada. At the Industrial and Provincial Exhibitions. Sweep-stake prizes were won at above named Exhibitions with animals fed on food seasoned with EMPIRE condiments. The three animals that won the \$100 prize at the Xmas Fat Stock Show, Toronto, were fed on food seasoned with EMPIRE condiment.

EMPIRE HORSE & CATTLE FOOD CO., Mitchell, Ont.

29 PERCHERONS

just landed, and others coming, holding numerous gold and silver medals recently won in France.

Send for catalogue.

A. ROGY,
332 PALISADE AVE., JERSEY CITY, N.J., U.S.A.
213-c eom

(Markets Continued from page 89)

Eggs—Offerings were rather limited to-day, but prices are unchanged. Case lots sell at 20c per dozen.
Hogs—Offerings are limited and prices are firm. Ordinary car lots bring \$8.50 and choice \$8.75.
Potatoes—The market is quiet and prices steady, at 68c to 70c per bag in car lots.
Bacon—There is but little demand, with long clear held at 10½c to 11c.
Beans—The market is dull and prices unsettled. Inferior lots are quoted at \$1.40.

BRITISH MARKETS BY WIRE.

Cattle Steady—Sheep Lower.

LIVERPOOL, Mch. 3, 1884.

CATTLE.

Large supply of stock yesterday, and trade dull. Prices:—

Choice steers	15
Good steers	15
Medium steers	14
Inferior and bulls	11½

(These prices are for estimated dead weight; offal is not reckoned.)

SHEEP.

The sheep market is 1c. lower. Supplies large and more than equal to the demand.

Best long woolled	17
Seconds	15 @ 16
Merinos	14 @ 15
Inferior and rams	8 @ 10

(These prices are for estimated dead weight; offal is not reckoned.)

NOTICES.

A number of young men from England will arrive in this country early in May, and will engage with farmers at nominal wages until accustomed to the ways of the country. Farmers desirous of engaging such can obtain particulars by communicating with Mr. B. Lawson, of the FARMER'S ADVOCATE Office, London, Ont.

Attention is directed to the advertisement of Mr. George White, of London, Ont., whose engines have such a high reputation. The increased demand has necessitated the enlargement of the manufactory, which testifies to the popularity of the "White Engine."

Bound volumes of the FARMER'S ADVOCATE for 1883 now read, only \$1.60, postpaid to any address in Canada or the United States.

We regret to hear of the death of Mr. C. C. Brydges, of Shanty Bay, Ont., which took place on the 27th February.

Besides our seedsmen and nurserymen our farmers and gardeners should not fail to send a postal card and secure the catalogues of such leading American firms as you will find in our advertising columns. Besides being highly creditable as to get-up and ornamented with colored plates and countless wood cuts, they contain much information. The firms whose advertisements appear are well-known in the trade, and of high reputation.

It is expected that between 600 and 1,000 members of the British Association for the advancement of science will pay a visit to Canada during the coming season, and intend after visiting Montreal to be Toronto during the holding of the Annual Exhibition.

(See Stock Notes, page 94.)

"THE GOLDEN BELT"

ALONG THE
KANSAS LANDS KANSAS DIVISION U. P. R'WAY.
STOCK RAISING **WOOL GROWING**
 Buffalo Grass Pasture Summer and Winter. Unsurpassed for Climate, Grasses, Water.
CORN and WHEAT **FRUIT**
 200,000,000 Bus. Corn. 30,000,000 Wheat. The best in the Eastern Market.
 Pamphlets and Maps free. **B. McALLASTER**, Land Commis'r, Kansas City, Mo.

PERMANENT PASTURE

EVERY FARMER IN CANADA SHOULD HAVE A GOOD PERMANENT PASTURE, WHICH CAN ONLY BE SECURED BY SOWING A SUITABLE MIXTURE OF GRASSES IN PROPER PROPORTIONS.
RENNIE'S MIXTURES FOR PERMANENT PASTURE
 have been prepared from prescriptions based on a practical experience of many years, and gave the most complete satisfaction to purchasers in former years. The Mixtures contain the best and most nutritious GRASSES and CLOVERS, and are specially prepared for **HIGH LANDS** and **LOW LANDS**. A full seeding of 30 lbs. supplied per acre. **PRICE**, per acre, \$4.25 (bags extra). For quantities of ten acres and upwards, **PRICE**, per acre, \$4.00. **Special quotations** for quantities of 100 acres or over.
RENNIE'S MIXTURES FOR MEADOW AND PASTURE
 produce very heavy crops of superior Hay, and are strongly recommended for more general use. 24 lbs. supplied per acre. **PRICE**, per acre, \$3.00 (bags extra). Special prices for large quantities. Only the finest and cleanest samples are included in these preparations. A large supply of clean Clovers and Grasses separate, always on hand at moderate prices. Quotations on application. For further information with full description and prices of the various Natural Grasses and Clovers, see **Catalogue for 1884**.
Wm. RENNIE'S ILLUSTRATED SEED CATALOGUE FOR 1884
 of FIELD, GARDEN and FLOWER SEEDS, will be mailed free to all intending purchasers on application.
 Address, **WILLIAM RENNIE, SEED GROWER, TORONTO, ONTARIO.**

—THE— MONTREAL HORSE EXCHANGE

Stock Yards, Point St. Charles,
 Montreal, P. Q.,
 ARE IMPORTING

50 CLYDESDALE STALLIONS
 and **MARES**, and **100 PONIES**
 of Different Breeds.

Consignment Arriving Weekly.

This establishment has now completed such arrangements that it can offer better advantages to those wishing either to import or export live stock of any kind than any other firm on this continent.

Farmers and others who either wish to import, or export, or purchase horses, or any other live stock, would consult their own interest by first applying to the Stock Exchange, as this firm can procure and supply animals better and cheaper than farmers can import for themselves.
 Write for full particulars.

C. M. ACER & CO.,
 215-tf PROPRIETORS

CHOICE, FRESH AND RELIABLE SEEDS

Forwarded to all parts of the Dominion by Mail. Safe arrival guaranteed, Postage prepaid. We will send **FREE** the finest illustrated and application Catalogue in Canada. It contains a complete list of everything in **FIELD, FLOWER AND GARDEN** Seeds, Mixed Grasses, Clover, Timothy, Etc. Don't fail to send your name, and post office address for copy before ordering your supply.

STEELE BROS. & Co.
 Seed Merchants, TORONTO, ONT

40 Cards
 1st, 10c

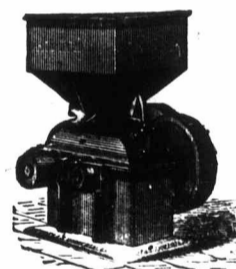
All covered name, Gold
 Fini-b, Glass, Lap corner,
 German motto, Elite Letter
 and Case, name in gold and
WEST & CO., New Haven, Ct. 219-c

Ontario Veterinary College

TEMPERANCE STREET, TORONTO.

The most successful Veterinary Institution in America. All experienced Teachers. Fees, Fifty Dollars per Session. Session 1882-3 begins Oct. 25th. Apply to the Principal, **PROF. SMITH**, V. S., Edin., TORONTO, CANADA. 201-1

THE NEWELL PATENT UNIVERSAL GRINDER.



Award of Gold and
 Silver Medals.

Newell & Chapin,
 Proprietors,
 95 Bonaventure St.
 Montreal.

These Mills save time, grind any kind of grain very fast and without heating. Larger size Mills working on same principle with different style of cutter, grinding phosphates, gold and silver ores, quartz, plaster, clay, bones fish-scrap, bark, &c., &c. 210-L

500,000 ACRES OF VALUABLE LANDS

in NORTHERN WISCONSIN on the line of the **WISCONSIN CENTRAL RAILROAD** for sale on liberal terms to actual Settlers. Full particulars with good map sent free. **CHAS. L. COLBY**, LAND COMMISSIONER, W. C. R. R., Milwaukee, Wis.

KNABE PIANOFORTES.

UNEQUALLED IN
 Tone, Touch, Workmanship and Durability.
WILLIAM KNABE & CO.
 Nos. 204 and 206 West Baltimore Street,
 Baltimore. No. 112 Fifth Avenue, N. Y.

At a meeting of the Directors of the North Lanark Agricultural Society, held here on Saturday last, the time for holding the annual exhibition for 1884 was fixed for the first Wednesday, Thursday and Friday in October.

The calves and lambs need extra care through the early spring weather, with its sudden changes. Guard them from exposure to sudden changes, cold winds and storms. It may cost much extra food in the future to atone for a slight check in growth now.

To purify cistern water, put a peck of charcoal in a bag and hang it in the water; it will take up all bad odor. Put some in the sink, and keep it over the screen, and there will be no bad smell come from it. We have done this this summer, and for the first time in our housekeeping life have we been successful in keeping the water sweet and sink clean.

Farmers who are ordering fruit trees should not let the opportunity pass of procuring two or three or more ornamental shrubs or vines. Money is well spent which adds to the beauty and attractiveness of an estate. A pretty vine over a rock, a wall, or on the side of a building, is a profitable investment. If vegetable seeds are being ordered of a seedsman, let the women of the household order their share of flower seeds. At least one portion of the farm should be ornamented.

The average farmer does too much work. This may sound strange, and you may doubt it, yet it is none the less true. Less work and more planning will make him richer, healthier and happier. It is folly for any man to attempt to work fourteen to sixteen hours a day without expecting to so enfeeble and break down his constitution that he will be unable to accomplish as much in two days as he ought to in one of reasonable length, when full of energy and vitality. Never let your work drive you, but keep yourself in condition to drive your work. This can best be done by carefully planning all the details.

SEED OATS.

White Russian, a sure crop on all kinds of soil; Arabian (gray) and Black Sparable; the heaviest Black Oat, free from rust and smut. Price, 50 cents per bus.; 10 bus. lots, 45 cents per bus.; bags 25 cents.

POTATOES.

Seed imported by us in 1882. White Star—Per bus. \$1; Brownell's Best, sold in 1882 for \$12 per bus. Price—per bushel, \$1.50, both good for quality and yield; bags 25c.

Potatoes will be shipped when danger from frost is past.

Order early as our stock is limited.

Remit by registered letter to

Thos. & Jas. Manderson,
 219-a Box 116, Guelph P. O., Ont.

Opinion of the Manager of the "Deseronto Stock Farm"

REGARDING THE
CANADIAN STOCK-RAISERS' JOURNAL

Deseronto, Ont., Jan. 22, 1884.
 Gentlemen.—Am very much pleased with the JOURNAL, and feel confident that your course will do much toward producing better stock and improved agriculture. Your one line of advice of using nothing but Herd Book males would be worth millions to farmers, if followed.
 Hurriedly yours, **D. E. HOWATT.**

Subscription price, \$1.00 per annum.
 Send for FREE sample copy Address,

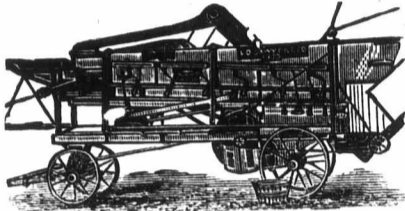
The Stock Journal Co.,
 48 John St. South, Hamilton, Ont.

214-y

HAMILTON AGRICULTURAL WORKS

The Pioneer Threshing Machine Works of Canada.

ESTABLISHED 1836.



Our Celebrated GRAIN SAVER is the Best and Most Perfect THRESHER and SEPARATOR made in the Dominion, being first over all others for

Durability, Workmanship, Fast & Clean Work, Perfection of Parts, Ease of Management, Simplicity of Construction, Lightness of Draft, Capacity for Work.

We have Machines working in all parts of Canada, giving the very best satisfaction, when driven by either Steam or Horse Power.


It is a General Favorite with the Farmers, who prefer it for Fast and Clean Work.

SPECIAL SIZE MADE FOR STEAM POWER.

Address us for Circular and Price List of THRESHERS, CLOVER MILLS, HORSE POWERS, REAPERS AND MOWERS. A personal inspection is solicited.

L. D. SAWYER & CO., HAMILTON, ONT., CANADA

173-1eom



ALLEYS Early Deep Head CABBAGE.

Every one who has raised that magnificent Cabbage the **Fottlers** or **Brunswick**, has regretted that so fine a cabbage did not make a thicker head. The **Alleys Early Deep Head** is the successful result of years of careful selection and high cultivation to obviate these defects. As early as **Fottler**, it is as large, is thicker and heavier, bulk for bulk, and brings more in market than any other drum-head; per package 25cts.; per oz. 75cts.

Early Kamps Cabbage (new) earliest of all; 10 cts. per package. **Guerrande Carrot** (new), remarkably thick at the neck; per package, 10 cts.; per oz. 30 cts. **Perennial Onion** (new), lives in the ground without protection all winter and is ready for use weeks earlier than any other kind; per package 15 cts.; per qt. 80 cts. **Solid Ivory Celery** (new) nearly self blanching; per package 15 cts. **White Bonniel Cucumber** (new), a mammoth white variety of extraordinary diameter; per package, 15 cts. **Dwarf Green Early Lettuce** (new) from France; per package 15 cts. **Banana Melon** (new), it resembles in color and form a huge banana, and has strikingly the same fragrance; per package 15 cts. **Kentucky Wonder Pole Bean**, I have not found in 60 varieties one so prolific, a capital string bean; per package 15 cts. **Marblehead Early Horticultural**, probably the earliest of all beans, and yet a true horticultural; per package 15 cts.; per qt. 80 cts. **Marblehead Early Sweet Corn**, the earliest of all, giving growers a complete monopoly of the early market, original stock; per package 10 cts.; per qt. 60 cts. **Sea Foam Cauliflower**, decidedly the finest variety of all; per package 50 cts. To those taking packages of the entire collection, I will present a copy of either one of my four books on the raising of Onions, Cabbages, Squashes, Mangold Wurtzels and Carrots. **THE PURCHASER TO MAKE THE SELECTION.**

I OFFER \$1000 IN PREMIUMS, for vegetables raised from my seed. Please find details in my seed catalogue; sent **FREE** to all. **FLOWER SEED**—I offer one package each of choice mixed selection from the following varieties, for 45 cents, the retail price of which would be 90 cents: *Asters, Balsams, Nasturtiums, Dahlias, Drummond Phlox, Salpiglossis, Sweet Peas, Hollyhocks, Petunias, Abronia Umbellata*, (very beautiful.)

JAMES J. H. GREGORY, Seed Grower, Marblehead, Mass.

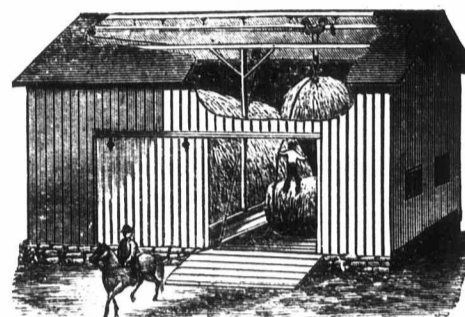
Peter Henderson & Co's SEEDS AND PLANTS

COLLECTION OF

embraces every desirable Novelty of the season, as well as all standard kinds. A special feature for 1884 is, that you can for **\$5.00** select Seeds or Plants to that value from their Catalogue, and have included, without charge, a copy of Peter Henderson's New Book, "**Garden and Farm Topics**," a work of 250 pages, handsomely bound in cloth, and containing a steel portrait of the author. The price of the book alone is \$1.50. Catalogue of "**Everything for the Garden**," giving details, free on application.

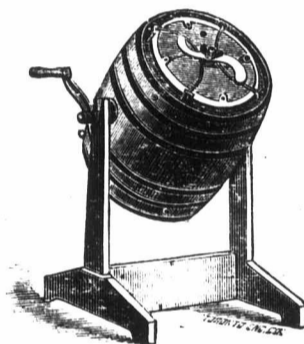
PETER HENDERSON & CO. SEEDSMEN & FLORISTS,
35 & 37 Cortlandt St., New York.

E. L. CHURCH'S Hay Elevator & Carrier.



THE VERY BEST IN THE MARKET
There are thousands of these Elevators and Forks now in use in Canada, everywhere giving the very best satisfaction. Sent on trial to responsible farmers.

The REVOLVING BARRELL CHURN



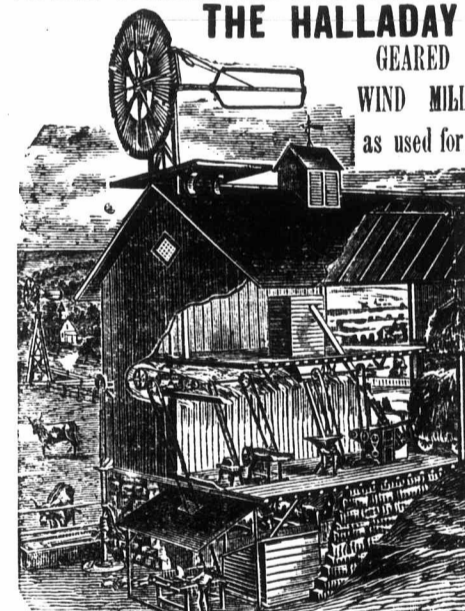
This is the most popular Churn manufactured in the United States, and is fast growing in favor in Canada. Be sure and try one before purchasing elsewhere.

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WORTMAN & WARD

LONDON, - ONTARIO.
219-c Cor. York and William Streets.

EVERY FARMER HIS OWN MILLER.



THE HALLADAY GEARED WIND MILL as used for Shelling and Elevating Corn, Grinding Feed, Cutting Hay, Sawing Wood, Pumping Water, etc. Send for Catalogue illustrating the above machinery; also Pumping Wind Mills, Pumps, Tanks, Naves, Haying Tools, Horse Powers, Jacks, &c. Reliable Agents wanted in all unassigned counties.

U. S. WIND ENGINE & PUMP CO.,
BATAVIA, Kane Co., ILL.

217-c

LOCK BOX, 34

MARLBORO RED RASPBERRY

Send to the originators for history and terms. **A. J. CAYWOOD & SON,** Marlboro, N.Y.

218-d

RELIABLE SEEDS

FOR THE FARMER, MARKET GARDENER & FLORIST

which are unexcelled and guaranteed to be the best procurable. See account in our Catalogue for 1884 of our new Vegetables & Fruits; also New Spring Wheat, "Hobart," New Field Corn, "Pearce's Early Profite," New Barleys "Beardless" and



"Imperial Hybrid," New Potatoes "Morning Star," and "Pride of Canada," and all of the standard Grains, Grasses and Vegetables grown. It will pay you to buy from us. Send for Catalogue—free to all.

Address—

PEARCE, WELD & CO.,
LONDON, ONTARIO.

FAY Currant HEAD-QUARTERS. CRAPES ALL BEST, NEW AND OLD.

SMALL FRUITS AND TREES. LOW TO DEALERS AND PLANTERS. Stock First-Class. Free Catalogues. **GEO. S. JOSSELYN,** Fredonia, N. Y.



FOR A SUCCESSION THE ENTIRE SEASON
PLANT...
AMERICAN WONDER... **ABUNDANCE**... **BEARING**... **PEAS**
Pea, Bliss' Abundance.—90 pods counted on a single plant. Very productive, 15 to 18 inches high. Second Early. Excellent quality. 25 cents per packet; 5 packets, \$1.00.
Pea, Bliss' Ever-bearing.—A perpetual bearer, yielding a full crop until frost; an excellent late variety, 18 to 21 in. high. Peas, 1-3 inches in circumference. Very productive. 25c per pkt.; 5 pkts, \$1.00.
Pea, Bliss' American Wonder.—The best and earliest variety grown. Very dwarf, excellent flavor. 20 cents per packet; 40 cents per pint; 75 cents per quart, post-paid.
N. B.—These three varieties will give Peas the entire season until frost. Requires no brushing.
American Champion Water-melon.—The best eating and best shipping melon grown. More productive than any other sort. 25 cts. per pkt.; 5 pkts, \$1.00. **Cauliflower, Sea Foam.**—The best early variety; sure to head. 50 cents per packet.
Rhubarb, Early Paragon.—A new English variety. The earliest and most productive. Never runs to seed. Roots only for sale. 75 cts. each, post-paid. **Pansy, Bliss' Perfection.**—The choicest strain yet produced. Our *Gardener's Hand-Book*, for 1884, contains a beautifully colored plate of this magnificent variety. 50 cents per packet of 50 seeds. **Carnation, Shakespearean.**—The finest ever introduced. Continue in flower the whole season. 50 cents per packet. Plants, 50 cents each. A packet will plant a square rod of ground.
Wild Garden Seeds.—A mixture of 100 varieties of Flower Seeds. For other Novelties, see Bliss' Illustrated Novelty List, which describes the newest and choicest Flowers, Vegetables, Fruits, Cereals, Plants, etc. Mailed free.
Bliss' Hand-Book for Farm and Garden. 150 Pages, 300 Illustrations. Beautiful colored plate. It tells WHAT, WHEN, and HOW to plant, and is invaluable to all interested in gardening or farming. Mailed for 6 Cents.
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PASSENGERS to the rich wheat-producing lands of the Northwest, and the Agricultural and Mining Districts of British Columbia, will find the cheapest and best route via the Grand Trunk Railway of Canada. THIS IS THE LEGITIMATE ROUTE TO THE NORTH-WEST, affording a continuous trip and making direct connection with the Steamer lines from Sarnia and Collingwood, and by rail through to all points in the North-west, West, and South-west.

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I am manufacturing Cheese Vats and Dairy Utensils, also the

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which for strength and durability surpasses all others. Orders solicited. Prices on application.

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If my Seeds are not sold in your town, send for my Illustrated and Descriptive Catalogue. Mailed free to all applicants.

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Established 1855. 218-b

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RUSSIAN APRICOT, DWARF JUNE BERRY, M'CRACKEN BLACKBERRY.

Also the best SILK WORM EGGS and a complete text book on silk culture. Send for a price list. Address

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\$1000 FOR VEGETABLES I OFFER TO MY CUSTOMERS A THOUSAND DOLLARS For the LARGEST CROPS of VEGETABLES and GRAINS. My Catalogue (sent free) will give all the details.
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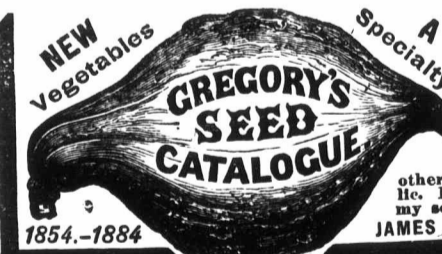
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Only Manufacturer in Canada of a complete line of IRON STABLE FITTINGS.

Send for Illustrated Catalogue and Price List. 214-y



My Vegetable and Flower Seed Catalogue for 1884, the result of thirty years' experience as a Seed Grower, will be sent free to all who apply. All my Seed is warranted to be fresh and true to name, so far that should it prove otherwise, I agree to refund orders gratis. My collection of vegetable Seed, one of the most extensive to be found in any American Catalogue, is a large part of it of my own growing. As the original introducer of Eclipse Beet, Burbank Potatoes, Marblehead Early Corn, the Hubbard Squash, and scores of other new Vegetables, I invite the patronage of the public. In the gardens and on the farms of those who plant my seed will be found my best advertisement.
JAMES J. H. GREGORY, Seed Grower, Marblehead, Mass.



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127 & 129
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The **NEW TOOLS** we offer this season, together with recent improvements, place the "PLANET Jr." Farm and Garden Implements beyond all competition.



SEND NOW, if you are interested in Farming, Gardening or Trucking, for our New Catalogue containing 32 pages and over 40 illustrations, describing fully the "PLANET Jr." Horse Hoes, Cultivators, Seed Drills, Wheel-Hoes & Potato-Diggers.

Stock Notes.

W. R. McEwen, of Byron, has imported from Scotland the fine Clydesdale stallion, "The Times," by "Good Times," winner of several prizes.

When at Guelph we called on Mr. Stone, who informed us that the enquiries for Herefords is unprecedented, and that he is unable to supply the demand.

Joseph Pearce, of Tyrconnell, Ont., has purchased from J. R. Pettit, of Grimsby, Short-horn bull "Comet," and also purchased from Hugh Mitchell, of Southend P.O., one yearling heifer, "Maid of the Mist."

Messrs. Green Bros., of Innerkip, Ont. (late of Oakville), imported heifer, "Princess Royal, 23rd," dropped a fine cow calf, by Athabasca, one of Mr. Cruickshanks' bulls, in the possession of Mr. Mann, Upperhill.

Those desirous of procuring Jersey and Ayrshire stock will have a good opportunity of doing so by attending Messrs. Grand & Walshe's sale in Toronto, 11th, 12th, 13th and 14th of March. See advertisement.

The proprietors of the Bay View Farm at Deseronto, Ont., are desirous of disposing of a number of their fine herd of Jerseys. Write Mr. Howatt, the superintendent, for particulars. He has also a quantity of good seed potatoes to sell.

The cow, "Tame 3rd," bought from Mr. T. C. Anderson, of Kentucky, by Mr. R. Gibson, and sold at his sale in London last fall to Mr. T. C. Patterson, Eastwood, Ont., calved a red bull calf, "Connaught Ranger," on 25th of February, by imported "Wild Eyes Connaught," a son of the famous bull, "Duke of Connaught" (33604), sold by Lord Dunmore to Lord Fitzhardinge for \$22,500, the highest price ever made by a bull. Now that Mr. Attrill, of Goderich, has sold his imported son of the "Duke of Connaught," "Grand Duke of Connaught," of Ridgewood, to Mr. Ramsey, of Buffalo, we suppose that Mr. Patterson's cow and her son are the only descendants of the "Duke of Connaught" in Canada. The mother and her calf are both by imported "Wild Eyes Connaught."

SHORTHORN BIRTHS—We learn that at Bow Park, Brantford, Ont., the Shorthorn, "Duchess of Hillhurst 10th," has a roan bull calf by "Duke of Clarence 5th" (33 597), and that Mr. Attrill's "Cherry Queen 2nd," considered by many the cheapest lot at the Ashton Hall sale, in September last, produced, after landing in America, a red roan heifer calf by "Lord Turncroft Oxford 4th" (46,708).

Messrs. Green Brothers, the Glen Stock Farm, Innerkip, Ont., imported heifer, "Countess 5th," has dropped a fine roan cow calf, sired by "Lord Ythan," a bull bred by Mr. Duthie, Collynie, Aberdeenshire.

THE CATTLE TRADE—A stock exporting company, headed by Mr. Josiah Wood, M.P., of Sackville, N.B., since the middle of last March, shipped 1,100 head of cattle and 1,300 sheep. Most of the cattle were bought in Westmoreland County, and a large proportion of the sheep in Prince Edward Island. Eighteen cattle and four sheep were lost during the season. The company's business was on the whole successful.

A board on which some coarse salt has been sprinkled may be placed in the yard or field in which cows are turned for exercise. Do not forget pigs and sheep.



FOR HORSES & CATTLE.

Croft's Blood Cleanser improves and strengthens the digestion of the animals, enabling them to thoroughly extract all the nutriment from their food, thus causing a rapid gain in flesh.

Croft's Blood Cleanser thoroughly purifies the blood, cleanses the system from all disease, makes the coat sleek and smooth, and puts the animal in perfect health and spirits.

Croft's Blood Cleanser is a sure cure for worms, and will save a horse from all the ill effects of bots.

Price, 50c per package of six powders. For sale by Druggists and Dealers, or will be mailed, post free, on receipt of price.

CROFT & CO., Montreal, Sole Proprietors.

Belmont, N. S., December 13th, 1883.

Messrs. Croft & Co.—Dear Sirs—I had a horse out of condition; I fed him well but he would not thrive. His hair stood on end. I gave him a package of your Blood Cleanser, as directed. He is now looking better. I think it is a good medicine and will speak a good word for it.

Yours truly, L. DEARMOND.

Ameliasburg, Ont., December 26th, 1883.

Messrs. Croft & Co.—Gentlemen—Your package of Blood Cleanser received. I had a cow that was giving bloody milk from one teat. I gave the package to this cow; she is now much better; I believe a permanent cure has been effected. Yours truly,

EDWARD ROBLIN.

Sec'y Ameliasburg Agricultural Society.

Lakeside, Ont., December 29th, 1883.

Messrs. Croft & Co.—Dear Sirs—The package of your Blood Cleanser was badly broken in the mails and most of the contents lost. I gave what remained to a valuable mare which was very drowsy and dry in the hair, and I must say it has made a marked improvement in her appearance. Yours very truly,

A. McLAREN.

Theford, Ont., December 11th, 1883.

Messrs. Croft & Co.—Gentlemen—I think your Blood Cleanser very good. Send me one dollar's worth by return mail. Respectfully yours, GEO. SUTHERLAND.

Norton Station, N. B., Dec. 19th, 1883.

Messrs. Croft & Co.—Gentlemen—I have much pleasure in testifying to the good effects upon a horse to which I fed a package of your Blood Cleanser. The horse got cast (in the stable) in July, and bruised himself badly, and we were unable to use him for several months, and we could not get his coat to lie smooth. I was very sceptical of the good the package might do him; but the most sceptical would not but be convinced of its good qualities after seeing its effects on my horse, and I can confidently recommend it to all. Meanwhile I remain, yours, etc.,

W. H. HEINE, Maplewood.

Montreal, December 26th, 1883.

Messrs. Croft & Co.—Dear Sirs—I have at present twenty-seven horses under my charge. I used your Blood Cleanser in the stables and find it the best preparation I have ever used. It has a wonderful effect on the health and condition of the horses, and as a cure for worms I have never seen its equal. Yours truly,

ANDREW POMTEOUS,

Head stableman for Messrs. Henderson Bros., Lumber Merchants, Montreal.

The above are a few of the hundreds of testimonials received by us. CROFT & CO., Montreal, P. Q.

THE MOST EXTENSIVE PURE-BRED LIVE STOCK ESTABLISHMENT IN THE WORLD!

Rare Individual Excellence and Choice Breeding.



New Importations constantly on hand.

CLYDESDALE HORSES,
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ENGLISH DRAFT HORSES,
TROTTER-BRED ROADSTERS,
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Our customers have the advantage of our many years' experience in breeding and importing, large collections, opportunity of comparing different breeds, low prices because of extent of business and low rates of transportation. Catalogues free. Correspondence solicited. Mention the FARMER'S ADVOCATE.

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Springboro, Crawford County, Penn.
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THE CHEAPEST FORCE PUMP IN THE WORLD!

Especially adapted for spraying fruit trees, watering gardens and lawns, and washing carriages. Will throw a steady stream 60 feet. Can be applied to any service that a cistern or force pump can be used for.

Send for Catalogue and Price List.
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MONTREAL.

For Sale by all Grocers.

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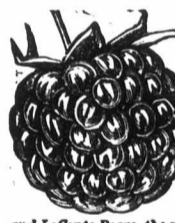
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EXTRA, because grown by myself from the very choicest onions, selected from a crop which took the first premium in Essex County, Mass., famous for raising the finest onions in the United States. Early Yellow Globe Danvers, per lb by mail, \$1.65, Danvers Early Red Globe, \$1.65, Early Red and Yellow Flat or Cracker, \$1.65, and Large Red Weatherfield, \$1.40, Danvers Early Red Globe is both the *earliest*, the *greatest cropper* and the *handsomest* of all the **Red Onions**. Seed of my own raising for premium stock. Try it farmers! My Seed Catalogue **FREE** to all. **James J. H. Gregory, Marblehead, Mass.** 219-a

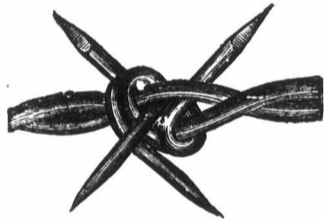
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FOUR-POINT BARB GALV. STEEL WIRE FENCING.

Ordinary Fencing Barb, 7 inches apart; Hog Wire Fencing Barb, 4 inches apart; Plain Twisted Wire Fencing, without barb, at reduced prices. For circulars and price lists address **THE CANADA WIRE CO., H. R. IVES, President and Manager, Queen Street, MONTREAL.** 215-y

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for all interior or exterior painting, and are composed of **TWENTY COLORS**, all of which, in combination or contrast, are suitable for either purpose. The

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One painting with the Railroad Colors is the equivalent in every respect of two paintings with colors made of the best white lead. The

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LONDON, ONTARIO.

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 Leave London 3:55 p. m.
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The Pullman cars which leave Montreal on Monday, Wednesday and Friday, run through to Halifax without change, and those which leave Montreal on Tuesday, Thursday and Saturday run through to St. John, N. B., without change.

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D. POTTINGER, Chief Superintendent, Moncton, N. B.

Railway Office, Moncton, N. B., 25th November, 1882. 206-1f

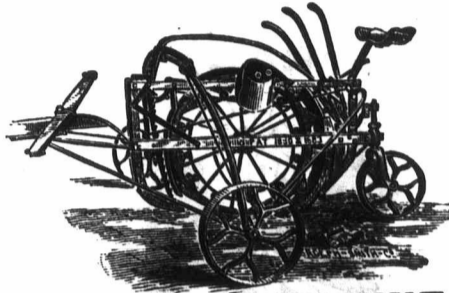
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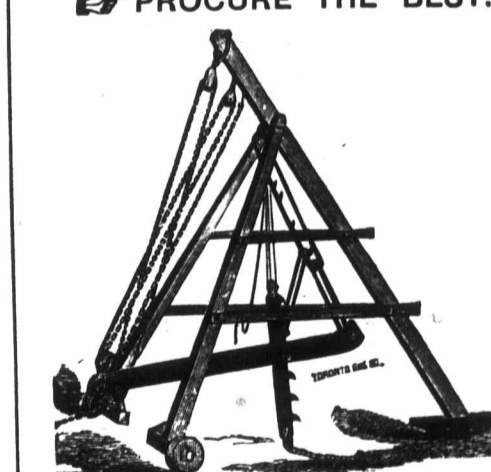


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Because it is the lightest running wagon made.
Because it is made in the most careful manner, from the best selected seasoned timber.
Because no inferior iron is used, and special attention is paid in ironing it off.
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Because every wagon is inspected in all its parts by one of the members of the company before being sent out.
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Agents wanted for every county. Send for descriptive circular and prices to the

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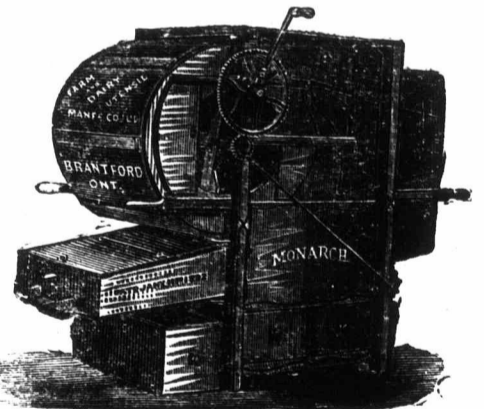
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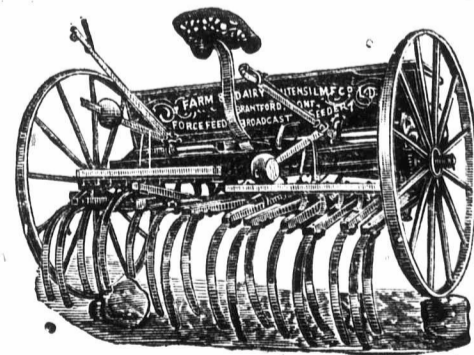
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In Capacity, Quality of Work, Adjustability and Finish, unequalled by any.
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